República Federativa do Brasil
Ministério da Economia
Instituto Nacional da Propriedade Industrial

(11) PI 0906128-2 B1

(22) Data do Depósito: 24/07/2009

(45) Data de Concessão: 17/03/2020

(54) Título: MOLÉCULA DE ÁCIDO NUCLÉICO ISOLADA, CONSTRUÇÃO GÊNICA, VETOR, CÉLULA TRANSGÊNICA, MÉTODO PARA OBTENÇÃO DE UMA CÉLULA E DE UMA PLANTA TRANSGÊNICA,COMPOSIÇÃO PESTICIDA BIODEGRADÁVEL, MÉTODO PARA O CONTROLE DE UMA PRAGA, MÉTODO DE OBTENÇÃO DE LINHAGENS TRANSGÊNICAS RESISTENTES A UM INSETO PRAGA

(51) Int.Cl.: C12N 15/32; C12N 15/82; C12N 15/67; C12N 1/20; A01N 63/02; (...).

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(57) Resumo: MOLÉCULA DE ÁCIDO NUCLÉICO ISOLADA, CONSTRUÇÃO GÊNICA, VETOR, CÉLULA TRANSGÊNICA, MÉTODO PARA OBTENÇÃO DE UMA CÉLULA E DE UMA PLANTA TRANSGÊNICA, POLIPEPTÍDEO ISOLADO E PURIFICADO, COMPOSIÇÃO PESTICIDA BIODEGRADÁVEL, MÉTODO PARA O CONTROLE DE UMA PRAGA, MÉTODO DE OBTENÇÃO DE LINHAGENS TRANSGÊNICAS RESISTENTES A UM INSETO PRAGA.A presente invenção pertence a um novo composto inseticida derivado de uma linhagem de Bacilius thuringiensis e refere-se ao campo de controle de pragas de plantas, particularmente ao controle do bicudo-do-algodoeiro - Anthonomus grandis. Mais especificamente, o objeto da invenção refere-se a um novo gene para uma nova delta-endotoxina designada Cry8Ha e a clonagem e expressão em Escherichia coli do gene que codifica para a proteína Cry8Ha. São fornecidas a seqüência nucleotídica e protéica codificadora da nova delta-endotoxina, vetores recombinantes e células hospedeiras. São ainda fornecidos processos e meios para a produção recombinante e o uso da nova delta-endotoxina para aplicação no controle do bicudo-do-algodoeiro. Adicionalmente, a invenção também fornece um gene sintético otimizado para expressão em plantas de algodão. Usando o gene aqui descrito, é possível a transformação de plantas, a partir das técnicas conhecidas pelos especialistas na área, para a expressão da (...).

Relatório de Patente de Invenção: "**MOLÉCULA DE ÁCIDO NUCLÉICO ISOLADA, CONSTRUÇÃO GÊNICA, VETOR, CÉLULA TRANSGÊNICA, MÉTODO PARA OBTENÇÃO DE UMA CÉLULA E DE UMA PLANTA TRANSGÊNICA, COMPOSIÇÃO PESTICIDA BIODEGRADÁVEL, MÉTODO PARA O CONTROLE DE UMA PRAGA, MÉTODO DE OBTENÇÃO DE LINHAGENS TRANSGÊNICAS RESISTENTES A UM INSETO PRAGA**".

CAMPO DA INVENÇÃO

[1] O seguinte relatório descritivo da patente de invenção refere-se ao campo de controle de insetos-praga que atacam lavouras agrícolas, utilizando métodos e composições que compreendem δ-endotoxinas derivadas do microrganismo *Bacillus thuringiensis*.

FUNDAMENTOS DA INVENÇÃO

[2] O algodoeiro é, dentre todas as plantas domésticas e cultiváveis, uma das mais atacadas por doenças e insetos-praga, além de apresentar alta sensibilidade à ocorrência imposta por plantas daninhas (Beltrão, E. M., Souza, J. G. O agronegócio do algodão no Brasil. Embrapa: Brasília, v.01, 1999). Dentre os principais insetos-praga, destaca-se o bicudo-do-algodoeiro, *Anthonomus grandis* (Boheman, C. H. Description of new species. In Schoenherr, Genera et species *Curculionidum cum synonymia hujus* Familiae, vol. 7, pt. 2. Paris: Roret. 461p., 1843), considerado uma das pragas mais sérias da cultura do algodão, encontrando-se dispersa no México, Cuba, Haiti, Venezuela, Colômbia, Paraguai e Brasil. Este inseto utiliza os botões florais e frutos do seu hospedeiro como fonte de alimento e local de desenvolvimento, causando prejuízos diretos à comercialização da fibra de algodão. Os níveis de infestação crescem rapidamente e os prejuízos podem atingir até 100% da produção, caso as medidas de controle não sejam adequadas. Este inseto representa um grande potencial de dano, sendo considerado praga-chave no planejamento e controle de insetos nocivos à cultura, principalmente devido à dificuldade de controle pelos inseticidas químicos.

[3] O algodoeiro e suas pragas coexistem por um longo período evolutivo. Planta e inseto formam um sistema morfológico e bioquímico interdependente e competitivo, resultando na maioria das vezes, na utilização de parte da planta pelo inseto. Essa parte utilizada representa o dano causado pelo inseto à planta, e depende do tamanho da população da praga, e da habilidade da planta em resistir ao ataque e de se recuperar do dano sofrido (Beltrão, E. M., Souza, J. G. O agronegócio do algodão no Brasil. Embrapa: Brasília, v.01, 1999).

[4] A interação planta versus inseto pode ser visualizada de pelo menos duas maneiras: do ponto de vista do inseto, com a planta variando de adequada a completamente inadequada como hospedeira e, por outro lado, do ponto de vista da planta onde, quanto menor o número de espécies e abundância de insetos associados a ela, e quanto menor o efeito que esses insetos exercem sobre elas, maior a sua resistência sobre esses insetos (Santos, W. J. Identificação, biologia, amostragem e controle das pragas do algodoeiro. In: Embrapa Agropecuária Oeste; Embrapa Algodão. Algodão: tecnologia de produção., p. 296p. 2002).

[5] Entre um extremo e outro de resistência das plantas aos insetos-praga, existe um completo e extensivo arsenal de mecanismos de ataque e contra-ataque a ação dos insetos, que vão desde um simples impedimento morfológico a complexos componentes fitoquímicos, que interferem diretamente no processo metabólico envolvido na utilização da planta como hospedeira do inseto. Em termos práticos, a resistência do algodoeiro aos insetos-praga representa a habilidade de certas cultivares produzirem algodão de melhor qualidade em maior quantidade que outros cultivares, sob ataque da mesma população de insetos–praga (Freire, E. C. Cultivares e produção de semente na melhoria da qualidade do algodão no nordeste e centro-oeste do Brasil. Boletim informativo Embrapa/ CNPA. 1997).

[6] Na maioria dos países onde o algodão é cultivado, a vulnerabilidade às pragas representa o principal problema desta cultura. Sem alternativas de controle mais eficazes, os produtores, de forma rotineira, continuam acreditando que os inseticidas químicos sejam a única forma de proteção das lavouras. Embora eficientes, são onerosos, potencialmente danosos ao homem, ao meio ambiente e, em longo prazo, ocasionam o desencadeamento de processos de resistência, ressurgimento de pragas e redução na incidência de inimigos naturais (Panizzi, A. R. Efeito de inseticidas na população das principais pragas da soja. An. Soc. Entomol. Brasil, v.6, p.264-275. 1977). Diante isso, a presente invenção tem como objetivo

aumentar a resistência de plantas, gerando plantas transgênicas, as quais sejam capazes de expressar genes de alta atividade entomotóxica, solucionando, consequentemente, o problema do uso abusivo de inseticidas químicos.

[7] A introdução estável de genes exógenos em plantas de algodão, com a finalidade de induzir resistência a insetos-praga, é uma excelente alternativa para a diminuição de grande parte dos problemas associados aos métodos químicos. Esta tecnologia reúne várias vantagens, principalmente pelo fato de não poluir o ambiente. Dados gerais demonstram que plantas transformadas de algodão não apresentaram efeitos negativos sobre o ambiente, sendo as características herdáveis e expressas normalmente na planta (Adamczyk, J. J., L. C. Adams L. C., Hardee, D. D. Field efficacy and seasonal expression profiles for terminal leaves of single and double *Bacillus thuringiensis* toxin cotton genotypes. Journal of Economic Entomology, v.94, n.6, DEC, p.1589-1593. 2001).

[8] A disponibilidade de microrganismos e compostos orgânicos na natureza para utilização biológica é muito grande, e os mesmos fornecem ampla variedade de matéria-prima para o desenvolvimento de novos produtos, com maior patogenicidade contra o inseto e amplo espectro de ação. Dentre estes microrganismos, uma grande descoberta foi a bactéria de solo *Bacillus thuringiensis,* a qual é amplamente utilizada como agente de controle biológico e como fonte de moléculas potenciais para programas biotecnológicos, destinados à obtenção de plantas transgênicas resistentes à insetos-praga. Com esta estratégia é possível reduzir em níveis toleráveis as populações de pragas agrícolas de interesse econômico (Perlak, F. J., R. W. Deaton, T. A. Armstrong, R. L. Fuchs, S. R. Sims, J. T. Greenplate e D. A. Fischhoff. Insect resistant cotton plants. Biotechnology (N Y), v.8, n.10, p.939-943. 1990).

[9] Embora já tenham sido identificadas e descritas algumas δ-endotoxinas com atividade sobre o bicudo-do-algodoeiro, o hábito endofítico desta praga dificulta ou até mesmo inviabiliza o emprego destas toxinas por meios convencionais, as quais são comercializadas como bioinseticidas, como por exemplo, formulações protéicas contendo as toxinas Cry. Estes apresentam instabilidade no meio ambiente, baixo rendimento na purificação a partir de fontes naturais, além da fácil perda de atividade destas toxinas pelas intempéries do ambiente como chuva e sol. Diante deste problema, a estratégia de maior eficiência é a utilização dos genes codificadores de toxinas Cry na geração de plantas geneticamente modificadas.

[10] O uso de genes codificantes para este tipo de proteínas entomotóxicas e a expressão das mesmas em sistemas heterólogos (bactérias ou plantas transgênicas) contorna as dificuldades geradas pelo uso dos bioinseticidas. Esta estratégia vem se destacando nos últimos anos na área da transgenia, devido à especificidade destas toxinas em relação aos insetos-praga, eficiência, expressão direcionada e sua inocuidade sobre animais e humanos. Desta forma, plantas geneticamente modificadas com resistência específica ao inseto-praga podem ser geradas em sistemas de alta eficiência.

[11] Existem alguns genes e transgenes Bt com atividade para coleópteros, como, por exemplo, as plantas expressando um gene *cry8* da empresa DU PONT DE MENOURS com toxicidade para *Leptinotarsa decemlineata* (US20030177528), o milho transgênico com um gene *cry8-like* da PIONEER & DU PONT com toxicidade para *Diabrotica virgifera, Diabrotica undecimpunctata howardi, Leptinotarsa decemlineata* e *Anthonomus grandis* (US20060021096, como mencionado também nos pedidos de patente US7105332 e US2005166284), Feng, S *et al*., 2005 também descrevem um gene *cry8* modificado, *cry8Ca*, com atividade específica para insetos coleópteros (CN1609220-A) e, mais recentemente, a PIONEER & DU PONT descrevem um gene sintético *cry8* com toxicidade para *Diabrotica virgifera virgifera* em plantas monocotiledôneas como exemplo em plantas de milho (como mencionado no pedido de patente US20060288448).

[12] Atualmente, plantas expressando genes Bt do tipo *cry8* são, em sua totalidade, monocotiledôneas (p.ex.: milho). Sendo assim, até a presente data, nenhuma invenção descreveu um gene desta natureza, com potencial aplicação em plantas dicotiledôneas, como é o caso da planta de algodão.

[13] Técnicas modernas de biologia molecular, como a construção de bibliotecas combinatórias, são utilizadas para desenvolver e identificar genes análogos mutantes com objetivos específicos.

[14] A construção de bibliotecas de genes análogos variantes, utilizando técnicas de evolução molecular *in vitro*, têm sido empregada nas últimas três décadas. Esse fato se deve ao surgimento de ferramentas biotecnológicas, as quais servem como plataforma de engenharia genética no desenvolvimento de novas moléculas com atividade melhorada, visando principalmente a agricultura e a indústria farmacêutica (Ling Yuan, L. Kurek, I., English, J.

and Keenan, R. Laboratory-directed protein evolution. Microbiology and Molecular Biology Review. Vol. 69, No. 3, p. 373 – 392, 2005). Existem diversas técnicas, as quais podem ser aplicadas para gerar mutações em uma seqüência gênica, na presente invenção destaca-se a técnica de embaralhamento de DNA (Rosic, N. N., Huang, W., Johnston, W. A., James J. Devoss, J. J., Gillam, E. M. J. Extending the diversity of cytochrome P450 enzymes by DNA family shuffling. Gene, Vol. 35762, No of Pages 9, 2007; Ling Yuan, L. Kurek, I., English, J. and Keenan, R. Laboratory-directed protein evolution. Microbiology and Molecular Biology Reviews, Vol. 69, No. 3, p. 373 – 392, 2005; Abécassis, V., Pompon, D. and Truan, G. High efficiency family shuffling based on multi-step PCR and in vivo DNA recombination in yeast: statistical analysis of a combinatorial library between human cytochrome P450 1A1 and 1A2. Nucleic Acids Research, Vol. 28, No. 20: E 88, 2000; Zhao, H. and Arnold, F.H. Functional and nonfunctional mutations distinguished by random recombination of homologous genes. Proc. Natl. Acad. Sci. U. S. A., Vol. 94, p. 7997 – 8000, 1997; Stemmer, W. P. C. Rapid evolution of a protein in vitro By DNA shufflina . Nature. London, Vol. 370, p. 389 – 391, 1994).

[15] A técnica de embaralhamento de DNA consiste em uma evolução molecular dirigida, a qual gera mudanças pontuais na estrutura primária das moléculas de DNA por meio de mutações randômicas (Ling Yuan, L. Kurek, I., English, J. and Keenan, R. Laboratory-directed protein evolution. Microbiology and Molecular Biology Reviews, Vol. 69, No. 3, p. 373 – 392, 2005; Stemmer, W. P. C. Rapid evolution of a protein in vitro By DNA shuffling. Nature. London, Vol. 370, p. 389 – 391, 1994, US5605793, US5811238, US5830721). O gene de interesse é primeiramente fragmentado de forma aleatória em pequenas seqüências de 30-50 pares de base, sendo este produto recombinado em uma reação de PCR (Reação da Polimerase em Cadeia), a qual é conduzida sem adição de oligonucleotídeos. Em uma segunda reação consecutiva, são adicionados os produtos da primeira reação e oligonucleotídeos específicos. Permite-se, desta forma, a amplificação de uma população de genes análogos mutantes/ variantes (Stemmer, W. P. C. Rapid evolution of a protein in vitro by Embaralhamento de DNA. Nature. London, Vol. 370, p. 389 – 391, 1994; Zhao, H. and Arnold, F.H. Functional and nonfunctional mutations distinguished by random recombination of homologous genes. Proc. Natl. Acad. Sci. U. S. A., Vol. 94, p. 7997 – 8000, 1997).

[16] A eficiência da técnica para produzir moléculas análogas de maior atividade biológica pôde ser comprovada em diversos trabalhos como, por exemplo, em Jager *et al* (Jager, S. A. W., Jekel, P. A. and Janssen, D. B. Hybrid penicillin acylases with improved properties for synthesis of β-lactam antibiotics. Enzyme And Microbial Technology, Vol. 40, p. 1335 – 1344, 2007), onde a atividade enzimática da penicilina aciclase aumentou em 90%. A técnica pode utilizar um único ou mais genes homólogos e seu sucesso dependente de um delicado arranjo entre o tamanho da biblioteca, a diversidade biológica originada e de uma metodologia de seleção das variantes com a característica desejada (Ling Yuan, L. Kurek, I., English, J. and Keenan, R. Laboratory-directed protein evolution. Microbiology and Molecular Biology Reviews, Vol. 69, No. 3, p. 373 – 392, 2005).

[17] A associação das técnicas de embaralhamento de DNA (criação de bibliotecas combinatórias) e apresentação de proteínas na superfície de bacteriófagos - *Phage Display*, tornam a seleção e a expressão de novas moléculas muito mais eficientes (Stoop, A. A., Jespers, L., Lasters, I., Eldering, E. And Pannekoek, H. High-density mutagenesis by combined DNA shuffling and Phage display to assign essential amino acid residues in protein-protein interactions: application to study structure-function of plasminogen activation inhibitor 1 (PAI-I). J. Mol. Biol., Vol. 301, p. 1135 – 1147, 2000).

[18] SUMÁRIO DA INVENÇÃO

[19] A presente invenção fornece moléculas que codificam novas δ-endotoxinas naturais, análogos mutantes e análogos sintéticos para o controle de insetos-praga, particularmente o bicudo-do-algodoeiro (*Anthonomus grandis*), o qual apresenta susceptibilidade às novas toxinas.

[20] São também aspectos da invenção, construções gênicas contendo as moléculas de ácido nucleico codificantes para as δ-endotoxinas, vetores de transformação e expressão, células e organismos transgênicos, métodos para a expressão heteróloga das novas δ-endotoxinas em organismos transgênicos, bem como o uso das mesmas no controle de pragas. A invenção compreende, também, um método para obtenção de uma planta transgênica caracterizado por compreender as seguintes etapas: a) transformar uma célula de planta com uma construção gênica de acordo com a reivindicação 4; b) cultivar a célula transformada, contendo a

construção gênica de interesse estavelmente inserida em seu genoma, sob condições ideais de crescimento em cultura celular; e c) regenerar uma planta transgênica expressando o produto da construção inserida, a partir da célula transformada e de obtenção de plantas transgênicas.

[21] A invenção também fornece genes análogos sintéticos, os quais são otimizados para transformação e expressão dos mesmos em plantas, particularmente em plantas de algodão.

[22] Outra concretização da invenção refere-se aos peptídeos sintéticos de δ-endotoxinas usados para o tratamento de plantas infectadas, no controle de insetos-praga e a utilização destes na elaboração de composições pesticidas biodegradáveis.

BREVE DESCRIÇÃO DAS FIGURAS

[23] **Figura 1: Amplificação do gene *cry8*.** Reação de amplificação por PCR, utilizando-se oligonucleotídeos específicos descritos por Bravo *et al* (1998). Gel de agarose 1,0% corado com brometo de etídio **(A)** Primeira rodada com os oligonucleotídeos descritos por Bravo *et al* (1998). **Linha 1.** Marcador de peso molecular 1 Kb ladder plus. **Linha 2.** Bandas amplificadas de aproximadamente 400 pb com o oligonucleotídeos *cry8b*, 2a. rodada. A seta indica o produto provável desejado. **Linha 3.** Oligonucleotídeos *cry8a*, 2a. rodada. **Linha 4.** Oligonucleotídeos *cry8geral*. **Linha 5.** Oligonucleotídeos *cry8a*, 1a. Rodada. **Linha 6.** Oligonucleotídeos *cry8geral*, 1a. Rodada. **(B)** Segunda rodada com o oligonucleotídeo cry*8b* **Linha 1.** Marcador de peso molecular 1 Kb ladder plus. **Linha 2 e 3.** Amplificação utilizando 1 μL da reação 1 (Figura A) e amostra da linha 2 com a banda de aproximadamente 450 pb.

[24] **Figura 2: TAIL-PCR. Representação esquemática da técnica de TAIL-PCR (Liu *et al.*,1995). 1.** Primeira amplificação com os oligonucleotídeos específico 1 e arbitrário. **2.** Resultado da primeira amplificação gerando produtos inespecíficos (a, b) e o produto específico (c). **3.** Segunda amplificação com o mesmo oligonucleotídeo arbitrário e oligonucleotídeo específico mais interno gerando o segundo produto específico (d). **4.** Terceira amplificação com o mesmo oligonucleotídeo arbitrário e o oligonucleotídeo específico 3 gerando o produto final (e). **5.** Produto final específico.

[25] **Figura 3: Clonagem do gene *cry8* da estirpe S811 por TAIL-PCR.** Géis de agarose 1,0% corados com brometo de etídio e marcador de peso molecular 1 Kb ladder plus. **(A)** Primeiro TAIL-PCR utilizando-se os oligonucleotídeos arbitrários AD1, AD2, AD3, AD4,

mostrando as sucessivas rodadas de amplificações com cada oligonucleotídeos específico. **(B)** Primeiro TAIL-PCR utilizando-se os oligonucleotídeos arbitrários AD5, AD10, AD11, W4, mostrando as sucessivas rodadas de amplificações com cada oligonucleotídeos específico. **(C)** Segundo TAIL-PCR utilizando-se os oligonucleotídeos arbitrários AD3, AD4, AD2 e AD1, mostrando as sucessivas rodadas de amplificações com cada oligonucleotídeo específico. As setas indicam os produtos potencialmente positivos que foram subsequentemente clonados e seqüenciados.

[26] **Figura 4: Dendrograma do alinhamento da nova toxina Cry8Ka1, obtido após as duas rodadas de TAIL-PCR**. Análise com as demais toxinas Cry8 depositadas no banco de dados até o momento, mostrando a alta identidade entre elas e que o gene clonado codifica uma proteína distinta das demais. A escala indica que no espaço representado existe a troca de 0,1 aa. O dendrograma foi feito utilizando o programa MEGA4 (Tamura K, Dudley J, Nei M & Kumar S (2007) MEGA4: Molecular Evolutionary Genetics Analysis (MEGA) software version 4.0. Molecular Biology and Evolution 24:1596-1599).

[27] **Figura 5: Mapa do vetor comercial pET101/D-TOPO para expressão heteróloga em *Escherichia coli*.** Representação esquemática do vetor, incluindo o promotor pT7. **Pomotor T7:** Induzido por IPTG permite a expressão em larga escala em algumas linhagens de *Escherichia coli*; **Operon *lac* (*lac*O):** Sítio de ligação do repressor *lac*, importante para a redução da expressão basal das proteínas recombinantes (sua função pode ser regulada pela presença ou ausência de glicose no meio de cultura); **RBS:** Sítio de ligação do ribossomo, localizado acima da região 5' do gene a ser clonado na posição idealpara início do processo de tradução; **Sítio de clonagem TOPO:** Região que compreende a localização exata de onde o inserto será clonado; **Epitopo V5 (Gly- Lys-Pro-Ile-Pro-Asn-Pro-Leu-Leu- Gly-Leu-Asp-Ser-Thr):** Utilizado para a detecção de proteínas recombinantes por western blot utilizando anticorpos anti-V5; **6His C-terminal:** Importante para a purificação de proteínas, utilizando para tal, resinas as quais possuem metal acoplado; **Terminador T7:** Seqüência do bacteriófago T7 que permite a finalização da transcrição dos genes; **Promotor *bla*:** Promotor do gene de resistência a ampicilina; **Gene de resisteência a ampicilina β-lactamase):** Seleciona os plasmídeos resistentes em *E.coli*; **Origem de replicação pBR322 (*ori*):** Elemento de replicação e manutenção do plasmídeo em *E.coli*.

[28] **Figura 6: Esquema do sistema de ligação do produto de PCR no vetor de pET101/D-TOPO. (A)** A extremidade coesiva do vetor onde o produto de PCR será clonado é demonstrada juntamente com a presença da enzima topoisomerase. **(B)** O produto de PCR é diretamente clonado pela adição dos 4 pares de bases do oligonucleotídeo de orientação direta. A extremidade coesiva do vetor de clonagem (GTGG) invade a extremidade 5´ do produto de PCR, anelando-se com as quatro bases adicionadas (CACC) e estabilizando o produto de PCR na orientação correta. A topoisomerase então cliva o pedaço sobressalente do produto de PCR para que a ligação seja efetiva.

[29] **Figura 7: Análise por SDS-PAGE 12% da proteína recombinante Cry8Ka1 purificada por cromatografia de afinidade (Ni-NTA). Linha 1.** Marcador de peso molecular. **Linha 2.** Extrato total da *E. coli* expressando a proteína recombinante Cry8Ka1. **Linha 3.** Fração não retida na resina Ni-NTA. **Linhas 4, 5 e 6.** Proteína Cry8Ka1 eluída da resina Ni-NTA em diferentes concentrações para confirmação do grau de pureza da mesma. 5 μg (linhas 2, 3 e 4), 10 μg (linha 5) e 15 μg (linha 6) de amostra foram adicionadas a tampão de amostra, submetidas a SDS-PAGE 12%, a 25 mA e coradas com nitrato de prata.

[30] **Figura 8: Bioensaios contra *A. grandis* e *S. frugiperda* com as toxinas Cry8Ka1 e Cry8Ka1 recombinantes. (A) Bioensaio contra *S. frugiperda* utilizando Cry8Ka1.** Dieta de superfície demonstrando mortalidade de 50% na concentração de 5 μg/mL. **(B) Bioensaio contra *A. grandis* utilizando Cry8Ka1.** Dieta incorporada demonstrando mortalidade de 50% na concentração de 230 μg/mL. **(C) Bioensaio contra *A. grandis* utilizando Cry8Ka1.** Dieta incorporada demonstrando mortalidade de 50% na concentração de 160μg/mL. Como controle foi utilizada a água de diálise na qual as proteínas foram submetidas. Todos os experimentos foram realizados em triplicatas com 30 insetos de *A. grandis* e 90 de *S. frugiperda*.

[31] **Figura 9. Esquema da Técnica de embaralhamento de DNA utilizando um único gene como substrato.** Esquema da amplificação do gene *cry8Ka1* com oligonucleotídeos específicos para inserção do sítio de restrição à enzima *Sfi*I. Fragmentações, amplificações e reconstrução dos genes análogos mutantes.

[32] **Figura 10. Interação entre BBMVs de *A. grandis* e fagos de fusão.** Para a leitura da absorbância foi utilizado o comprimento de onda de 405nm. R-1 a R-6 - Ciclos de seleção e o

número de lavagens por ciclo. A maior absorbância, ou seja, maior número de fagos de fusão com especificidade a BBMVs do inseto *A. grandis*, ocorreu a partir do 5° ciclo da seleção.

[33] **Figura 11. PCR de colônia de variantes BI utilizando oligonucleotídeos iniciadores específicos.** Foto de gel de agarose 1% exibindo DNA amplificado no tamanho esperado de aproximadamente 2000pb. Neste gel cinco colônias, além do controle positivo, apresentaram o tamanho esperado (4, 6, 10, 17 e 18). 1 - Marcador 1 Kb plus® (INVITROGEN). 2 a 18 – Variantes do gene *cry8Ka1*. 19 - Controle negativo (PCR sem DNA). 20 - Controle positivo, gene *cry8Ka1* com oligonucleotídeos iniciadores específicos.

[34] **Figura 12. Bioensaio com larvas neonatas de *A. grandis* para a determinação da atividade inseticida das proteínas Cry8Ka1 e Cry8Ka5 (mutante).** Controle – Controle negativo, dieta sem a adição das proteínas em estudo. A - Mortalidade de larvas alimentadas com Cry8Ka1; B - Mortalidade de larvas alimentadas com Cry8Ka5. Foi observado na concentração de 6 μg/mL de dieta um aumento de duas vezes na atividade inseticida da nova molécula.

[35] **Figura 13. Representação da estrutura modelada da toxina nativa Cry8Ka1 utilizando programa Modeller e visualizada pelo PyMOL** (Delano, W. L. The PyMOL Molecular Graphics System (2002) on World Wide Web http://www.pymol.org). No análago Cry8Ka5 o esqueleto da estrutura permanece o mesmo sendo apenas as cadeias laterais dos resíduos de aminoácidos substituídas. Na Figura estão indicados os resíduos de aminoácidos de Cry8Ka1 que foram substituídos na sequência do análogo Cry8Ka5. Em **A**, representação da molécula com os três domínios I, II e III. Em **B**, Destaque para o domínio I, formado por sete α-hélices. A arginina 132 substituída por glutamina esta localizada na hélice 3. Em **C**, destaque para as três folhas β anti-paralelas do domínio II, com indicação dos resíduos de Cry 8 nativa substituídos na molécula do análogo: tirosina 311 substituída em Cry8Ka5 por cisteína e prolina 372 pela alanina. Em **D**, o β sanduíche do Domínio III, e indicação dos três resíduos substituídos na molécula do análogo (arginina 559 por glicina, lisina 589 por ácido glutâmico e ácido glutâmico 645 pela asparagina.

[36] **Figura 14. Gráfico da atividade entomotóxica dos genes *cry8* análogos ao gene nativo *cry8Ka1*.** O bioensaio foi conduzido com os fagos de fusão. Legenda: **C-** - Controle negativo utilizando fagos HELPER. Cry8Ka1 - Proteína original expressa no sistema de fago.

Cry8Ka2, Cry8Ka3, Cry8Ka4 e Cry8Ka5 - Variantes da toxina Cry8 expressas no sistema de fago.

[37] **Figura 15. Alinhamento da seqüência de nucleotídeos de Cry8Ka1 com as seqüências de Cry8AB00.1, 50C (b) e Cry8Bb1**. A primeira linha representa a seqüência de Cry8Ka1; a segunda linha, Cry8AB00.1, seqüência 3 da patente US 73297361; a terceira linha, Cry8AB00.1, seqüência 5 da patente US 7339092; a quarta linha, a seqüência de 50C (b) da patente US 5554534; a quinta linha, Cry8Bb1, seqüência 15 da patente WO2005083095; a sexta linha, Cry8Bb1, seqüência 17 da patente WO2005083095. Os números acima dos alinhamentos referem-se à posição de cada nucleotídeo na seqüência. As seqüências foram alinhadas utilizando o programa CLUSTALW2. (http://www.ebi.ac.uk/Tools/clustalw2/) (Larkin, MA; Blackshields , G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; Higgins, DG. ClustalW and ClustalX version 2. Bioinformatics. 2007;23:2947–2948. doi: 10.1093/bioinformatics/btm404).

[38] **Figura 16. Alinhamento da seqüência de nucleotídeos de Cry8Ka1 com Cry8Bb1**. A primeira linha representa a seqüência de Cry8Ka1; da segunda linha à 32ª linha, Cry8Bb1, seqüências 1, 3, 5, 7, 11, 13, 17, 18, 21, 25, 29, 33, 39, 41, 43, 45, 47, 49, 51, 59, 61, 67, 69, 71, 73, 75, 77, 79, 81, 83, 91 e 93 da patente WO2005063996. Os números acima dos alinhamentos referem-se à posição de cada nucleotídeo na seqüência. As seqüências foram alinhadas utilizando o programa CLUSTALW2. (http://www.ebi.ac.uk/Tools/clustalw2/) (Larkin, MA; Blackshields , G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; Higgins, DG. ClustalW and ClustalX version 2. Bioinformatics. 2007;23:2947–2948. doi: 10.1093/bioinformatics/btm404).

[39] **Figura 17. Alinhamento da seqüência de nucleotídeos de Cry8Ka1 com Cry8Bb1.** A primeira linha representa a seqüência de Cry8Ka1; da segunda linha à 31ª linha, Cry8Bb1, seqüências 1, 3, 7, 11, 13, 17, 18, 21, 25, 29, 33, 39, 41, 43, 45, 47, 49, 51, 59, 61, 67, 69, 71, 73, 75, 77, 79, 81, 83, 91 e 93 da patente US 7105332. Os números acima dos alinhamentos referem-se à posição de cada nucleotídeo na seqüência. As seqüências foram alinhadas utilizando o programa CLUSTALW2. (http://www.ebi.ac.uk/Tools/clustalw2/) (Larkin, MA;

Blackshields , G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; Higgins, DG. ClustalW and ClustalX version 2. Bioinformatics. 2007;23:2947–2948. doi: 10.1093/bioinformatics/btm404).

[40] **Figura 18. Alinhamento da seqüência de nucleotídeos de Cry8Ka1 com Cry8Bb1**. A primeira linha representa a seqüência de Cry8Ka1; da segunda linha à 31ª linha, Cry8Bb1, seqüências 1, 3, 7, 11, 13, 17, 18, 21, 25, 29, 33, 39, 41, 43, 45, 47, 49, 51, 59, 61, 67, 69, 71, 73, 75, 77, 79, 81, 83, 91 e 93 da patente US 7378499. Os números acima dos alinhamentos referem-se à posição de cada nucleotídeo na seqüência. As seqüências foram alinhadas utilizando o programa CLUSTALW2. (http://www.ebi.ac.uk/Tools/clustalw2/) (Larkin, MA; Blackshields , G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; Higgins, DG. ClustalW and ClustalX version 2. Bioinformatics. 2007;23:2947–2948. doi: 10.1093/bioinformatics/btm404).

[41] **Figura 19. Alinhamento das seqüências de aminoácidos da nova δ-endotoxina Cry8Ka1 com seqüências de Cry8.** As seqüências foram alinhadas utilizando o programa CLUSTALW2 (http://www.ebi.ac.uk/Tools/clustalw2/) (Larkin, MA; Blackshields , G; Brown, NP; Chenna, R; McGettigan, PA; McWilliam, H; Valentin, F; Wallace, IM; Wilm, A; Lopez, R; Thompson, JD; Gibson, TJ; Higgins, DG. ClustalW and ClustalX version 2. Bioinformatics. 2007;23:2947–2948. doi: 10.1093/bioinformatics/btm404). Os resíduos contendo ***** são aminoácidos conservados; **:** , substituições conservativas; **.** , substituições semiconservativas.

DESCRIÇÃO DETALHADA DA INVENÇÃO

[42] Na presente invenção, foi identificado e clonado um novo gene pertencente à família *cry8*, com alta toxicidade a insetos coleópteros, especificamente ao bicudo-do-algodoeiro. Os códons desta seqüência foram otimizados para sua expressão em plantas, especificamente, para plantas de algodão. Além disso, foi construída uma biblioteca combinatória, através da técnica de embaralhamento de DNA, com o intuito de desenvolver genes análogos mutantes, os quais

também codificam para a proteína da família Cry8. Os genes análogos mutantes gerados, assim como o gene original, possuem potencial efeito no controle do bicudo-do-algodoeiro.

[43] Para alcançar o objetivo desejado, ou seja, genes de δ-endotoxinas com atividade sobre o bicudo do algodoeiro, realizou-se inicialmente, uma varredura no banco de germoplasma de *B. thuringiensis* da Embrapa Recursos Genéticos e Biotecnologia, com o intuito de identificar estirpes com atividade sobre o bicudo-do-algodoeiro. As estirpes efetivas tiveram seu material genético extraído e submetido a técnicas de biologia molecular para identificação, caracterização e posterior clonagem dos genes *cry*. A partir desta varredura, foi identificada uma estirpe, denominada S811, altamente efetiva contra o bicudo-do-algodoeiro.

[44] Para a clonagem dos genes *cry* da estirpe S811 (Banco de Germoplasma, Embrapa Recursos Genéticos e Biotecnologia) foi feita uma amplificação inicial por PCR com oligonucleotídeos específicos para diversas famílias de δ-endotoxinas. A amplificação com oligonucleotídeos específicos para a família Cry8 resultou em um fragmento de cerca de 500 pb correspondente à extremidade 5' de um gene novo da família *cry8*. Para obter a seqüência completa do gene foi utilizada a técnica de TAIL-PCR (Reação da Polimerase em Cadeia por Entrelaçamento Termal Assimétrico), com oligonucleotídeos específicos derivados das seqüências previamente amplificadas e oito oligonucleotídeos iniciadores arbitrários. O TAIL-PCR consiste numa aplicação da técnica de PCR que permite o isolamento de segmentos de DNA adjacentes a seqüências conhecidas (Liu & Whittier, Efficient isolation and mapping of *Arabidopsis thaliana* T-DNA insert junctions by thermal asymmetric interlaced PCR. Plant J. 8: 457-463. 1995).

[45] Resumidamente, são feitas seqüencialmente três reações de PCR utilizando três oligonucleotídeos seqüenciais específicos de um lado e um oligonucleotídeo de seqüência arbitrária do outro lado. É feito um ciclo inicial a baixa estringência de modo a permitir o anelamento do oligonucleotídeo arbitrário com o segmento alvo de seqüência desconhecida, seguido de alguns ciclos a alta estringência de modo a favorecer o anelamento do oligonucleotídeo específico e a amplificação linear da seqüência alvo. Alternando-se ciclos de alta e de baixa estringência, são formadas moléculas dupla fita e a amplificação da seqüência alvo torna-se logarítmica. Num segundo e terceiro ciclo de amplificações produtos não específicos deixam de ser amplificados e são eliminados.

[46] Fragmentos amplificados no TAIL-PCR e, potencialmente positivos, foram clonados e seqüenciados em ambas as direções em um seqüenciador automático. No total, foram realizadas duas reações seqüenciais de TAIL-PCR e amplificados 2688 pb (SEQ ID Nº 1) equivalentes a 896 aminoácidos (SEQ ID Nº 2) de um novo gene de *B. thuringiensis* pertencente à família de δ-endotoxinas Cry8. A seqüência protéica predita do novo gene, denominado *cry8Ka1* (nomenclatura seguindo regras oficiais http://www.lifesci.sussex.ac.uk/home/Neil_Crickmore/Bt/), apresenta os três domínios estruturais característicos da extremidade N-terminal ativada das δ-endotoxinas e 240 aminoácidos da extensão C-terminal. Esta seqüência original serviu como molde para a geração de análogos com atividade entomotóxica melhorada.

[47] Para obtenção de genes *cry* análogos, com alta entomotoxicidade para o bicudo-do-algodoeiro, foi utilizado o gene *cry8Ka1* isolado da cepa S811 de *B. thuringiensis*. Este gene foi utilizado como substrato no processo de originar genes variantes pela técnica de embaralhamento de DNA. Os variantes foram selecionadas quanto a capacidade de se ligarem a receptores presentes na membrana do intestino médio do bicudo-do-algodoeiro (BBMVs), pela técnica de apresentação de proteínas na superfície de bacteriófagos - *Phage display* (Barbas III, C. F.; Burton, D. R.; Scott, J. K.; Silverman, G. J. Selection from antibody libraries. In: *Phage display* – A laboratory manual –USA: Cold Spring Laboratory, p. 10.1-10.20, 2001).

[48] Para a seleção dos variantes do gene *cry8* da presente invenção utilizamos a técnica de apresentação de proteínas na superfície de bacteriófagos - *Phage Display* (Zhang, Q., Bai, G., Cheng, J., Yu, Y., Tian, W. and Yang, W. Use of an enhanced green fluorescence protein linked to a single chain fragment variable antibody to localize *Bursaphelenchus xylophilus* cellulose. Biosci. Biotechnol. Biochem, Vol. 71, No 6, p. 1514 – 1520, 2007; Andris-Widhopf, J., Rader, C., Steinberger, P., Fuller, R., Barbas III, C. F. Methods for the generation of chicken monoclonal antibody fragments by *Phage display*. Journal of Immunological Methods, Vol. 242, p. 159 – 181, 2000; Stoop, A. A., Jespers, L., Lasters, I., Eldering, E. and Pannekoek, H. High-density mutagenesis by combined DNA shuffling and Phage display to assign essential amino acid residues in protein-protein interactions: application to study structure-function of plasminogen activation inhibitor 1 (PAI-I). J. Mol. Biol., Vol. 301, p.

1135 – 1147, 2000; Barbas III, C. F., Bain, J. D., Hoekstra, D. M., And Lerner, R. A. Semisynthetic combinatorial antibody libraries: A chemical solution to the diversity problem. Proc. Nati. Acad. Sci. USA, Vol. 89, p. 4457 – 4461, 1992).

[49] Ao final, a toxina nativa Cry8Ka1, seus análogos mutantes e sintéticos tiveram seus efeitos entomotóxicos avaliados *in vitro*, por meio de bioensaios seletivos. Para isso, os genes análogos selecionados foram clonados em vetores de expressão heteróloga (*Escherichia coli*) e as toxinas recombinantes geradas utilizadas em bioensaios contra os insetos-praga do algodoeiro (SEQ ID Nº 5 a 12).

[50] A invenção descreve novas entomotoxinas e métodos, os quais possibilitam a geração de tecnologias capazes de controlar insetos-praga de grande interesse econômico. Mais especificamente, os ácidos nucleicos (genes) da presente invenção, incluindo fragmentos e variantes dos mesmos, compreendem seqüências nucleotídicas, as quais codificam proteínas (polipeptídeos) entomotóxicas. As proteínas entomotóxicas descritas são biologicamente ativas contra alguns insetos-praga pertencentes à ordem Coleóptera, como por exemplo: o bicudo-do-algodoeiro, *Anthonomus grandis*; o verme da raiz do milho ocidental, *Diabrotica virgifera virgifera*; a vaquinha, *Diabrotica longicornis barberi*; o besouro do pepino, *Diabrotica undecimpunctata howardi*. Pragas adicionais incluem: larvas de besouros elatérios como *Melanotus*, *Eleodes*, *Conoderus*, e *Aeolus* spp; besouro japonês, *Popillia japonica*; larva branca, *Phyllophaga crinita*; pulguinha do milho e do arroz, *Chaetocnema pulicaria*; besouro do caule de girassol, *Cylindrocupturus adspersus*; besouro de semente de girassol cinza, *Smicronyx sordidus*; besouro de girassol, *Zygogramma exclamationis*; besouro de alfafa, *Hypera nigrirostris*; besouro ‘sem asa’ de crucíferas, *Phyllotreta cruciferae*; besouro da batata Colorado, *Leptinotarsa decemlineata*; besouro ‘sem asa’ listrado, *Phyllotreta striolata*; besouro ‘sem asa’ listrado da raiz de mostarda, *Phyllotreta nemorum* e o besouro de Brassica, *Meligethes aeneus*.

[51] Além das seqüências nucleotídicas, a presente invenção também descreve um vetor de expressão compreendendo as seqüências gênicas codificadoras de proteínas com alta atividade entomotóxica.

[52] As seqüências nucleotídicas da invenção possuem uso direto nos métodos de controle dos insetos-praga, particularmente da ordem Coleoptera. A presente invenção provê novas

técnicas, as quais não dependem do uso dos pesticidas químicos sintéticos tradicionais. A invenção diz respeito a pesticidas biodegradáveis ocorrendo naturalmente e genes codificando os mesmos.

[53] Em algumas concretizações a invenção provê um gene codificador para δ-endotoxinas da família Cry8, obtido de fontes naturais, denominado *cry8Ka1* (seguindo nomenclatura oficial destes genes; www.http://epunix.biols.susx.ac.uk/Home/Neil_Crickmore/ Bt.html). Foram criados por mutação *in vitro*, genes análogos mutantes e genes sintéticos ao gene nativo, também codificadores de δ-endotoxinas. Em outras concretizações, a invenção provê microrganismos e plantas geneticamente modificados capazes de expressar (produzir) as novas δ-endotoxinas, bem como métodos envolvendo o uso dos ácidos nucléicos em composições e/ou produtos pesticidas para atuar contra os insetos-praga em questão. A invenção também está relacionada às possíveis seqüências codificadoras ou aos fragmentos variantes codificadores de δ-endotoxinas.

[54] Na descrição que segue, vários termos são utilizados extensivamente. As seguintes definições são providas para facilitar o entendimento da invenção.

[55] Como descrito aqui, o termo "análogo" descreve seqüências nucleotídicas ou protéicas diferentes das seqüências originais especificamente identificadas, onde um ou mais nucleotídeos ou resíduos de aminoácidos foram deletados, substituídos e/ou adicionados. Estas seqüências podem ser caracterizadas pela porcentagem de identidade de suas seqüências, por algoritmos comuns empregados no estado da técnica, com as seqüências nucleotídicas (SEQ ID Nº 1-2) ou protéicas (SEQ ID Nº 3-4) descritas aqui. A identidade percentual é determinada pelo alinhamento de duas seqüências a serem comparadas, determinando o número de resíduos idênticos na porção alinhada, dividindo este número pelo número total de resíduos na seqüência pesquisada e multiplicando o resultado por 100. Esse alinhamento pode ser feito através de ferramentas de domínio público, como BLASTN e BLASTP, disponíveis na página do Centro Nacional para Informação Biotecnológica/NCBI (http://www.ncbi.nlm.nih.gov). O alinhamento de seqüência e o cálculo de porcentagem de identidade da presente invenção foram realizados conforme descrito com as seqüências depositadas no Banco de Genes.

[56] Como usado aqui, os termos "ácido nucléico" e "seqüências nucleotídicas" fazem referência a um polímero desoxiribonucleotídeo de cadeia dupla (DNA), englobando análogos

conhecidos que possuem a essência natural dos nucleotídeos naturais e hibridizam especificamente com ácidos nucleicos de cadeia simples de maneira similar aos nucleotídeos ocorrendo naturalmente.

[57] O termo "oligonucleotídeo" é referido aqui como 'primers' e 'sondas' da presente invenção, e é definido como uma molécula de ácido nucleico compreendendo de dez a trinta deoxiribonucleotídeos, preferencialmente mais do que oito. O tamanho exato dos oligonucleotídeos é dependente dos fatores experimentais particulares de cada etapa do processo.

[58] Conforme usado na presente invenção, os termos "codificador", "codificando" ou "codificado" significam que uma sequência nucleotídica possui uma informação, a qual será traduzida biologicamente da seqüência de nucleotídeo em uma sequencia proteica específica. A informação codificada de uma proteína é especificada pelos códons expressos na sequência nucleotídica. Estes códons são explorados por cada organismo vivo de maneira diferenciada, podendo partes de seqüências nucleotídicas distintas serem traduzidas biologicamente em peptídeos idênticos.

[59] Como usado aqui, o termo "antisense", usado no contexto da orientação de uma seqüência de nucleotídeo, refere-se a uma seqüência complementar de uma sequencia codificante de polinucleotídeo, que é operacionalmente ligada no sentido 3'-5' portanto, a partir da extremidade 5´ de um gene. A cadeia antisense é complementar a cadeia de orientação sense gerando um mRNA final capaz de hibridizar com o mRNA produzido a partir da transcrição da sequência original.

[60] O termo "gene" corresponde a uma seqüência nucleotídica específica localizada em uma região em particular do cromossomo, sendo responsável por codificar um produto final específico. O gene também carrega em sua estrutura primária toda a informação necessária para os processos de transcrição e tradução biológica, como por exemplo, regiões promotoras e reguladoras da transcrição. No caso da presente invenção, gene compreende uma seqüência nucleotídica codificadora correspondente as toxinas Cry provenientes de *Bacillus thuringiensis.*

[61] O termo "vetor" diz respeito a um replicon, como plasmídeo, fago ou vírus, no qual outras seqüências genéticas ou elementos (sejam eles de DNA ou RNA) podem ser ligados.

Desta forma, os genes podem ser replicados juntamente com o vetor. Preferencialmente um dos vetores de interesse da presente invenção diz respeito ao fagomídeo. O termo "fagomídeo" diz respeito a um vetor que contém seqüência para replicação em fago e em bactéria, este vetor tem características que atendem as especificações da célula hospedeira bem como agentes selecionadores e promotores. Um exemplo é o fagomídeo pComb3X (Andris-Widhopf, J.; Rader, C.; Steinberger, P.; Fuller, R., Barbas III, C. F. Methods for the generation of chicken monoclonal antibody fragments by *Phage display*. *Journal of Immunological Methods*, 242: 159-181, 2000), que tem como característica fusionar a sequência de interesse ao gene da proteína III, do bacteriófago filamentoso M13, localizada no capsídeo viral. O termo "vetor recombinante" é resultante da combinação de um vetor comercial com genes da presente invenção operacionalmente ligado a um polinucleotídeo endógeno e/ou heterólogo de interesse que por sua vez está operacionalmente ligado a um sinal de terminação. Tais vetores podem ser obtidos comercialmente, incluindo aqueles fornecidos por Clontech Laboratories, Inc (Palo Alto, Calif.), Stratagene (La Jolla, Calif), Invitrogen (Carlsbad, Calif.), New England Biolabs (Beverly, Mass.) e Promega (Madison, Wis.). Alguns exemplos de vetores utilizados na presente invenção, mas não limitados, são os vetores pGEM-T easy (Promega Corporation), pET101/ D-TOPO (Invitrogen), pComb3X (Andris-Widhopf, J.; Rader, C.; Steinberger, P.; Fuller, R., Barbas III, C. F. Methods for the generation of chicken monoclonal antibody fragments by *Phage display*. *Journal of Immunological Methods*, 242: 159-181, 2000). A obtenção de vetores recombinantes compreendendo promotores ligados a ácidos nucleicos é conhecida no estado da técnica e pode ser encontrada em Sambrook *et al*. (Sambrook, J., Russell, D. W., Molecular Cloning, A Laboratory Manual, 2nd ed., Cold Spring Harbor Laboratory Press. 1989).

[62] Um "vetor de expressão" é um vetor especializado que contém um gene com regiões regulatórias necessárias para a expressão em uma célula hospedeira. Tais vetores podem ser obtidos comercialmente, incluindo aqueles fornecidos por Clontech Laboratories, Inc (Palo Alto, Calif.), Stratagene (La Jolla, Calif), Invitrogen (Carlsbad, Calif.), New England Biolabs (Beverly, Mass.) e Promega (Madison, Wis.). O termo "operacionalmente ligado" significa que as seqüências regulatórias necessárias para expressão da seqüência codificante estão colocadas na molécula de DNA em posições apropriadas de maneira que quando juntadas à

seqüência codificante, esta mantenha a fase de leitura adequada para efeito de sua expressão. Essa mesma definição é, às vezes, aplicada para o arranjo de seqüências codificantes e elementos controladores da transcrição (por exemplo, promotores, acentuadores ou "enhancers" e elementos de terminação) no vetor de expressão. Uma região codificante exógena é tipicamente flanqueada por regiões regulatórias operacionalmente ligadas que regulam a expressão da região codificante exógena em uma célula transformada (podendo ser microrganismo, vegetal ou animal). Uma região regulatória típica operacionalmente ligada a uma região codificante exógena inclui um promotor, isto é, um fragmento de ácido nucléico que pode causar transcrição de regiões codificantes exógenas, posicionado na região 5' da região codificante exógena.

[63] A presente invenção não está limitada para o uso de qualquer promotor, estes podem ser induzíveis, constitutivos e tecido-específicos. Preferencialmente, o promotor da presente invenção é do grupo dos promotores dos genes da fibra de algodão, podendo ser, mas não estando limitado a E6, H6S, Rac13, LTP, ACP, Expansina, CAP, Anexina, FbL2A e actina 2.

[64] O promotor pode conter elementos "enhancers". Um "enhancer" é uma seqüência de DNA que pode estimular a atividade do promotor. Ela pode ser um elemento inato do promotor ou um elemento heterólogo inserido para aumentar o nível e/ou a tecido-especificidade de um promotor. "Promotores constitutivos" referem-se àqueles que dirigem a expressão gênica em todos os tecidos e durante todo tempo. Promotores "tecido-específicos" ou "desenvolvimento-específicos" são aqueles que dirigem a expressão gênica quase que exclusivamente em tecidos específicos, tais como folhas, raízes, caules, flores, frutos ou sementes, ou em estágios específicos do desenvolvimento em um tecido, como no início ou final da embriogênese.

[65] Conforme descrito anteriormente, a expressão "vetores de expressão" pode compreender um promotor induzível operacionalmente ligado a uma seqüência de ácido nucléico codificando a proteína pesticida da presente invenção. Promotores "induzíveis" podem dirigir a expressão de um polinucleotídeo com o qual eles estejam operacionalmente ligados, em um tecido ou estágio específico do desenvolvimento ou respondendo a condições ambientais. Em um dos aspectos da invenção, vetores de expressão compreendem um promotor induzível firmemente regulado operacionalmente ligado à uma molécula de ácido

nucleico codificando uma proteína pesticida. Tal vetor de expressão pode adicionalmente compreender um gene marcador de seleção (por exemplo, um gene codificando uma proteína que confere resistência a antibiótico) operacionalmente ligado a um promotor constitutivo ou a um promotor induzível firmemente regulado. Dependendo da aplicação, ele pode beneficiar a expressão da seqüência de ácido nucleico codificando uma proteína pesticida através de um promotor induzível de inseto-praga. Em um aspecto da presente invenção pode ser vantajoso utilizar promotores que são expressos localmente ou próximo do sítio de infecção da praga.

[66] Em um dos aspectos da invenção, o promotor é um promotor expresso em plantas. Como usado aqui, o termo "promotor expresso em plantas" significa uma seqüência de DNA que é capaz de iniciar e/ou controlar a transcrição em uma célula de planta. Isso inclui qualquer promotor de origem vegetal; qualquer promotor de origem não vegetal que seja capaz de direcionar a síntese do gene presente no T-DNA de *Agrobaterium*; promotores tecido-específicos ou órgão-específicos, incluindo mas não limitados a promotores semente-específicos (WO8903887), promotores específicos de órgãos primordiais (como mencionado no pedido de patente US20030175783, An, Y. Q., Huang, S., McDowell, J. M., McKinney, E. C., Meagher, R. B., Conserved expression of the *Arabidopsis* ACT1 and ACT3 actin subclass in organ primordia and mature pollen. The Plant Cell 8, 15-30, 1996), promotores específicos de caule (como mencionado no pedido de patente US20030175783, Keller, B., Sauer, N., Lamb, C. J., Glycine-rich cell wall proteins in bean: Gene structure and association of the protein with the vascular system. EMBO J. 7: 3625-3633, 1988), promotores específicos de folhas (como mencionado no pedido de patente US20030175783, Hudspeth, R. L., Grula, J. W., Structure and expression of the maize gene encoding the phosphoenolpyruvate carboxylase involved in C_4 photosynthesis. Plant Mol Biol 12:579-589, 1989), promotores específicos de mesófilo, promotores específicos de raiz (como mencionado no pedido de patente US20030175783, Keller, B., Lamb, C. J., Specific expression of a novel cell wall hydroxyproline-rich glycoprotein gene in lateral root initiation. Genes Devel. 3:1639-1646, 1989), promotores específicos de tubérculos (como mencionado no pedido de patente US20030175783, Keil, M., Sánchez-Serrano, J. J., Willmitzer, L., Both wound-inducible and tuber-spceific expression are mediated by the promoter of a single member of the potato proteinase inhibitor II gene family. EMBO J. 8: 1323:1330, 1989), promotores específicos de

tecidos vasculares (como mencionado no pedido de patente US20030175783, Peleman J., Saito, K., Cottyn, B., Engler, G., Seurinck, J., Van Montagu, M., Inze, D., Structure and expression analyses of the S-adenosylmethionine synthetase gene family in *Arabidopsis thaliana*. Gene 84: 359-369, 1989), promotores específicos de estames (WO8910396, WO9213956), promotores específicos da zona de deiscência (WO9713865); e semelhantes.

[67] Uma "seqüência líder" ou "seqüência sinal" na presente invenção significa uma seqüência de ácido nucleico que, quando operacionalmente ligada a uma molécula de ácido nucleico, permite a secreção do produto da molécula de ácido nucleico. A seqüência líder está preferencialmente localizada na região 5' da molécula de ácido nucleico. Preferencialmente, a seqüência líder é obtida do mesmo gene que o promotor utilizado para dirigir a transcrição da molécula de ácido nucleico, ou é obtida do gene onde a molécula de ácido nucleico é derivada. Preferencialmente a presente invenção utiliza a seqüência sinal proveninente de uma cultivar de algodão brasileira.

[68] O sinal de terminação da transcrição e a região de poliadenilação da presente invenção inclui, mas não está limitado a, sinal de terminação de SV40, sinal de adenilação de HSV TK, sinal de terminação do gene da nopalina sintetase de *Agrobacterium tumefasciens* (NOS), sinal de terminação do gene da octopina sintetase, sinal de terminação do gene 19S e 35S do CaMV, sinal de terminação do gene da álcool desidrogenase de milho, sinal de terminação do gene da manopina sintetase, sinal de terminação do gene da beta-faseolina, sinal de terminação do gene da ssRUBISCO, sinal de terminação do gene da sucrose sintetase, sinal de terminação do vírus que ataca o *Trifolium subterranean* (SCSV), sinal de terminação do gene *trpC* de *Aspergillus nidulans*, e outros semelhantes.

[69] Os termos "polipeptídeo", "peptídeo" e "proteína" são usados de forma interrelacionada para referir a um polímero de resíduos de aminoácidos. Os termos aplicam-se para polímeros de aminoácidos onde um ou mais resíduo de aminoácido é um análogo químico artificial de um aminoácido correspondente ocorrendo naturalmente, bem como para polímeros de aminoácidos ocorrendo naturalmente.

[70] Polipeptídeos da invenção podem ser produzidos ou através de um ácido nucleico descrito aqui, ou pelo uso de técnicas padrões de biologia molecular. Por exemplo, uma proteína truncada da invenção pode ser produzida pela expressão de um ácido nucleico

recombinante da invenção em uma célula hospedeira apropriada, ou alternativamente pela combinação de procedimentos, tais como digestão utilizando protease e purificação.

[71] O termo "substancialmente pura" refere-se a preparações compreendendo pelo menos 50-60% de peso do componente de interesse (por exemplo, ácido nucleico, oligonucleotídeo, polipeptídeo, proteína, etc). Mais preferencialmente, a preparação compreende pelo menos 75% de peso, e mais preferencialmente 90-99% de peso do componente de interesse. A pureza é medida por meio de métodos apropriados para o componente de interesse (por exemplo, espectometria de massa e similares).

[72] O termo "proteína isolada" ou "proteína isolada e purificada" é, às vezes, utilizado na presente invenção. Este termo refere-se a uma proteína produzida pela expressão de uma molécula de ácido nucleico isolada da presente invenção. Alternativamente, este termo pode referir-se a uma proteína que foi suficientemente separada de outras proteínas as quais ela poderia estar naturalmente associada, tal como ela existe na sua forma "substancialmente pura". O termo "isolado" não exclui misturas sintéticas ou artificiais com outros compostos ou materiais, ou a presença de impurezas que não interferem com a atividade fundamental da proteína, e que pode estar presente, por exemplo, em uma purificação incompleta, adição de estabilizadores, ou combinados dentro, por exemplo, em uma composição agriculturalmente aceitável.

[73] O termo "veículo agriculturalmente aceitável" refere-se a soluções nas quais uma proteína pesticida ou uma seqüência de ácido nucleico codificadora de uma proteína pesticida possa ser mantida sem a alteração das propriedades funcionais da molécula da proteína aqui descrita para uso agrícola. Os veículos utilizados na presente invenção podem ser líquidos ou sólidos. Veículos líquidos que podem ser utilizados para formar composições utilizando proteína recombinante da presente invenção podem ser, mas não estão limitados a água ou solventes orgânicos, tais como polióis, ésteres, cloreto de metileno, álcool, ou óleo vegetal. Outros componentes que podem ser incluídos na formulação incluem umectantes, preservativos, espessantes, agentes antimicrobianos, antioxidantes, emulsificadores, polímeros formadores de filme e misturas destes. Umectantes podem incluir polióis, açúcares (tais como melaço), glicóis e sais higroscópicos. Membranas vítreas, polímeros formadores de filmes incluem goma rosina, látex, pirrolidona polivinil, álcool polivinil, cloreto polivinil, polietileno,

acetato de polivinil, e misturas destes. Aditivos opcionais adicionais incluem metil, metalcrilato, e misturas destes.

[74] Os termos “análogo peptídico” ou “análogo mutante” significam um análogo natural ou mutante de uma proteína, compreendendo uma série de fragmentos lineares ou discontínuos daquela proteína e no qual pode ter um ou mais aminoácidos recolocado(s) com outro(s) aminoácido(s) e que pode ter sua atividade biológica alterada, auxiliada, aumentada ou diminuída quando comparada com a proteína parental nativa ou não-mutada.

[75] O termo “atividade biológica” diz respeito a uma função ou um grupo de funções executado por uma molécula em um contexto biológico (isto é, em um organismo ou substituto *in vitro* ou algum outro modelo similar). Para as proteínas entomotóxicas, a atividade biológica é caracterizada pelas propriedades físico-químicas como por exemplo, estruturação em domínios altamente hidrofóbicos, capazes de formar oligômeros, e afinidade por membrana biologicas, causando a destruição das mesmas. Esta afinidade por membranas pode ser ocasionada pela presença de receptores específicos bem como pela simples interação química entre ambas.

[76] Como usado aqui, o termo “impactando insetos-praga” refere-se ao efeito de mudar nos insetos a alimentação, crescimento, e/ou comportamento em qualquer estágio do desenvolvimento, incluindo, mas não limitado a: matar o inseto; retardar o crescimento; impedir capacidade reprodutiva; atividade anti-alimentação; e outros semelhantes.

[77] Os termos “atividade pesticida” e “atividade inseticida” são utilizados sinonimamente para referir-se a atividade de um organismo ou uma substância (p.ex: uma proteína) que pode ser medida por, mas não estando limitada a mortalidade da praga, perda de peso da praga, repelência à pragas, e outros comportamentos e mudanças físicas de uma praga depois da alimentação e exposição por um apropriado período de tempo. Dessa forma, o impacto da atividade pesticida deve ter pelo menos um parâmetro mensurável de aptidão da praga. Por exemplo, “proteínas pesticidas” são proteínas que desencadeiam a atividade pesticida por elas mesmas ou em combinação com outras proteínas. Endotoxinas e δ-endotoxina são proteínas pesticidas. Outros exemplos de proteínas pesticidas incluem, por exemplo, pentina-1 e jaburetox.

[78] O termo “quantidade efetiva de pesticida” diz respeito a uma quantidade de uma substância ou organismo que tem atividade pesticida quando presente no ambiente da praga. Para cada substância ou organismo, a quantidade efetiva de pesticida é determinada empiricamente para cada praga afetada em um ambiente específico. Similarmente o termo “quantidade efetiva de pesticida” pode ser usado para referir a uma “quantidade efetiva de pesticida” quando uma praga é um inseto-praga.

[79] O termo “recombinantemente engenheirado” ou “engenheirado” diz respeito a utilização da tecnologia do DNA recombinante para gerar (engenheirar) uma mudança na estrutura da proteína baseando-se no entendimento do mecanismo de ação da mesma, podendo os aminoácidos serem introduzidos, deletados ou substituídos.

[80] O termo “Embaralhamento de DNA” é utilizado para descrever um método empregado em evolução molecular dirigida in vitro para gerar variantes de uma única seqüência gênica, ou duas ou mais seqüências gênicas homólogas por meio de recombinações de fragmentos gerados randomicamente, com recuperação de seqüências modificadas e com conseqüente modificação de resíduos de aminoácidos na proteína codificada pelo análogo mutante.

[81] O termo “apresentação de proteínas na superfície de bacteriófagos - *Phage display*” diz respeito a um sistema de expressão e de interações de proteínas fusionadas a bacteriófagos que permitem uma varredura em células, tecidos ou órgãos a procura de pares receptores-ligantes, sendo esses ligantes proteínas que se ligam aos receptores presentes no alvo em estudo.

[82] Como usado aqui, o termo “seqüência de nucleotídeo mutada” ou “mutação” ou “seqüência de nucleotídeo mutageneizada” diz respeito a uma seqüência de nucleotídeo que foi mutada ou alterada para conter para conter um ou mais resíduos de nucleotídeos (p.ex.: pares de base) que não estão presentes no tipo selvagem ou na seqüência não-mutada. Tal mutagênese ou alteração consiste de uma ou mais adições, deleções, ou substituições ou realocamento de resíduos de ácidos nucleicos.

[83] O termo “análogo” ou “mutante” é utilizado para identificar um gene que foi alterado por mutação e que o torna diferente do tipo selvagem ou da variação normal da população.

[84] Como usado aqui, o termo “melhora da atividade inseticida” ou “melhora da atividade pesticida” caracteriza um polipeptídeo ou uma δ-endotoxina da invenção que possui a atividade pesticida contra coleópteros melhorada em relação às outras δ-endotoxinas que

sejam efetivas contra insetos. Para medir a melhora da atividade pesticida ou inseticida deve-se requerer uma demonstração de aumento da toxicidade de pelo menos 10%, contra o inseto alvo, e mais preferencialmente 20%, 25%, 30%, 35%, 40%, 45%, 50%, 60%, 70%, 100%, 200% ou um maior aumento de toxicidade com relação à atividade inseticida das δ-endotoxinas Cry8 existentes que sejam ativas contra o mesmo inseto.

[85] O termo "toxina" ou "endotoxina" está relacionado a um polipeptídeo, o qual aprenseta atividade tóxica inseticida. É conhecido, no estado da técnica, que as δ-endotoxinas de ocorrência natural, são sintetizadas por *B. thuringiensis*, os quais esporulam liberando a inclusão cristalina protéica contendo a δ-endotoxina.

[86] Para um interesse particular da invenção, foram otimizadas seqüências codificando proteínas pesticidas desta invenção. Como usada aqui, os termos "seqüências de nucleotídeos otimizadas" ou "seqüências sintéticas" referem-se a ácidos nucleicos que são otimizados para expressão em um organismo particular. Seqüências de nucleotídeos otimizadas incluem aquelas seqüências que foram tão modificadas que o conteúdo GC da seqüência de nucleotídeos passa a ficar alterado. Tal modificação na seqüência de nucleotídeo pode ou não compreender uma região codificadora. Onde a seqüência modificada de nucleotídeo compreende uma região codificadora, as alterações no conteúdo de GC podem ser feitas em vista de outro fenômeno genético, como por exemplo, a preferência de um códon por um organismo particular ou a tendência do conteúdo de GC na região codificadora.

[87] Em algumas concretizações da invenção, onde a seqüência de nucleotídeo otimizada compreende a região codificadora, a alteração no conteúdo de GC não resulta em uma mudança na proteína codificada pela seqüência de nucleotídeo. Em outras concretizações, a alteração no conteúdo de GC resulta em mudanças na proteína codificada que podem ser mudanças em aminoácidos conservados que podem não alterar significantemente a função da proteína codificada. O conteúdo de GC de uma seqüência de nucleotídeo pode diferir da seqüência de nucleotídeo nativa em pelo menos 1%, 2%, 3%, 4%, 5%, 6%, 7%, 8%, 9%, 10%, ou 11%, 12%, 13%, 14%, 15%, 16%, 17%, 18%, 19%,20%, 21%, 22%, 23%, 24%, 25%, 26%, 27%, 28%, 29%, 30%, 31%, 32%, 33%, 34%, 35%, 36%, 37%, 38%, 39%, 40%, 41%, 42%, 43%, 44%, 45%, 46%, 47%, 48%, 49%, ou 50%, ou mais. Então, o conteúdo de GC de uma seqüência de nucleotídeo otimizada pode ser 42%, 43%, 44%, 45%, 46%, 47%, 48%,

49%, 50%, 51%, 52%, 53%, 54%, 55%, 56%, 57%, 58%, 59%, 60%, 61%, 62%, 63%, 64%, 65%, 66%, 67%, 68%, 69%, 70%, 71%, 72%, 73%, 74%, 75%, 76%, 77%, 78%, 79%, ou 80%, ou maior.

[88] Um especialista no assunto tem conhecimento de que avanços no campo da biologia molecular tais como uma mutagênese sítio-específica ou ao acaso, metodologia da reação de polimerase em cadeia (PCR), e técnicas da engenharia protéica dispõem de uma extensiva coleção de ferramentas e protocolos viáveis para o uso para alterar ou engenheirar ambas as seqüências de aminoácido e seqüências genéticas disfarçadas de proteínas de interesse agrícola. Então, as proteínas pesticidas da invenção podem ser alteradas de várias maneiras, incluindo substituição de aminoácido, deleções, truncações, e inserções. Métodos para tais manipulações são geralmente conhecidos no estado da técnica. Por exemplo, uma seqüência de aminoácido variante da proteína pesticida da presente invenção pode ser preparada pela introdução de mutações dentro de um ácido nucleico sintético (p.ex.: molécula de DNA). Métodos para mutagênese e alterações em ácidos nucleicos são bem descritos no estado da técnica.

[89] O desenho do gene sintético foi realizado com base na seqüência original do gene, incluindo a porção N-terminal da proteína com os três domínios responsáveis pela atividade inseticida. No desenho do gene sintético foram modificados 262 pares de base, resultando na eliminação de 25 possíveis sinais de poliadenilação, 17 motivos de instabilidade, 95 códons pouco usados em plantas e no aumento do conteúdo de G-C de 35.6 para 43.8%. A seqüência protéica final do gene sintético é idêntica a seqüência original, ou seja, permaneceu inalterada.

[90] Entende-se que os polipeptídeos da invenção podem ser produzidos tanto pela expressão de um ácido nucleico descrito aqui, ou pelo uso de técnicas padrões de biologia molecular.

[91] Sabe-se que proteínas pesticidas podem ser oligoméricas e variam em peso molecular, número de resíduos, componentes peptídicos, atividades contra pragas particulares, e outras características. No entanto, pelos métodos descritos aqui, proteínas ativas contra uma variedade de pragas podem ser isoladas e caracterizadas. As proteínas pesticidas da invenção podem ser usadas em combinação com δ-endotoxinas Bt ou outras proteínas inseticidas para aumentar a ação no inseto alvo. Além do mais, o uso de proteínas pesticidas da presente

invenção em combinação com δ-endotoxinas de Bt ou outros princípios inseticidas de uma natureza diferente podem ter uma utilidade particular para prevenção e/ou manejo da resistência à inseto. Outros princípios inseticidas incluem, mas não estão limitados a inibidores de protease (ambos serina e cisteína), lectinas, alfa-amilases, e peroxidases.

[92] A invenção também diz respeito a microrganismos transformados com pelo menos um ácido nucleico da presente invenção, com um gene quimérico compreendendo o ácido nucleico, ou com um vetor de expressão compreendendo o gene quimérico. Preferencialmente, o microrganismo é um que se multiplica em plantas. Mais preferencialmente, o microrganismo é uma bactéria colonizadora de raiz. Uma concretização da presente invenção diz respeito a uma proteína pesticida encapsulada, que compreende um microrganismo transformado compreendendo pelo menos uma proteína pesticida da invenção.

[93] A invenção também provê composições pesticidas compreendendo um organismo transformado da invenção. Preferencialmente o microrganismo transformado está presente na composição pesticida em uma quantidade pesticida efetiva, junto com um veículo carregador aceitável. A invenção também compreende composições pesticidas compreendendo uma proteína isolada da invenção, sozinha ou em combinação com um organismo transformado da invenção e/ou uma proteína pesticida encapsulada da invenção, em uma quantidade inseticida efetiva, junto com um veículo aceitável.

[94] A invenção também provê um método de aumentar o alcance do inseto alvo através do uso de proteínas pesticidas da invenção em combinação com pelo menos uma segunda proteína pesticida que seja diferente da proteína pesticida da invenção. Qualquer proteína pesticida conhecida no estado da técnica pode ser utilizada no método da presente invenção. Tais proteínas pesticidas incluem, mas não estão limitadas a δ-endotoxinas de Bt, inibidores de protease, lectinas, alfa amilases, hidrolases acil lipídicas, e peroxidases.

[95] A invenção também compreende plantas transgênicas ou transformadas compreendendo pelo menos uma seqüência nucleotídica da invenção. Preferencialmente, a planta é estavelmente transformada com um gene quimérico compreendendo pelo menos uma seqüência nucleotídica da invenção operacionalmente ligada a um promotor que dirige a expressão em células vegetais. Como usado aqui, o termo “plantas transgênicas” ou “plantas transformadas” refere-se a uma planta que compreende dentro de seu genoma um

polinucleotídeo heterólogo. Geralmente, o polinucleotídeo heterólogo é integrado ao genoma de uma planta transgênica, de forma estável para que o polinucleotídeo seja passado para gerações sucessivas. O polinucleotídeo heterólogo pode ser integrado dentro do genoma sozinho ou como parte de um vetor recombinante.

[96] Como usado aqui, o termo "transgênico" inclui qualquer célula, linhagem celular, calos, tecidos, parte da planta, ou genótipo da planta que tem sido alterado pela presença do ácido nucleico heterólogo incluindo aqueles transgênicos inicialmente alterados bem como aqueles criados por cruzamento sexual ou propagação sexual do transgênico sexual.

[97] O termo "plantas" refere-se a organismos fotossintéticos, ambos eucariotos e procariotos, onde o termo "plantas desenvolvidas" refere-se a plantas eucariotas. O termo refere-se a plantas inteiras, órgãos vegetais (p.ex.: folhas, caules, raízes, flores, entre outros), sementes, células vegetais, e progênies dos mesmos. Partes das plantas transgênicas também estão incluídas dentro do escopo da invenção compreendendo, por exemplo, células vegetais, protoplastos, tecidos, calos, embriões, bem como flores, óvulos, caules, frutos, folhas, raízes originados de plantas transgênicas ou sua progênie previamente transformada com uma molécula de DNA da invenção e, portanto, consistindo de pelo menos parte das células transgênicas, são também objeto da presente invenção. Os ácidos nucleicos da invenção podem ser utilizados para conferir tratos desejados em essencialmente qualquer planta. Então, a invenção possui uso sobre várias espécies de plantas, incluindo espécies dos gêneros *Anona*, *Arachis*, *Artocarpus*, *Asparagus*, *Atropa*, *Avena*, *Brassica*, *Carica*, *Citrus*, *Citrullus*, *Capsicum*, *Carthamus*, *Cocos*, *Coffea*, *Cucumis*, *Cucurbita*, *Daucus*, *Elaeis*, *Fragaria*, *Glycine*, *Gossypium*, *Helianthus*, *Heterocallis*, *Hordeum*, *Hyoseyamus*, *Lactuca*, *Linum*, *Lolium*, *Lupinus*, *Lycopersicon*, *Malus*, *Manihot*, *Majorana*, *Medicago*, *Nicotiana*, *Olea*, *Oryza*, *Panieum*, *Pannesetum*, *Passiflora*, *Persea*, *Phaseolus*, *Pistachia*, *Pisum*, *Pyrus*, *Prunus*, *Psidium*, *Raphanus*, *Ricinus*, *Secale*, *Senecio*, *Sinapis*, *Solanum*, *Sorghum*, *Theobromus*, *Trigonella*, *Triticum*, *Vicia*, *Vitis*, *Vigna*, e *Zea*. Particularmente a presente invenção diz respeito a plantas de algodão transformadas com as seqüências nucleotídicas da presente invenção bem como fragmentos e derivados das mesmas, mais especificamente plantas transformadas de *Gossypium hirsutum*.

[98] Protocolos de transformação bem como protocolos para introduzir seqüências de nucleotídeos dentro de plantas podem variar dependendo do tipo de planta ou de célula vegetal, por exemplo, monocotiledôneas ou dicotiledôneas, alvos da transformação. Métodos viáveis de introduzir seqüências nucleotídicas em células vegetais e a subseqüente inserção dentro do genoma vegetal são bem descritos no estado da técnica e podem ser, mas não estão limitados a técnicas tais como eletroporação e microinjeção de protoplastos de células de plantas, ou a construção pode ser introduzida diretamente no tecido vegetal utilizando-se métodos balísticos, tais como bombardeamento de partículas recobertas com DNA.

[99] Técnicas de microinjeção são conhecidas no estado da técnica e bem descritas em literatura científica e patentária (Zhou, G., Wang, J., Zeng, Y., Huang, J., Qian, S., Liu, G., Introduction of exogenous DNA into cotton embryos. Meth. in Enzymol., 101, 433-448, 1983) (como mencionado no pedido de patente US4743548). A introdução de construções gênicas utilizando-se precipitações de polietileno glicol é descrita em Paszkowski *et al.* (Paszkowski, J., Shillito, R. D., Saul, M., Mandák, V., Hohn, T. Hohn, B., Potrykus, I., Direct gene transfer to plants. Embo J. 3: 2717-2722, 1984) (como mencionado no pedido de patente US20020152501). Técnicas de eletroporação são descritas em Fromm *et al* (Fromm, M. E., Taylor, L. P. Walbot, V., Expression of genes electroporated into monocot and dicot plant cells. Proc. Natl. Acad. Sci. USA 82:5824, 1985) (como mencionado no pedido de patente US20020152501). Técnicas de transformações balísticas são descritas em Klein *et al* (Klein, T. M., Wolf,. E. D., Wu, R., Sanford, J. C., High velocity microprojectiles for delivering nucleic acids into living cells. Nature 327:70-73, 1987) (como mencionado no pedido de patente US20020152501).

[100] Alternativamente, as construções gênicas podem ser combinadas com regiões flanqueadoras de T-DNA apropriadas e introduzidas em um vetor convencional, o hospedeiro *Agrobacterium tumefaciens*. A função de virulência do hospedeiro *Agrobacterium tumefaciens* direcionará a inserção das construções gênicas e marcador adjacente dentro do DNA da célula vegetal quando a célula é infectada pela bactéria. Técnicas de transformação mediadas por *Agrobacterium tumefaciens*, incluindo desarmamento e o uso de vetores binários, são bem descritas na literatura científica (como mencionado no pedido de patente US 20020152501, Horsch, R. B., Fraley, R. T., Rogers, S. G., Sanders, P. R., Lloyd, A., Hoffmann, N.

Inheritance of functional foreign genes in plants. Science 233:496-498, 1984; e Fraley, R. T., Rogers, S. G., Horsch, R. B., Sanders, P. R., Flick, J. S., Adams, S. P., Bittner, M. L., Brand, L. A., Fink, C. L., Fry, J. S., Galluppi, G. R., Goldberg, S. B., Hoffmann, N. L., Woo, S. C. Expression of bacterial genes in plant cells. Proc. Natl. Acad. Sci. USA 80:4803, 1983).

[101] Células de plantas transformadas derivadas de qualquer uma das técnicas de transformação descritas acima podem ser cultivadas para regenerar uma planta inteira que possua o genótipo transformado e então o fenótipo desejado, tal como resistência a insetos. Tais técnicas de regeneração contam com a manipulação de certos fitohormônios em meio de crescimento de cultura de tecidos, tipicamente contendo um marcador biocida e/ou herbicida, que deve ser introduzido junto com a seqüência de nucleotídeos desejada. Regeneração de plantas a partir de cultura de protoplastos é descrita em Evans *et al* (Evans, D. E., and Bravo, J. E., Protoplasts Isolation and Culture, Handbook of Plant Cell Culture, vol. 1, 124-176, MacMillilan Publishing Company, New York, 1983); e Binding 1985 (Binding, H., Regeneration of Plants, Plant Protoplasts, pp. 21-73, CRC Press, Boca Raton, 1985) (como mencionado no pedido de patente US20020152501). A regeneração pode ser também obtida através de calos de planta, explantes, órgãos, ou parte da mesma. Tais técnicas de regeneração são descritas geralmente em Klee *et al* (Klee, H., Horsch, R., Rogers, S., *Agrobacterium*-mediated plant transformation and its further applications to plant biology. Ann. Ver. Of Plant Phys. 38:467-486, 1987 (como mencionado no pedido de patente US20020152501).

[102] Sabe-se que os genes codificando as proteínas pesticidas podem ser usados para transformar organismos patogênicos a insetos. Tais organismos incluem baculovírus, fungos, protozoários, bactérias, e nematóides.

[103] Um gene codificando uma proteína pesticida da invenção pode ser introduzido através de um vetor viável dentro de um hospedeiro microbiano, e o dito hospedeiro pode ser aplicado no ambiente, ou em plantas, ou em animais. O termo “introduzido” no contexto de inserir um ácido nucleico dentro de uma célula significa “transfecção” ou “transformação” ou “transdução” e inclui a incorporação de um ácido nucleico dentro de uma célula procariótica ou eucariótica onde o ácido nucleico pode ser incorporado dentro do genoma da célula (p.ex.: cromossomo, plasmídeo, plastídeo, ou DNA mitocondrial), convertido dentro de um replicon autônomo, ou expresso transientemente (p.ex.: RNAm transfectado).

[104] Microorganismos hospedeiros têm sido conhecidos por ocupar a "fitosfera" (filoplano, filosfera, rizosfera, e/ou rizoplano) de uma ou mais cultivares de interesse selecionada(s). Esses microorganismos de interesse são selecionados para serem capazes de competir com sucesso em um meio ambiente particular com microorganismos selvagens, provendo uma manutenção e expressão estável do gene expressando a proteína pesticida, e desejavelmente, melhorar a proteção do pesticida da degradação ambiental e inativação.

[105] Tais microorganismos incluem, mas não estão limitados a bactérias, algas e fungos. Particularmente os microorganismos incluem bactérias tais como *Pseudomonas, Erwinia, Serratia, Klebsiella, Xanthomonas, Streptomyces, Rhizobium, Rhodopseudomonas, Methylius, Agrobacterium, Acetobacter, Lactobacillus, Arthrobacter, Azotobacter*, *Leuconostoc,* e *Alcaligenes*, fungos, particularmente leveduras, por exemplo, *Saccharomyces, Cryptococcus, Kluyveromyces, Sporobolomyces, Rhodotorula,* e *Aureobasidium.* De particular interesse existem as espécies bacterianas da fitosfera como *Pseudomonas syringae, Pseudomonas fluorescens, Serratia marcescens, Acetobacter xylinum, Agrobacteria, Rhodopseudomonas spheroides, Xanthomonas campestris, Rhizobium melioti, Alcaligenes entrophus, Clavibacter xyli* e *Azotobacter vinlandir* e espécies de leveduras da fitosfera tais como *Rhodotorula rubra, R. glutinis, R. marina, R. aurantiaca, Cryptococcus albidus, C. diffluens, C. laurentii, Saccharomyces rosei, S. pretoriensis, S. cerevisiae, Sporobolomyces rosues, S. odorus, Kluyveromyces veronae,* e *Aureobasidium pollulans*.

[106] Existem vários métodos viáveis para introduzir um gene expressando a proteína pesticida dentro de um microrganismo hospedeiro sob condições que permitam a manutenção e a expressão estável do gene. Por exemplo, vetores de expressão podem ser construídos contendo a seqüência nucleotídica de interesse operacionalmente ligada a sinais regulatórios de transcrição e tradução para expressão da seqüência de nucleotídeo. Quando uma seqüência de nucleotídeo homóloga interna do organismo se encontra com a seqüência no vetor de expressão, poderá haver uma recombinação entre elas e o gene que codifica a proteína pesticida se integrará no genoma do organismo hospedeiro de forma estável.

[107] Células hospedeiras viáveis, onde as células contendo a proteína pesticida serão tratadas para prolongar a atividade da proteína pesticida na célula quando a célula tratada for aplicada no meio ambiente da praga alvo, podem incluir células de procariotos ou eucariotos,

normalmente sendo limitadas àquelas células que não produzem substâncias tóxicas em organismos superiores. No entanto, organismos que produzem substâncias tóxicas em organismos superiores podem ser usados, desde que a toxina seja instável ou o nível de aplicação suficientemente baixo para evitar qualquer possibilidade de toxicidade a hospedeiros mamíferos. Particularmente os hospedeiros são procariotas e eucariotas menos desenvolvidos como os fungos. Exemplos de procariotos, ambos gram negativos e gram positivos, incluem, mas não estão limitados a *Enterobacteriaceae,* tais como *Escherichia, Erwinia, Shigella, Salmonella,* e *Proteus; Bacillaceae; Rhizobiceae,* tais como *Rhizobium; Spirillaceae,* tais como *Photobacterium, Zymomonas, Serratia, Aeromonas, Vibrio, Desulfovibrio, Spirillum; Lactobacillaceae; Pseudomonadaceae,* tais como *Pseudomonas* e *Acetobacter; Azotobacteraceae* e *Nitrobacteraceae.* Entre os eucariotos podem ser exemplificados os fungos, tais como *Phycomycetes* e *Ascomycetes,* os quais incluem leveduras, tais como *Saccharomyces* e *Schizosaccharomyces;* e *Basidiomycetes*, tais como *Rhodotorula, Aureobasidium, Sporobolomyces*, e semelhantes.

[108] Características de interesse particular na seleção de uma célula hospedeira para o propósito de produzir a proteína pesticida incluem a facilidade de introdução do gene da proteína pesticida dentro do sistema de expressão, eficiência de expressão, estabilidade da proteína no hospedeiro, e a presença de capacidades genéticas auxiliares. Características de interesse para o uso de uma microcápsula pesticida incluem qualidade protetora para o pesticida, tais como espessura da parede celular, pigmentação, e empacotamento intracelular ou formação de corpos de inclusão; afinidade foliar; ausência de toxicidade a mamíferos; atratividade para ingestão pelas pragas; facilidade de matar e fixar sem prejudicar a toxina; e semelhantes. Outras considerações incluem facilidade de formulação e manuseio, economia, estabilidade de estocagem, e semelhantes.

[109] Organismos hospedeiros de particular interesse incluem leveduras, tais como *Rhodotorula spp., Aureobasidium spp., Saccharomyces spp*., e *Sporobolomyces spp*., organismos filoplanos tais como *Pseudomonas spp., Erwinia spp*., e *Flavobacterium spp*., e outros organismos, incluindo *Pseudomonas aeruginosa, Pseudomonas fluorescens, Saccharomyces cerevisiae, Bacillus thuringiensis*, *Escherichia coli, Bacillus subtilis*, e outros semelhantes.

[110] Na presente invenção, um microorganismo transformado (contendo a seqüência codificadora da proteína pesticida da invenção) ou uma proteína pesticida isolada pode ser formulado como um veículo carregador aceitável dentro de uma composição pesticida, que pode ser, por exemplo, uma suspensão, uma solução, uma emulsão, um pó, um grânulo dispersível, um pó umedecido, um concentrado emulsificado, um aerosol, um grânulo impregnado, um adjuvante, uma cápsula coberta, e também encapsulações em, por exemplo, substâncias poliméricas.

[111] Tais composições divulgadas aqui podem ser obtidas pela adição de um agente superfície-ativo, um veículo carregador inerte, um preservativo, um umectante, um estimulante de alimentação, um atrativo, um agente encapsulante, um ligante, um emulsificador, um corante, um protetor U.V. (ultra-violeta), um tampão, um agente de fluxo ou fertilizante, doadores de micronutriente, ou outras preparações que influenciam o crescimento da planta. Um ou mais agroquímicos incluindo, mas não limitados a herbicidas, inseticidas, fungicidas, bactericidas, nematicidas, moluscocidas, acaricidas, reguladores de crescimento de planta, suportes de colheita, e fertilizantes, podem ser combinados com veículos carregadores, surfactantes ou adjuvantes normalmente utilizados em formulações, ou outros componentes utilizados para facilitar o manuseio e aplicação para uma praga alvo em particular. Carregadores e adjuvantes viáveis podem ser sólidos ou líquidos e correspondem a substâncias ordinariamente empregadas em uma tecnologia de formulação, por exemplo, natural ou substâncias minerais regeneradas, solventes, dispersantes, agentes umidificantes, ligantes, ou fertilizantes. Os ingredientes ativos da presente invenção são normalmente aplicados na forma de composições e podem ser aplicados na área cultivada, plantas, ou sementes a ser tratadas. Por exemplo, as composições da presente invenção podem ser aplicadas em grãos nas preparações ou durante a estocagem em um silo de grãos, por exemplo. As composições da presente invenção podem ser aplicadas simultaneamente ou em sucessão com outros compostos. Métodos de aplicar um ingrediente ativo da presente invenção ou uma composição agroquímica da presente invenção que contenha pelo menos uma das proteínas pesticidas produzidas pelas cepas bacterianas da presente invenção incluem, mas não estão limitados a aplicação foliar, cobertura de semente, e aplicação no solo. O número de aplicações e taxa de aplicação dependerá da intensidade da infestação pela praga correspondente.

[112] Exemplos de materiais inertes incluem, mas não estão limitados a minerais inorgânicos tais como kaolina, filosilicatos, carbonatos, sulfatos, fosfatos, ou materiais botânicos tais como cortiça, caroço de milho em pó, massa do amendoim, massa do arroz, concha da noz.

[113] As composições da presente invenção podem estar em uma forma viável para aplicação direta ou como um concentrado da composição primária que requer diluição com uma quantidade viável de água ou outro diluente antes de ser aplicada. A concentração pesticida irá variar dependendo da natureza da formulação em particular, especificamente, se é um concentrado ou será utilizado diretamente. A composição pode conter de 1 a 98% de um veículo inerte líquido ou sólido, e 0 a 50%, preferencialmente de 0,1% a 50% de um surfactante. Essas composições serão administradas em uma taxa rotulada para produtos comerciais, preferencialmente cerca de 0,01 lb - 5,0 lb por acre quando na forma seca e cerca de 0,01 pts – 10 pts por acre quando na forma líquida.

[114] As concretizações da presente invenção podem ser efetivas contra uma variedade de pragas. Para os propósitos da presente invenção, as pragas incluem, mas não estão limitadas a, insetos, fungos, bactérias, nematóides, ácaros, patógenos protozoários, parasitas animais, e semelhantes. Pragas de particular interesse são insetos-praga, particularmente insetos-praga que causam danos significativos para plantas agrícolas. Entende-se como "insetos-praga" insetos e outras pragas similares tais como, por exemplo, os insetos das ordens Diptera, Hymenoptera, Lepidoptera, Mallophaga, Homoptera, Hemiptera, Orthroptera, Thysanoptera, Dermaptera, Isoptera, Anoplura, Siphonaptera, Trichoptera, etc., particularmente Coleoptera, especialmente *Anthonomus grandis, Diabrotica virgifera* e *Lepidoptera*. Insetos-praga da presente invenção da maioria das cultivares incluem, mas não estão limitadas a Milho: *Ostrinia nubilalis, Agrotis ipsilon, Helicoverpa zea, Spodoptera frugiperda, Diatraea grandiosella, Elasmopalpus lignosellus, Diatraea saccharalis, Diabrotica virgifera virgifera, Diabrotica longicornis barberi, Diabrotica undecimpunctata howardi, Melanotus spp., Cyclocephala borealis, Cyclocephala immaculata, Popillia japonica, Chaetocnema pulicaria, Sphenophorus maidis, Rhopalosiphum maidis, Anuraphis maidiradicis, Blissus leucopterus leucopterus, Melanoplus femurrubrum, Melanoplus sanguinipes, Hylemya platura, Agromyza parvicornis, Anaphothrips obscrurus, Solenopsis milesta, Tetranychus urticae*; Sorgo: *Chilo partellus, Spodoptera frugiperda, Helicoverpa zea, Elasmopalpus lignosellus, Feltia*

subterranea, *Phyllophaga crinita*, *Eleodes*, *Conoderus*, e *Aeolus spp*., *Oulema melanopus*, *Chaetocnema pulicaria*, *Sphenophorus maidis*, *Rhopalosiphum maidis*, *Sipha flava*, *Blissus leucopterus leucopterus*, *Contarinia sorghicola*, *Tetranychus cinnabarinus*, *Tetranychus urticae*; Trigo: *Pseudaletia unipunctata*, *Spodoptera frugiperda*, *Elasmopalpus lignosellus*, *Agrotis orthogonia*, *Elasmopalpus lignosellus*, *Oulema melanopus*, *Hypera punctata*, *Diabrotica undecimpunctata howardi*, *Schizaphis graminum*, *Macrosiphum avenae*, *Melanoplus femurrubrum*, *Melanoplus differentialis*, *Melanoplus sanguinipes*, *Mayetiola destructor*, *Sitodiplosis mosellana*, *Meromyza americana*, *Hylemya coarctata*, *Frankliniella fusca*, *Cephus cinctus*, *Aceria tulipae*; Girassol: *Cylindrocupturus adspersus*, *Smicronyx fulus*, *Smicronyx sordidus*, *Suleima helianthana*, *Homoeosoma electellum*, *Zygogramma exclamationis*, *Bothyrus gibbosus*, *Neolasioptera murtfeldtiana*; Algodão: *Heliothis virescens*, lagarta-das-maçãs; *Helicoverpa zea*, lagarta da espiga do milho; *Spodoptera exigua*, lagarta do cartucho; *Pectinophora gossypiella*, lagarta rosada; *Anthonomus grandis*, bicudo-do-algodoeiro; *Aphis gossypii*, pulgão-do-algodoeiro; *Pseudatomoscelis seriatus*, pulga saltadora do algodão; *Trialeurodes abutilonea*, mosca branca Bemisia tabaci; *Melanoplus femurrubrum*, gafanhoto; *Melanoplus differentialis*, gafanhoto; *Thrips tabaci*, tripes-do-fumo; *Franklinkiella fusca*, tripes; *Tetranychus cinnabarinus*, ácaro vermelho; *Tetranychus urticae*, ácaro-rajado; Arroz: *Diatraea saccharalis*, *Spodoptera frugiperda*, *Helicoverpa zea*, *Colaspis brunnea*, *Lissorhoptrus oryzophilus*, *Sitophilus oryzae*, *Nephotettix nigropictus*, *Blissus leucopterus leucopterus*, *Acrosternum hilare*; Soja: *Pseudoplusia includens*, *Anticarsia gemmatalis*, *Plathypena scabra*, *Ostrinia nubilalis*, *Agrotis ipsilon*, *Spodoptera exigua*, *Heliothis virescens*, *Helicoverpa zea*, *Epilachna varivestis*, *Myzus persicae*, *Empoasca fabae*, *Acrosternum hilare*, *Melanoplus femurrubrum*, *Melanoplus differentialis*, *Hylemya platura*, *Sericothrips variabilis*, *Thrips tabaci*, *Tetranychus turkestani*, *Tetranychus urticae*; Cevada: *Ostrinia nubilalis*, *Agrotis ipsilon*, *Schizaphis graminum*, *Blissus leucopterus leucopterus*; *Acrosternum hilare*, *Euschistus servus*, *Jylemya platura*, *Mayetiola destructor*, *Petrobia latens*; Canola: *Vrevicoryne brassicae*, *Phyllotreta cruciferae*, *Phyllotreta striolata*, *Phyllotreta nemorum*, *Meligethes aeneus*, *Meligethes rufimanus*, *Meligethes nigrescens*, *Meligethes canadianus*, e *Meligethes viridescens*; Batata, *Leptinotarsa decemlineata*.

[115] Os exemplos abaixo são colocados de forma a ilustrar e elucidar melhor a invenção e não podem ser tidos como forma de limitar a presente invenção.

EXEMPLOS

[116] Técnicas usuais de biologia molecular (p.ex.: transformação de bactérias e eletroforese em gel de agarose de ácidos nucleicos) estão descritas por meio de termos comumente empregados. Detalhes da prática de tais técnicas são descritos em Sambrook *et al* (Sambrook, J., Russell, D. W., Molecular Cloning, A Laboratory Manual, 2nd ed., Cold Spring Harbor Laboratory Press. 1989).

[117] **Exemplo 1** – Seleção da estirpe S811 de *Bacillus thuringiensis* proveniente do Banco de Germoplasma da Embrapa Recursos Genéticos e Biotecnológicos.

[118] Em um trabalho prévio de Silva-Werneck *et al.* (Monerat, R. G., Silva, S. F., Silva-Werneck, J. O. Catálogo do banco de germoplasma de bactérias do gênero *Bacillus*. Brasília: Embrapa-Cenargen, Documentos 60, 65 p., 2001), foram identificadas e caracterizadas diversas estirpes pertencentes ao Banco de Germoplasma Microbiano da Embrapa Recursos Genéticos e Biotecnologia. Dentre estas, selecionou-se a estirpe S811 devido a sua elevada atividade entomotóxica contra insetos da ordem Coleóptera, como, por exemplo, *Anthonomus grandis*. A avaliação da toxicidade foi feita por meio de bioensaios seletivos, utilizando-se como substrato o extrato protéico total da bactéria *Bacillus thuringiensis* S811.

[119] Para obtenção do extrato bruto protéico a estirpe foi cultivada em meio de cultura caldo nutritivo (MCCN; caldo nutriente 8 g/L, extrato de levedura 1 g/L e 1 g/L de fosfato de potássio monobásico) a 30°C, sob uma agitação de 200 rpm. Após 12 horas de cultivo, com a cultura em fase vegetativa e após 48 – 72 horas com completa esporulação, pode-se obter o material genético e o extrato protéico bruto, respectivamente.

[120] **Exemplo 2** – Identificação, isolamento e caracterização do gene c*ry8* proveniente da estirpe de *Bacillus thuringiensis* S811.

[121] A extração de DNA total do *Bacillus thuringiensis* S811 foi realizada de acordo com o protocolo de CTAB (2 % CTAB, 0,2 % de β–mercaptoetanol). Após 12 horas de cultivo, 30 mL da cultura, em fase vegetativa, foram centrifugados a 5000 rpm por 20 minutos. O sedimento foi congelado em nitrogênio líquido e macerado seguindo-se as descrições do protocolo descrito por Romano, E. (Romano, E. Extração de DNA de tecidos vegetais. In: Manual de transformação genética de plantas. A.C.M. Brasileiro & V.T.C. Carneiro (Eds). Embrapa Recursos Genéticos e Biotecnologia, Brasília, 1998). O produto final foi seco e ressuspendido em 50 µL de água Milli-Q e, posteriormente, armazenado a -20^{o}C.

[122] Para identificação de genes codificadores de toxinas Cry na estirpe S811, foi utilizada a técnica de PCR (Reação em Cadeia da Polimerase). As amplificações foram realizadas utilizando oligonucleotídeos específicos para detecção de genes do subgrupo *cry1* (Cerón, J.; Covarrubias, L.; Quintero, R.; Ortiz, A.; Ortiz, M.; Aranda, E.; Lina, L., Bravo, A. PCR analysis of the *cryI* insecticidal crystal family genes from *Bacillus thuringiensis*. Appl. Environ. Microbiol., 60, 353-356, 1994; Cerón, J.; Ortíz, A.; Quintero, R.; Güereca, L., Bravo, A. Specific PCR primers directed to identify *cryI* and *cryIII* genes within a *Bacillus thuringiensis* strain collection. Appl. Environ. Microbiol., 61, 3826-3831, 1995) e *cry8* (Bravo, A.; Sarabia, S.; Lopez, L.; Ontiveros, H.; Abarca, C.; Ortiz, A.; Ortiz, M.; Lina, L;. Villalobos, F.J.; Peña, G.; Nuñez-Valdez, M.E.; Soberón, M.; Quintero, R. Characterization of *cry* Genes in a Mexican *Bacillus thuringiensis* Strain Collection. Appl. Environ. Microbiol., v. 64, p. 4965-4972, 1998). As condições de reação PCR contendo os oligonucleotídeos do grupo *cry1* foram descritas por Cerón *et al* (Cerón, J.; Covarrubias, L.; Quintero, R.; Ortiz, A.; Ortiz, M.; Aranda, E.; Lina, L., Bravo, A. PCR analysis of the *cryI* insecticidal crystal family genes from *Bacillus thuringiensis*. Appl. Environ. Microbiol., 60, 353-356, 1994) e as condições de reação de PCR contendo os oligonucleotídeos do grupo *cry8* foram descritas por Bravo *et al* (Bravo, A.; Sarabia, S.; Lopez, L.; Ontiveros, H.; Abarca, C.; Ortiz, A.; Ortiz, M.; Lina, L;. Villalobos, F.J.; Peña, G.; Nuñez-Valdez, M.E.; Soberón, M.; Quintero, R. Characterization of *cry* Genes in a Mexican *Bacillus thuringiensis* Strain Collection. Appl. Environ. Microbiol., v. 64, p. 4965-4972, 1998). Todas as reações foram realizadas em volumes de 25 µL contendo 2,5 µg de DNA total, 10 mM Tris-HCl pH 8,4, 2 mM de $MgCl_2$, 50 mM KCl, 200 mM de cada dNTP (deoxi-ribonucleotídeos trifosfato), 500 nM de cada oligonucleotídeo e 0,1 U/µL de Taq DNA

polimerase para cada amostra de DNA. A amplificação foi realizada em termociclador (MasterCicle Gradient Eppendorf) sob as seguintes condições: desnaturação prévia a 94 °C por 2 minutos, repetição e 30 ciclos a 94 °C por 45 segundos (desnaturação), anelamento dos oligonucleotídeos por 45 segundos (temperatura específica para cada oligonucleotídeo), 72 °C por 2 minutos (extensão da DNA polimerase) e ao final uma extensão final de 72 °C por 5 minutos. Os fragmentos amplificados por PCR foram separadas e visualizados em gel 0,8% de agarose. Os fragmentos de DNA foram excisados do gel e purificados utilizando-se kit GeneClean (Bio101 System) e quantificados por espectrofotometria. Os fragmentos purificados foram então ligados a 50 ng de vetor comercial pGEMT-easy (PROMEGA), na razão molar de 3:1 (inserto:vetor) com 4 U/µL T4 DNA ligase e tampão 1 X no volume final de 15 µL. Os vetores gerados foram utilizados para transformar células competentes de *Escherichia coli* por eletroporação. Os clones positivos foram identificados por PCR de colônia e tiveram seu DNA plasmidial extraído. Os DNAs plasmidiais obtidos foram seqüenciados em um seqüenciador automático ABI, utilizando-se oligonucleotídeos gerais T7, SP6, reverso e universal (Nag, D.K., Huang, H.V. and Berg, D.E. Bidirectional Chaintermination Nucleotide Sequencing: Transposon Tn5seq1 as a Móbile Source of Primer Sites. Gene 64, 135-145.1988).

[123] As seqüências obtidas foram comparadas com as seqüências do Banco de Dados (GeneBank e SwissProt) pelo programa BLAST (http://www.ncbi.nlm.nih.gov/BLAST/). O alinhamento múltiplo das seqüências dos clones obtidos foi realizado com as seqüências mais similares depositadas no Banco de Dados (GeneBank) foi feito pelo CLUSTALW (http://www.ebi.ac.uk/clustalw/) (Thompson, J. D., D. G. Higgins e T. J. Gibson. CLUSTALW: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, positionspecific gap penalties and weight matrix choice. Nucleic Acids Res, v.22, n.22, Nov 11, p.4673-4680. 1994).

[124] A primeira reação de amplificação por PCR com os oligonucleotídeos específicos para a família *cry8,* Bravo *et al*, *1998,* teve como resultado um fragmento de 442 pb (Figura 1) correspondente à extremidade 5' de um novo gene pertencente a família *cry8* (SEQ. ID NO.1). Como intuito de obter a seqüência completa do gene *cry8*, realizou-se duas rodadas de amplificação pela técnica de TAIL-PCR (Reação da Polimerase em Cadeia por Entrelaçamento

Termal Assimétrico) (Liu, Y.; Whittier, R.F. Thermal asymmetric interlaced PCR: Automatable amplification and sequencing of insert end fragments from P1 and YAC clones for chromosome walking. Genomics, v. 25, p. 674-681, 1995) (Figura 2). Esta técnica consiste uma aplicação da técnica de PCR que permite o isolamento de segmentos de DNA adjacentes a seqüências conhecidas, utilizando para tal o DNA genômico do organismo. A técnica utiliza oligonucleotídeos específicos seqüenciais, junto a pequenos oligonucleotídeos arbitrários degenerados de modo a controlar termicamente a eficiência de amplificação relativa de produtos específicos e inespecíficos. Intercalando-se ciclos de altas e baixas estringências, produtos específicos são preferencialmente amplificados sobre produtos não-específicos.

[125] Resumidamente, feitas três reações seqüenciais de PCR utilizando usando oligonucleotídeos específicos derivados das seqüências previamente amplificadas de um lado (Bravo, A.; Sarabia, S.; Lopez, L.; Ontiveros, H.; Abarca, C.; Ortiz, A.; Ortiz, M.; Lina, L;. Villalobos, F.J.; Peña, G.; Nuñez-Valdez, M.E.; Soberón, M.; Quintero, R. Characterization of *cry* Genes in a Mexican *Bacillus thuringiensis* Strain Collection. Appl. Environ. Microbiol., v. 64, p. 4965-4972, 1998) e oito oligonucleotídeos arbitrários do outro (Liu, Y.; Whittier, R.F. Thermal asymmetric interlaced PCR: Automatable amplification and sequencing of insert end fragments from P1 and YAC clones for chromosome walking. Genomics, v. 25, p. 674-681, 1995). Fragmentos foram amplificados, clonados, seqüenciados e analisados nas mesmas condições descritas anteriormente para a identificação inicial do gene.

[126] O produto final, obtido pela técnica de TAIL-PCR, contém 2688 pb amplificado (SEQ ID Nº 1) e codifica uma nova δ-endotoxina de 896 aminoácidos (SEQ ID Nº 2). A análise da seqüência nucleotídica pelo programa BLASTn, tendo como padrão de busca o banco de dados de patentes depositados no NCBI, indentificou a seqüência da presente invenção como sendo correspondente à família Cry8, apresentando mais de 90% de identidade, como demonstrado nos alinhamentos (Figuras 15, 16, 17, 18 e 19).

[127] Análises da seqüência protéica predita do novo gene *Cry8* mostram a presença dos três domínios estruturais característicos das δ-endotoxinas, em sua porção N-Terminal. As análises também demonstram a presença de mais 240 aminoácidos da extensão C-terminal da nova δ-endotoxina (Figura 3).

[128] O alinhamento das seqüências de aminoácidos da presente invenção com outras proteínas patenteadas da família Cry8 mostra que a nova δ-endotoxina difere 80% das outras seqüências de aminoácidos, apresentando cerca de 150 aminoácidos conservados (Figura 19).

[129] Quando comparada a outras δ-endotoxinas, a nova δ-endotoxina Cry8, apresentou maior similaridade com o gene *cry8Aa* (53% identidade e 67% similaridade), seguido dos genes *cry8Ba* (53% identidade e 66% similaridade) e *cry8Ca* (49% identidade e 65% similaridade). A Figura 4 apresenta um dendograma do alinhamento da nova toxina Cry8 com as demais toxinas Cry8 depositadas no banco de dados até o momento atual. Na Figura 4 podemos observar a alta identidade entre as toxinas. A escala indica que no espaço representado existe a troca de pelo menos 0,1 aa.

[130] As extremidades N-terminal e C-terminal da nova δ-endotoxina Cry8Ka1 apresentam alta identidade com outras δ-endotoxinas Cry8, enquanto os três domínios estruturais são menos conservados, particularmente o segundo e terceiro domínios (Tabela 1), que estão envolvidos na ligação ao receptor, sugerindo novas atividades/especificidades inseticidas para o gene isolado.

[131] Tabela 1. Identidade média entre os domínios da δ-endotoxina Cry8Ga e os domínios correspondentes em outras δ-endotoxina Cry8.

	Cry8Ka1				
	N-terminal	Domínio I	Domínio II	Domínio III	C-terminal
Cry8Aa	87.7%	48.6%	29.8%	35.5%	90.7%
Cry8Ba	89.8%	47.7%	31.3%	37.6%	91.1%
Cry8Ca	73.5%	57.7%	31.6%	33.3%	68.6%

[132] **Exemplo 3** – Construção do vetor de expressão contendo o novo gene *cry8Ka1* e obtenção da toxina recombinante.

[133] Para expressão da proteína heteróloga foi utilizado o vetor de expressão comercial pET101-D/TOPO (Invitrogen – Figura 5). O vetor foi adquirido em sua forma linearizada com uma extremidade abrupta e outra coesiva, complementar à extremidade do inserto de gene

amplificado. Neste sistema, o produto de PCR é diretamente clonado pela adição dos quatro pares de bases do oligonucleotídeo de orientação "sense". A extremidade coesiva do vetor de clonagem (GTGG) invade a extremidade 5´ do produto de PCR, anelando-se com as quatro bases adicionadas (CACC) e estabiliza o produto de PCR na correta orientação. A topoisomerase então cliva a porção sobressalente do produto de PCR para que a ligação seja efetiva (Figura 6). Os insertos podem ser clonados desta forma com 90% de eficiência.

[134] Para amplificar o gene *cry8* com as extremidades complementares, foram desenhados oligonucleotídeos com base no códon de iniciação (ATG) dos genes, com adição da seqüência CACC na região 5' do oligonucleotídeo em orientação "sense", segundo instruções do fabricante do sistema pET Directional TOPO cloning (Invitrogen). O oligonucleotídeo "antisense" não possui o códon de terminação, pois o mesmo encontra-se logo após a cauda de poli-histidina (Figura 5). Estes oligonucleotídeos foram então utilizados em uma reação de PCR com volume final de 25 μL, contendo 400 nM de cada oligonucleotideo, 200 mM de dNTPs, 1 X do tampão para a enzima *pfu*, 2,5 U de DNA polimerase *pfu* (Stratagene) e 10 ng dos genes *cry* clonados no vetor pGEMT-easy (Invitrogen). A amplificação foi realizada em termociclador (Mastercycler Gradient – Eppendorf) sob as seguintes condições: desnaturação prévia a 94 °C por 1,5 minuto uma repetição de 30 ciclos a 94 °C por 1 minuto (desnaturação); 55 °C por 1 minuto (anelamento dos oligonucleotídeos) e 72 °C por 2 minutos (Extensão da DNA polimerase) e ao final uma extensão 72 °C por 5 minutos.

[135] O produto gerado foi então submetido a uma reação de ligação nas seguintes condições: 10 ng do produto de PCR, 200 mM de NaCl, 10 mM de MgCl2, 1 μL do vetor pET101. A mistura foi incubada à temperatura ambiente, 25 °C, por 30 minutos. Células competentes de *E. coli* TOP10 foram transformadas com 3 μL do sistema de ligação (10 ng) por choque térmico. Para este procedimento, os 10 ng de DNA foram misturados a 200 μL de células competentes e a mistura incubada em gelo por 30 min. O choque térmico foi realizado por 3 minutos a 42 °C. As células foram imediatamente transferidas para o gelo e subseqüentemente foram adicionados 500 μL de meio de cultura SOC (2% triptona; 0,5% extrato de levedura; 0,05% NaCl; 2,5 mM KCl; 20 mM MgCl2). Posteriormente, as células foram inoculadas em 10 mL de meio de cultura Luria-Bertani ágar contendo 100 μM de ampicilina/mL e crescidas durante 16 horas, a 37 °C. Para verificação de clones positivos foi

realizada uma PCR de colônia, a qual utilizou como molde o DNA das bactérias transformadas e as mesmas condições descritas para a clonagem dos genes. Os clones positivos foram então inoculados em 5 mL de meio Luria-Bertani ágar contendo 100 µM de ampicilina/mL.

[136] Para expressão do novo gene, os plasmídieos gerados foram transformados por choque térmico em células de *Escherichia coli* BL21 (DE) Star (Invitrogen). Foram adicionados 10 ng dos vetores *pET101/cry8Ka1* em 200 µL de células competentes e incubou-se a mistura em gelo por 30 minutos. O choque térmico foi realizado por 3 min a 42 °C e, logo em seguida, a mistura de células foi colocada no gelo. Em seguida, adicionou-se 250 µL de meio SOC e incubou-se por 30 minutos a 37 °C e 200 rpm de agitação. Após este período as células foram inoculadas em 10 mL de meio LB-amp e crescidas por 16 horas. Esta cultura foi então utilizada com pré-inóculo para a expressão. Para cada 100 mL de meio Luria-Bertoni foram adicionados a 5 mL do pré-inóculo. O material foi incubado a 37 °C com 200 rpm de agitação. Após a cultura atingir a DO_{600} entre 0,6-0,8 foi adicionado o indutor (IPTG) na concentração de 1 mM e a cultura permaneceu a 37 °C por mais 16 horas a fim de se obter a toxina recombinante Cry8Ka1. Determinadas as condições de cultura ideais para melhor rendimento da expressão da proteína recombinante, as células foram inoculas em volumes de 500 mL. Após as 18 h de cultivo, o montante de células foi centrifugado por 10 minutos a 4000 *g* e o sobrenadante foi descartado. O precipitado de células foi ressuspenso em 10 mL de tampão de lise (50 mM de tampão fosfato pH 7,8; 300 mM NaCl, 10% glicerol, 0,5% triton X-100 contendo ou não 2 mg/mL lisozima) e as células foram rompidas por ultra-som (3 X 5 min). O produto lisado foi então centrifugado por 15 min a 10000 *g*. O sobrenadante foi então recolhido, quantificado pela metodologia descrita por Lowry *et al.* (Lowry, O. H., N. J. Rosebrough, A. L. Farr e R. J. Randall. Protein measurement with the Folin phenol reagent. J Biol Chem, v.193, n.1, Nov, p.265-275. 1951).

[137] Com o intuito de obter a toxina recombinante purificada, o sobrenadante obtido foi submetido à cromatografia de afinidade a Níquel (Ni), utilizando-se 5 ml da resina Ni-NTA (ácido nitrilotriacético-Níquel), com a capacidade de reter 5-10 mg de proteína recombinante com cauda de poli-histidina. A resina foi então empacotada em uma coluna de vidro e equilibrada com 4 volumes de coluna com solução de equilíbrio (50 mM de tampão fosfato de sódio pH 7,8; 300mM NaCl e 10 mM imidazol). A amostra foi adicionada (não excedendo a

capacidade total da resina) e a porção não retida, reservada e quantificada para análise. O excesso de material foi retirado com a adição de 3 volumes de coluna de tampão de equilíbrio. A lavagem foi realizada com 6 volumes de coluna de solução de lavagem (50 mM de tampão fosfato pH 7,8; 300 mM NaCl e 20 mM imidazol). A proteína foi eluída com dois volumes de coluna de tampão de eluição (50 mM de tampão fosfato pH 7,8; 300mM NaCl e 250 mM imidazol). O material eluído foi então dialisado contra 15 mM tampão carbonato (1,59 g de Na_2CO_3 e 2,93 g de $NaHCO_3$), quantificado por Lowry e submetido à eletroforese unidimensional em gel de poliacrilamida 12 % (Figura 7). A Figura 7 mostra todo o processo de expressão e purificação da nova δ-endotoxina, em gel de poliacrilamida 12%.

[138] **Exemplo 4** – Bioensaios seletivos contra o bicudo-do-algodoeiro para determinação da atividade entomotóxica da nova δ-endotoxina recombinante Cry8Ka1.

[139] Com a finalidade de verificar a atividade das toxinas recombinantes foram realizados os bioensaios seletivos contra os insetos-praga de interesse. Os bioensaios seletivos foram realizados segundo Praça *et al* (Praça, L. B., Batista, A. C., Martins, E. S., Siqueira, C. B., Dias, D. G. S., Gomes, A. C. M. M., Falcão, R., Monnerat, G. R. Estirpes De *Bacillus thuringiensis* Efetivas Contra Insetos Das Ordens Lepidoptera, Coleoptera E Díptera. Brasília: Embrapa-Cenargen. 2004, Vol. 39, No 1, p. 11-16), incorporando-se 50 μg/mL, 100 μg/mL, 200 μg/mL da nova toxina recombinante Cry8Ka1 em 5 mL de dieta artificial (a 50 °C), vertida em Placas de Células de 6 poços NUNC™. Após solidificação da dieta, foram feitos 15 furos de aproximadamente 0,6 mm^2, onde as larvas neonatas (uma por furo) foram inseridas, sendo realizada a leitura no sétimo dia (Monnerat, R.G., Dias, S.C., Oliveira Neto, O.B. de, Nobre, S.D., Silva-Werneck, J.O. E Sa, M.F.G. de. Criação Massal Do Bicudo-do-algodoeiro Anthonomus Grandis Em Laboratório. Brasília: Embrapa-Cenargen, 2000. 4p. Comunicado Técnico, 46). Os bioensaios foram repetidos três vezes e utilizou-se como controle positivo utilizou-se culturas da estirpe de *Bacillus thuringiensis* S811, contendo o gene *cry8* nativo e, como controle negativo, 15 mM tampão carbonato.

[140] Como controle externo ao experimento realizou-se bioensaios contra larvas neonatas de *Spodoptera frugiperda*. Os bioensaios mostraram atividade tóxica significativa da cultura de *Bacillus thuringiensis* expressando a toxina Cry8Ka1 nativa, bem como da toxina

recombinante pura, sobre *Anthonomus grandis* (Figura 8). Desta forma, foi confirmada a atividade entomotóxica do gene *cry8Ka1*.

[141] **Exemplo 5** – Geração de genes mutantes, análogos ao gene c*ry8Ka1* nativo, altamente eficazes no controle de *Anthonomus grandis* pela técnica d*e* embaralhamento de DNA.

[142] A construção de biblioteca de genes recombinantes análogos ao novo gene *cry8* é uma importante estratégia biotecnológica, contribuindo de modo importante em programas de melhoramento de plantas, via transformação genética para geração de transgênicos. Esta tecnologia disponibiliza uma variedade de novas moléculas com potencial uso na transformação de plantas visando o controle do inseto-alvo, bem como a melhoria da atividade inseticida de novas proteínas codificadas pelos genes recombinantes. Este fator torna-se ainda mais relevante quando levamos em consideração os baixos níveis de expressão destas proteínas heterólogas em plantas geneticamente transformadas.

[143] Uma vez confirmada a atividade entomotóxica da nova δ-endotoxina Cry8Ka1 contra o inseto-praga *Anthonomus grandis*, partiu-se para a estratégia de obtenção *in vitro* de novos genes, análogos ao gene *cry8*, codificadores para a mesma toxina Cry8Ka1. Para isso, o gene nativo *cry8Ka1* foi re-amplificado por PCR com oligonucleotídeos específicos para seqüência gênica em questão, os quais contêm a seqüência da enzima de restrição *Sfi*I (5´GGCCNN NNNGGCC3´). Estes oligonucleotídeos foram desenhados em nosso laboratório utilizando-se como molde a seqüência gênica nativa *cry8Ka1* e introduzem às extremidade 5`e 3` do gene nativo a seqüência da enzima em questão (oligonucleotídeo 5': *SfiI* F - 5´CCCGGCCCAGGC GGCCGACCACGCGTATCGA 3´ e oligonucleotídeo 3': *SfiI* R - 5´CCCGGCCGGCCT GGCCGTTCAAGGAACCGTT 3´). Estes oligonucleotídeos foram então utilizados em uma reação de PCR com volume final de 25 µL, contendo 300nM de cada oligonucleotídeo específico, 200 nM de dNTPs, 1 X do tampão para a enzima *taq* (PHT), 1 U de DNA polimerase *taq* (PHT) e 400 ng de DNA *cry8Ka1* (ativo. A amplificação foi realizada em termociclador (Mastercycler Gradient – Eppendorf) sob as seguintes condições: desnaturação prévia a 95 °C por 5 minutos; uma repetição de 29 ciclos a 95 °C por 40 segundos (desnaturação), 45 °C por 40 segundos (anelamento dos oligonucleotídeos) e 72 °C por 40 segundos (Extensão da DNA polimerase) e ao final uma extensão 72 °C por 2 minutos.

[144] A reação gerou um produto de 2000 pb (pares de base), o qual foi submetido a uma eletroforese em gel de agarose 1%, a 100 Volts por 90 minutos. O fragmento gênico foi excisado e eluído do gel de agarose utilizando-se o kit Geneclean® II (Qbiogene). Foram digeridos 100 µg do novo produto de DNA (*SfiI*/*cry8Ka1/SfiI*) com a enzima *SfiI* por 24 horas a 50 °C. O produto da digestão enzimática foi submetido a uma eletroforese em gel de agarose 1%, excisado e eluído do gel. Ao final, obteve-se aproximadamente 40µg do novo produto de DNA (*SfiI*/*cry8Ka1/SfiI*) digerido com *SfiI*.

[145] Seguindo o protocolo da técnica de embaralhamento de DNA descrito por Stemmer, W.P.C.*et al*., (Stemmer, W. P. C. Rapid evolution of a protein in vitro By Embaralhamento de DNA. Nature. London, 1994, Vol. 370, p. 389 - 391; Zhao, H. and Arnold, F.H. Functional and nonfunctional mutations distinguished by random recombination of homologous genes. Proc. Natl. Acad. Sci. USA., 1997, Vol. 94, p. 7997 – 8000), foi realizada a digestão, com a nuclease DNAseI, de 10µg do novo produto de DNA (*SfiI*/*cry8Ka1/SfiI*) digerido com *SfiI*. A reação foi conduzida em tampão próprio da enzima com 10 U da mesma e interrompida pela adição de 26 mM de EDTA (Ácido 4-acético 2-amino etileno). Após esta etapa, o produto gênico é completamente fragmentado gerando pequenos pedaços gênicos de 30 a 50 pb, os quais foram purificados com o Kit High Pure PCR Product Purification® (Roche). Os fragmentos purificados foram utilizados em uma reação de PCR, a qual seguiu as seguintes condições: 100 ng do produto puro digerido com DNAseI, 1 X do Tampão *Taq Platinum*, 2.5 mM de dNTPs, 0.5 mM de $MgSO_4$, 2,5 U de *Taq Platinum* High Fidelity DNA polimerase. A reação de PCR foi realizada em termociclador (Mastercycler Gradient – Eppendorf) sob as seguintes condições: desnaturação prévia a 95 °C por 2 minutos, uma repetição de 43 ciclos a 95 °C por 1 minuto (desnaturação); 44 °C por 1 minuto (anelamento dos fragmentos) e 72 °C por 1 minuto com acréscimo de 5 segundos por ciclo (Extensão da DNA polimerase) e ao final uma extensão 72 °C por 7 minutos.

[146] Esta reação de embaralhamento de DNA é conduzida sem a adição de oligonucleotídeos, o que gera ao final um montante de fragmentos de tamanhos variados. Este novo produto é então utilizado na segunda reação de PCR como molde, nas seguintes condições: 1/3 do volume do produto da primeira reação (molde), 1 X do Tampão *Taq Platinum*, 0,2 mM dNTPs, 0,8 µM dos oligonucleotídeos específicos *Sfi*I F e *Sfi*I R, 2mM de

$MgSO_4$ e 25 U na mistura de 1:1 *Taq Platinum High Fidelity* (Invitrogen)/Taq PHT. A reação de amplificação foi realizada em termociclador (Mastercycler Gradient – Eppendorf) sob as seguintes condições: desnaturação prévia a 95 °C por 2 minutos, uma repetição de 10 ciclos a 95 °C por 30 segundos (desnaturação); 45 °C por 30 segundos (anelamento dos fragmentos), 72 °C por 1 minuto (extensão da DNA polimerase), outra repetição de 14 ciclos a 95 °C por 30 segundos (desnaturação), 43 °C por 30 segundos (anelamento do produto), 72 °C por 42 segundos (extensão da DNA polimerase) com acréscimo de 20 segundos por ciclo e ao final uma extensão 72 °C por 7 minutos.

[147] Sendo assim, o gene original é reconstituído com modificações em sua estrutura nucleotídica, seja pela introdução, deleção ou substituição de nucleotídeos. Este produto final, reconstruído foi submetido a uma eletroforese em gel de agarose 1%, a 100 Volts por 90 minutos, excisado e eluído do gel com o Kit Geneclean® II (Qbiogene). O produto purificado, aproximadamente 25 µg, foi então digerido com a enzima de restrição *Sfi*I (condições anteriores) e submetido a uma eletroforese em gel de agarose 1% , a 100 Volts por 90 minutos. A banda no tamanho aproximado do gene original (aproximadamente 2000 pb) foi excisada do gel e o DNA eluído pelo Geneclean® II Kit (Qbiogene) (Figura 9).

[148] O produto final (população de genes recombinados) com adaptadores específicos torna-se apto à clonagem no vetor pCOMB3X (Andris-Widhopf, J.; Rader, C.; Steinberger, P.; Fuller, R., Barbas III, C. F. Methods for the generation of chicken monoclonal antibody fragments by *Phage display*. *Journal of Immunological Methods*, 242: 159-181, 2000). Assim, os novos genes reconstruídos (análogos ao gene nativo *cry8Ka1*) foram clonados no vetor com auxílio da enzima T4 DNA Ligase® (Invitrogen) e este utilizado para transformar células de *Escherichia coli* XL1-Blue® (Stratagene), via eletroporaçao, nas seguintes condições: capacitância 25 uFD, resistência 200 Ω, voltagem 2,5 KVolts. Os transformantes foram então semeados em placas contendo meio de cultura Luria-Bertani Agar e Ampicilina® USB (100 µg/ mL). Após 17 horas a 37 °C as colônias crescidas em meio seletivo indicam o título da biblioteca contendo 10^5 transformantes.

[149] Esta biblioteca de análogos de *cry8Ka1* gerada por embaralhamento de DNA e fusionados a proteína III do capsídeo do fago filamentoso M13 (fagos de fusão) foi então selecionada pela técnica de apresentação de proteínas na superfície de bacteriófagos - *Phage*

Display (Barbas III, C. F.; Burton, D. R., Scott, J. K., Silverman, G. J. Selection from antibody libraries. In: *Phage display* – A Laboratory Manual – USA: Cold Spring Laboratory, 10.1 – 10.20, 2001) utilizando como ligantes BBMVs de *A. grandis* (Francis, B. R., Maaty, W. S. A., Bulla- Jr, L. A. Effects of Midgut-Protein-Preparative and Ligand Binding Procedures on the Toxin Binding Characteristics of BT-R1, a Common High-Affinity Receptor in *Manduca sexta* for Cry1A *Bacillus thuringiensis* Toxins. Applied and Environmental Microbiology. June 1998, Vol. 64, No. 6, p. 2158–2165).

[150] O cultivo de células de *E. coli* XL1-Blue transformadas, em meio SB contendo 100μg mL-carbenicilina, 5μg mL^{-1} tetraciclina, foi incubado em 37 ºC com agitação até atingir densidade óptica A_{550} = 0.6-0.8. Então, $1x10^{12}$ pfu mL^{-1} do fago auxiliar (VCSM13® Stratagene) foi adicionado para produzir fagos de fusão contendo os análogos do *cry8Ka1*, incubados por 2 h a 37 ºC. Adicionou-se Canamicina 100μg mL^{-1}, e a incubação seguiu por 12 h a 37 ºC. As células coletadas por centrifugação foram guardadas a -20 ºC para posterior preparação de DNA. Os fagos de fusão foram precipitados com PEG-8000 (4% p/v) durante 30 minutos no gelo e após centrifugação ressuspendidos em 2 mL of 1% (p/v) ASB (Albumina de soro bovino) em solução salina. Coletados após centrifugação, a preparação de fagos de fusão é utilizada nos ciclos de seleção.

[151] No procedimento de seleção por afinidade de ligação, os fagos fusionados foram depositados em poços de uma placa de microtitulação previamente sensibilizados com BBMVs (100 μg μL^{-1}), extraídas da membrana do intestino de larvas do bicudo do algodoeiro. A cada ciclo de seleção, os poços são lavados com solução PBS-Tween (137 mM NaCl, 2.7 mM KCl, 12mM Na_2HPO_4, 1.2 mM KH_2PO_4 and 0.05% Tween 20®) e, os fagos específicos, eluídos em baixo pH, são usados para transfectar novas células de *E. coli*. As partículas de fagos amplificadas são utilizadas no sucessivo ciclo de seleção. O procedimento envolveu cinco ciclos de lavagem, eluição e amplificação. A titulação das colônias coletadas em cada ciclo é feito pelo plaqueamento de colônias em diluições seriais em meio SB-agar contendo carbenicilina 100 μg mL^{-1}. As colônias isoladas do montante de fagos específicos eluídos no quinto ciclo de seleção (apresentando o maior título e portanto, representando o ciclo de enriquecimento de fagos específicos) Figura 10 foram amplificadas com oligonucleotídeos específicos para o gene

cry8Ka1. Colônias mostrando amplificação em PCR e contendo aproximadamente 2000bp (tamanho do gene original) foram selecionadas para a expressão em fagos Figura 11.

[152] O gene c*ry8Ka1* e os genes análogos selecionados no quinto ciclo de seleção foram expressados em meio seletivo (1% MOPS, 2% Extrato de Levedura, 3% triptona, 100 μg mL^{-1} ampicilina, 5 μg mL^{-1} tetraciclina, 100 μg mL^{-1} Canamicina, pH 7.0) contendo o fago auxiliar VCSM13, com incubação de 18 h a 37^{o}C. O cultivo foi centrifugado e os fagos coletados precipitados com solução PEG-NaCl (20% Polietileno-Glicol 8000, 15% Cloreto de Sódio) durante 30 minutos no gelo. Após a centrifigação os fagos foram ressuspendidos em solução salina TBS (5 mM Tris-HCl, 15 mM NaCl, pH 7.5), novamente centrifugados, coletados e armazenados a 4^{o}C para utilização imediata em bioensaios.

[153] Os análogos selecionados foram avaliados por meio de bioensaios seletivos contra as larvas de *Anthonomus grandis*, sendo aqueles que apresentaram maior atividade entomotóxica submetidos a uma reação de seqüenciamento nas seguintes condições: 400-800 ng de DNA plasmidial contendo os análogos e 4 pM de oligonucleotídeos específicos (*Sfi*I R e *Sfi*I F) em um seqüenciador automático modelo 3130 xL Genetic Analyzer (APPLIED BIOSYSTEMS).

[154] Ao final, foram selecionadas quatro seqüências análogas ao novo gene *cry8Ka1*, as quais estão descriminadas na Tabela 2. As novas moléculas geradas pela recombinação do gene *cry8Ka1* apresentaram diferenças significativas de 13,29 a 16,33% pares de bases e de 2,10 a 5,11% de resíduos de aminoácidos modificados (Tabela 2). Para a análise das seqüências e classificação das mesmas como análogas do gene nativo *cry8Ka1*, *e*stas moléculas foram agrupadas por similaridade de seqüências nucleotídicas obedecendo ao sistema de nomenclatura para toxinas Cry (http://www.lifesci.sussex.ac.uk/home/Neil_Crickmore/Bt/). Devido a uma variação ≤ 5% entre as toxinas análogas e a toxina nativa Cry8Ka1, as novas seqüências foram classificadas na família das toxinas Cry8, sendo posteriormente nomeadas de Cry8Ka2, Cry8Ka3, Cry8Ka4 e Cry8Ka5 (Tabela 2) (SEQ ID Nº 5-12).

[155] Tabela 2. Modificações de bases nucleotídicas e de resíduos de aminoácidos gerados pela técnica de embaralhamento de DNA no gene *cry8Ka1* e mortalidade de

larvas neonatas de *Anthonomus grandis* alimentadas com as proteínas expressas no sistema de fago.

	Nucleotídeos		Aminoácidos		
Gene	Pares de base	Modificados (%)	Resíduos	Modificados (%)	DL 50 (%)
cry8Ka1	2001	-	666	-	36,1
cry8Ka2	1982	13,29	660	2,1	54,6
cry8Ka3	1991	13,25	663	2,84	63
cry8Ka4	1989	14,1	663	2,99	50
cry8Ka5	1947	16,33	649	5,11	77,08

[156]

[157] Apesar do elevado número de mutações nucleotídicas nas seqüências geradas (de 13 a 16%) ocorreram poucas modificações de resíduos de aminoácidos (de 2 a 5%) sendo gerado também a deleção de resíduos de aminoácido na extremidade 5´ das variantes. A nova molécula Cry8Ka5 se mostrou aproximadamente 3 vezes mais ativa que a molécula original (Cry8Ka1) exibindo uma mortalidade de 77% das larvas neonatas alimentadas com dieta contendo 6 μg de proteína por mL de dieta (Figura 12).

[158] **Exemplo 6** – Determinação da estrutura terciária *in silico* das toxinas nativa Cry8Ka1 e análoga Cry8Ka5.

[159] As estruturas terciárias das toxinas Cry8Ka1 e do análogo Cry8Ka5 foram preditas *in silico*, sendo modeladas pela modelagem molecular utilizando como molde as estruturas de cristal das toxinas Cry3Bb1 e Cry3A (1ji6.pdb; Galitsky, N., Cody, V.; Wojtczak, A.; Ghosh, D.; Luft, J. R.; Pangborn, W. & English, L. Structure of insecticidal bacterial δ-endotoxin Cry3Bb1 of *Bacillus thuringiensis*. Acta Crystallographica, Section D, Biological Crystallography, 57: 1101-1109, 2001) e Cry3A (1dlc.pdb; Li, J.; Carrol, J., Ellar, D. J. Crystal structure of insecticidal δ-endotoxin from *Bacillus thuringiensis* at 2.5A resolution. Nature, 353: 815–821, 1991) depositadas no Banco de Dados de estrutura de Proteínas (PDB), O alinhamento de sequências múltiplas contendo as sequencias das estruturas moldes e da toxinas para modelar foi submetido para o programa Modeller Version 9.2 (Sali A, Blundell

TL: Comparative protein modelling by satisfaction of spatial restraints. *J Mol Biol* 1993, 234(3):779-815.

[160] Os modelos obtidos pelo programa Modeller foram analisados quanto suas propriedades estereoquímicas pelo programa PROCHECK (Laskowski RA, Macarthur MW, Moss DS, Thornton JM: Procheck - a Program to Check the Stereochemical Quality of Protein Structures. *Journal of Applied Crystallography* 1993, 26:283-291).

[161] Os modelos de Cry8Ka1 e do análogo Cry8Ka5 mostraram o mesmo esqueleto estrutural, sendo diferenças observadas apenas nas cadeias laterais dos aminoácidos substituídos no análogo. As estruturas original e análoga Cry8Ka5 apresentam os três domínios funcionais conservados (I, II, e III), típicos das toxinas Cry, sendo todas as mutações e/ou substituições localizadas na superfície externa da molécula (Figura 13).

[162] **Exemplo 7** – Bioensaios seletivos contra o bicudo-do-algodoeiro para determinação da atividade entomotóxica da nova δ-endotoxina recombinante Cry8Ka1 e seus análogos Cry8Ka2, Cry8Ka3, Cry8Ka4 e Cry8Ka5.

[163] Os bioensaios seletivos foram realizados seguindo as mesmas condições previamente descritas no exemplo 3 desta invenção. A Figura 14 demonstra os resultados referentes as atividades entomotóxicas determinadas.

[164] **Exemplo 8** – Desenho de um gene *cry8Ka1* sintético otimizado para expressão em plantas de algodão.

[165] O desenho do gene *cry8Ka1* sintético foi baseado na seqüência do gene *cry8Ka1* nativo, incluindo os três domínios responsáveis pela atividade inseticida, constituída de 666 aminoácidos. No desenho do gene *cry8Ka1* sintético foram modificados 262 pares de base, resultando na eliminação de 25 possíveis sinais de poliadenilação, 17 motivos de instabilidade, 95 códons pouco usados em plantas e no aumento do conteúdo de G-C de 35.6 para 43.8%. A seqüência protéica final do gene *cry8Ka1* sintético (SEQ ID Nº 4) é idêntica a seqüência original (SEQ ID Nº 2). Um resumo das modificações introduzidas é apresentado na Tabela 3.

[166] Tabela 3. Modificações introduzidas na sequência nucleotídica do gene *cry8Ka1* sintético e os parâmetros levados em consideração para modificações da sequência (SEQS ID 03 e 04).

	Segmento N-terminal domínios I, II & III do gene *Cry8Ka1*	*Cry8Ka1* sintético
Pares de base (pb)	1998 pb = 666 aa	1998 pb = 666 aa
A	690	558
T	597	565
C	333	441
G	378	434
A+T	1287 (64.4%)	1123 (56.2%)
C+G	711 (35.6%)	875 (43.8%)
pb modificados	0	262 (13%)
Códons modificados	0	261 (39%)
Motivo ATTTA	17	0
Sítios de poliadenilação putativos	26	1
Códons NCG	23	0
Códons NTA	72	0

[167]

[168] Para modificar a seqüência do gene *cry8Ka1* foi utilizada a metodologia Ligação Direta do Molde por Reação da Polimerase em Cadeia – TDL-PCR, descrita por Strizhov et al. (Strizhov, N.; Keller, M.; Mathur, J.; Koncz-Kálmán, K.; Bosch, D.; Prudovsky, E.; Schell, J.; Sneh, B.; Koncz, C.; Zilberstein, A. A synthetic *cryIC* gene, encoding a *Bacillus thuringiensis* endotoxin, confers *Spodoptera* resistance in alfalfa and tobacco. Proc. Natl. Acad. Sci. USA, v. 93, p. 15012-15017, 1996).

[169] A seqüência do gene *cry8Ka1* foi dividida em três blocos denominados A, B e C com 595, 665 e 753 pb, respectivamente. Os blocos A e B são delimitados por um sítio de *Nde* I e os blocos B e C por um sítio de *Spe* I. Para a síntese do bloco A foram desenhados 6 'oligonucleotídeos', para o bloco B, 7 'oligonucleotídeos' e para o bloco C, 9 'oligonucleotídeos'. Os oligonucleotídeos nas extremidades de cada bloco contêm seqüências

únicas não complementares ao gene original, para a posterior amplificação seletiva por PCR. Dentro de cada bloco não há sobreposição na seqüência dos oligonucleotídeos.

[170] **Exemplo 9** – Construção do gene sintético *cry8Ka1* otimizado para expressão em plantas de algodão.

[171] Resumidamente, a metodologia utilizada, 'template directed ligation-PCR' – TDL-PCR, descrita por Strizhov *et al*. (Strizhov, N.; Keller, M.; Mathur, J.; Koncz-Kálmán, K.; Bosch, D.; Prudovsky, E.; Schell, J.; Sneh, B.; Koncz, C.; Zilberstein, A. A synthetic *cryIC* gene, encoding a *Bacillus thuringiensis* endotoxin, confers *Spodoptera* resistance in alfalfa and tobacco. Proc. Natl. Acad. Sci. USA, v. 93, p. 15012-15017, 1996), consiste das seguintes etapas: (1) Análise da seqüência e síntese química dos oligonucleotídeos com as modificações a serem introduzidas; (2) Produção de DNA fita simples, da seqüência do gene, e que será utilizado como molde na etapa subseqüente; (3) Anelamento dos oligonucleotídeos com o DNA molde fita simples, parcialmente complementar, derivado do gene original, e ligação dos oligos utilizando uma DNA ligase; (4) Amplificação seletiva e síntese da segunda fita do DNA sintético por PCR, com oligonucleotídeos complementares apenas ao DNA sintético; (5) Montagem do gene, subclonagem e seqüenciamento.

[172] A Tabela 3 mostra as modificações introduzidas na seqüência nucleotídica do gene *cry8Ka1* sintético. A Tabela também mostra os parâmetros levados em consideração para modificações da seqüência.

[173] Modificações das concretizações aqui apresentadas, relacionadas com a presente invenção, poderão ser idealizadas por especialistas na matéria a que esta invenção se refere, partindo-se dos ensinamentos apresentados na presente descrição e respectivas Figuras. Portanto, entende-se que a invenção não se limita às concretizações especificamente divulgadas e que eventuais modificações e outras concretizações podem ser incluídas dentro do escopo da invenção aqui divulgada.

[174] Todas as publicações e os pedidos de patentes mencionados no relatório descritivo são indicativos do estado da técnica à qual pertence esta invenção. Todas as publicações e os pedidos de patentes são aqui incorporados por referência.

REIVINDICAÇÕES

1. Molécula de ácido nucléico isolada caracterizada por apresentar os domínios I, II e III, otimizada para expressão em plantas, consistindo de qualquer uma das sequências descritas em SEQ ID Nº 5, SEQ ID Nº 7, SEQ ID Nº 9 ou SEQ ID Nº 11.

2. Construção gênica caracterizada por compreender:

   a) um polinucleotídeo de acordo a reivindicação 1; e

   b) um promotor ativo, operacionalmente ligado ao polinucleotídeo definido em (a).

3. Vetor caracterizado por compreender a construção gênica de acordo com a reivindicação 2.

4. Vetor de acordo com a reivindicação 3, caracterizado pelo fato de o referido vetor ser capaz de promover a expressão das proteínas com as sequências apresentadas em SEQ ID Nº 6, SEQ ID Nº 8, SEQ ID Nº 10 ou SEQ ID Nº 12.

5. Célula microbiana transgênica caracterizada por conter uma seqüência polinucleotídica otimizada para expressão em plantas de acordo com a reivindicação 1.

6. Método para obtenção de uma célula de microrganismo transgênica, caracterizado por compreender as seguintes etapas:

   a) transformar uma célula com uma construção gênica de acordo com a reivindicação 2; e

   b) regenerar a célula transformada, contendo a construção gênica de interesse estavelmente inserida em seu genoma, sob condições ideais de crescimento em cultura celular; e

c) expressar o produto gênico da construção inserida na célula regenerada.

7. Método de acordo com a reivindicação 6, caracterizado pelo fato de o microorganismo ser uma bactéria colonizadora de raiz.

8. Método para obtenção de uma planta transgênica caracterizado por compreender as seguintes etapas:

a) transformar uma célula de planta com uma construção gênica de acordo com a reivindicação 2;

b) cultivar a célula transformada, contendo a construção gênica de interesse estavelmente inserida em seu genoma, sob condições ideais de crescimento em cultura celular; e

c) regenerar uma planta transgênica expressando o produto da construção inserida, a partir da célula transformada.

9. Método de acordo com a reivindicação 8 caracterizado por a planta ser monocotiledônea ou dicotiledônea.

10. Método de acordo com a reivindicação 9 caracterizado por a dicotiledônea ser uma planta de algodão.

11. Composição pesticida biodegradável caracterizada por compreender uma concentração eficaz do polipeptídeo isolado cuja sequência de aminoácidos corresponde a qualquer uma das sequencias descritas em SEQ ID Nº 6, SEQ ID Nº 8, SEQ ID Nº 10 ou SEQ ID Nº 12 e com atividade de δ-endotoxina Bt, em um veículo carreador agronomicamente aceitável a ser selecionado dentre um microorganismo transformado, agente superfície-ativo, um veículo carreador inerte, um preservativo, um umectante, um estimulante de alimentação, um atrativo, um agente encapsulante, um ligante, um emulsificador, um corante, um protetor uv (ultravioleta), um tampão, um agente de fluxo ou fertilizante, doadores de micronutriente, ou outras preparações que influenciam o crescimento da planta.

12. Método para o controle de um inseto praga da ordem Coleoptera caracterizado por compreender:

a) detectar a ocorrência do inseto praga em um ambiente;

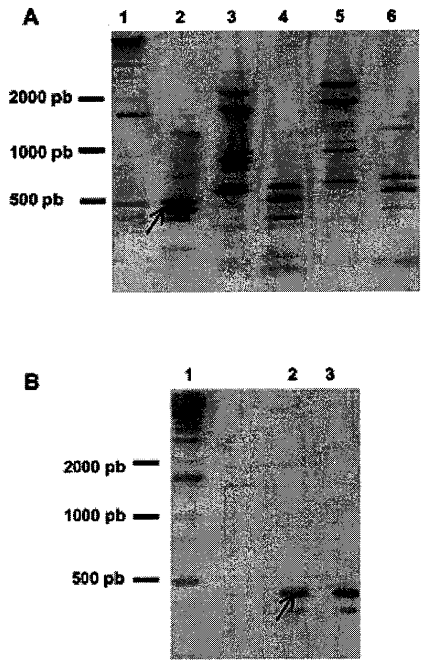
b) promover o contato do inseto praga com uma proteína pesticida isolada ou com uma composição da invenção, em que a referida proteína consiste em qualquer uma das sequêncisa de aminoácidos descrita em SEQ ID Nº 6, SEQ ID Nº 8, SEQ ID Nº 10 ou SEQ ID Nº 12.

13. Método de obtenção de linhagens transgênicas de planta resistentes a um inseto praga da ordem Coleoptera, caracterizado por compreender as seguintes etapas:

a) transformar uma cultivar de interesse com uma construção gênica de acordo com a reivindicação 2;

b) regenerar linhagens transgênicas contendo a referida construção estavelmente integrada em seus genomas;

c) selecionar as linhagens transgênicas com os maiores níveis de expressão da δ-endotoxina da invenção.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6
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B
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Fig. 1

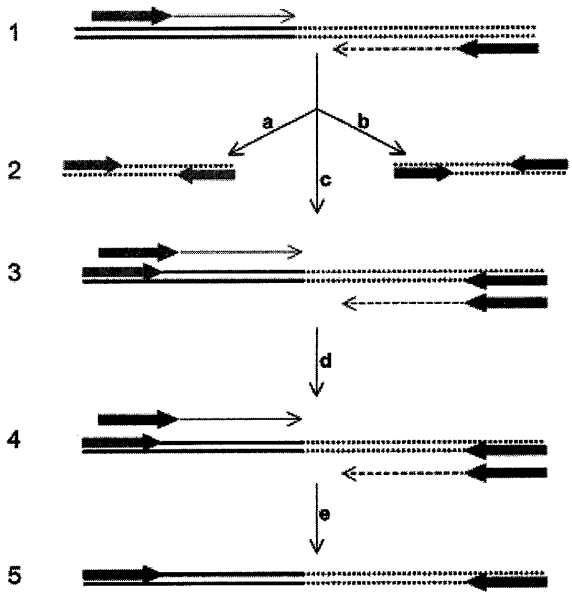
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Fig. 2

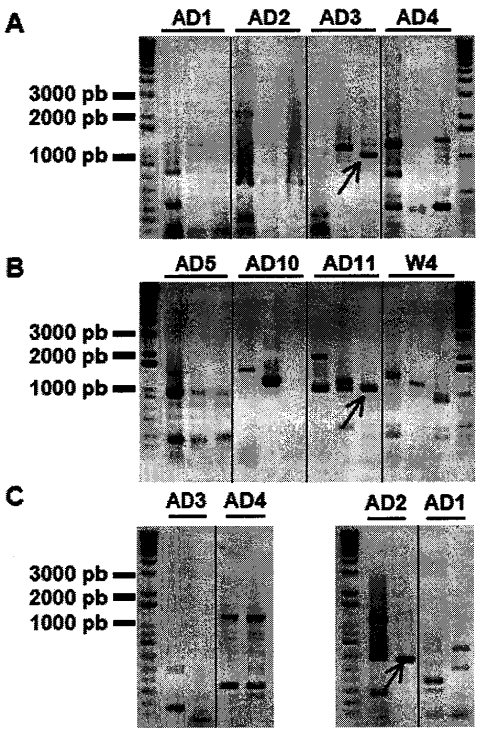
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Fig. 3

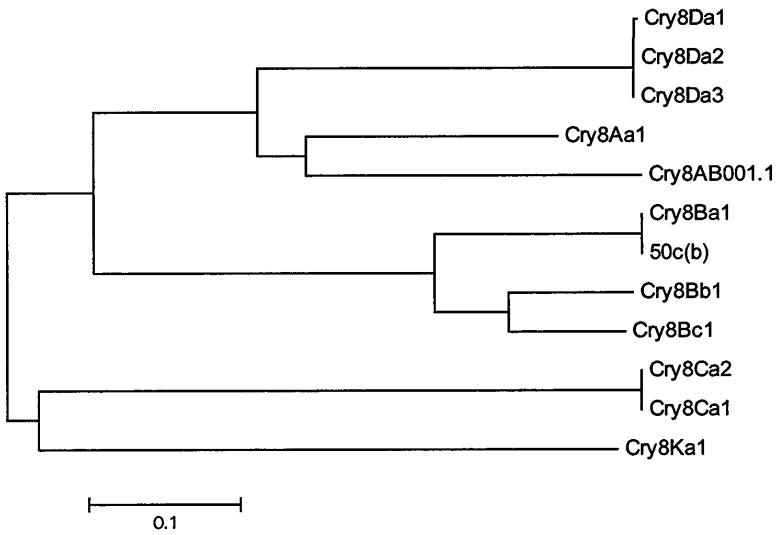
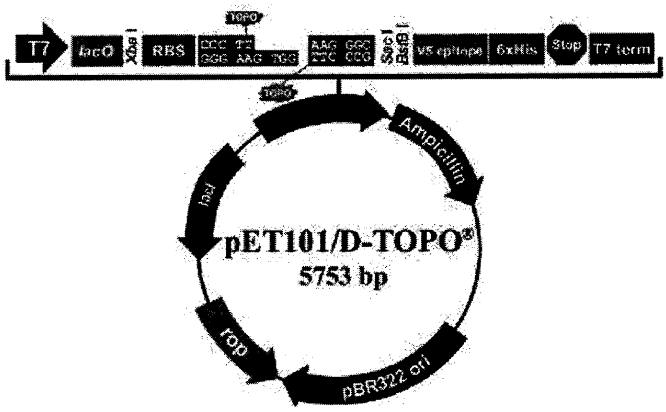


Fig. 4

	Cry8Ka1				
	N-terminal	Domínio I	Domínio II	Domínio III	C-terminal
Cry8Aa	87.7%	48.6%	29.8%	35.5%	90.7%
Cry8Ba	89.8%	47.7%	31.3%	37.6%	91.1%
Cry8Ca	73.5%	57.7%	31.6%	33.3%	68.6%

Fig. 5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RBS
TOPO
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Stop
T7 term
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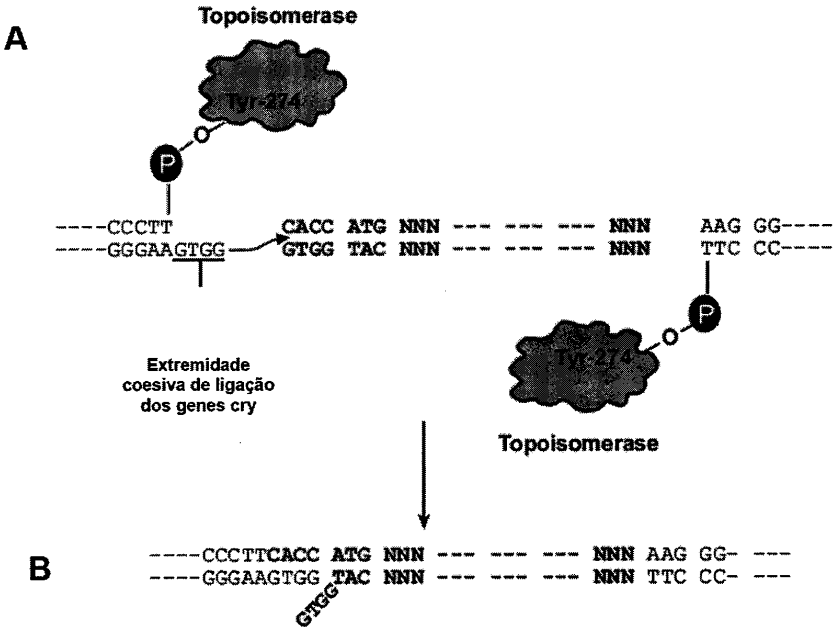
rop
pBR322 ori

Fig. 6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Tyr-274
P
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AAG GG----
TTC CC----
Extremidade
coesiva de ligação
dos genes cry
Topoisomerase
B
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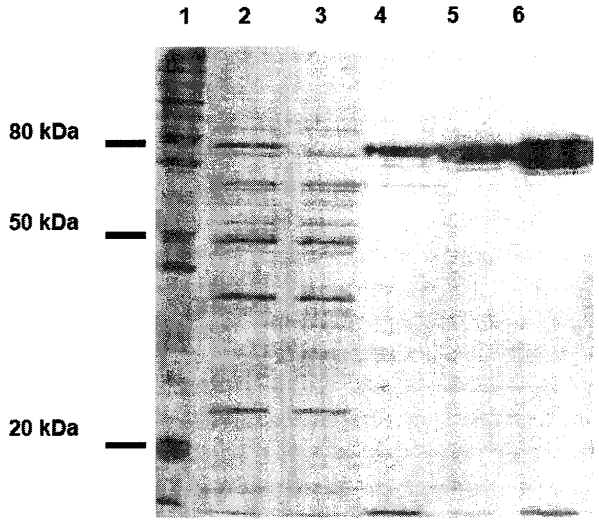
----GGGAAGTGG TAC NNN --- --- --- NNN TTC CC- ---
GTGG

Fig. 7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80 kDa
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20 kDa

Fig. 8

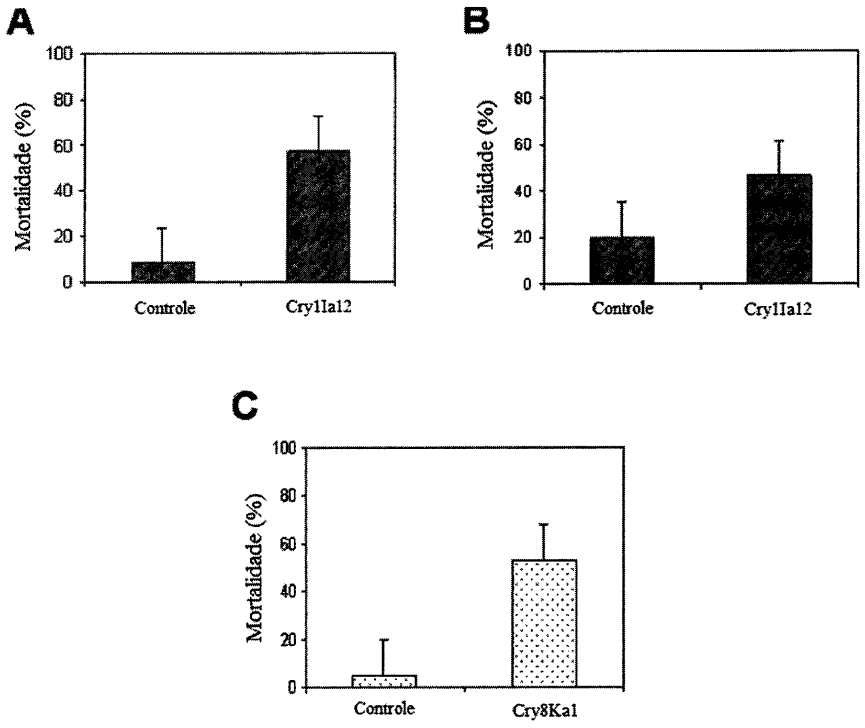

A
Mortalidade (%)
100
80
60
40
20
0
Controle
Cry1Ia12
B
Mortalidade (%)
100
80
60
40
20
0
Controle
Cry1Ia12
C
Mortalidade (%)
100
80
60
40
20
0
Controle
Cry8Ka1

Fig. 9

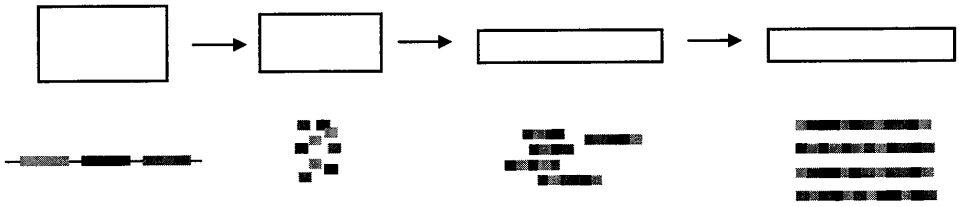


Fig. 10

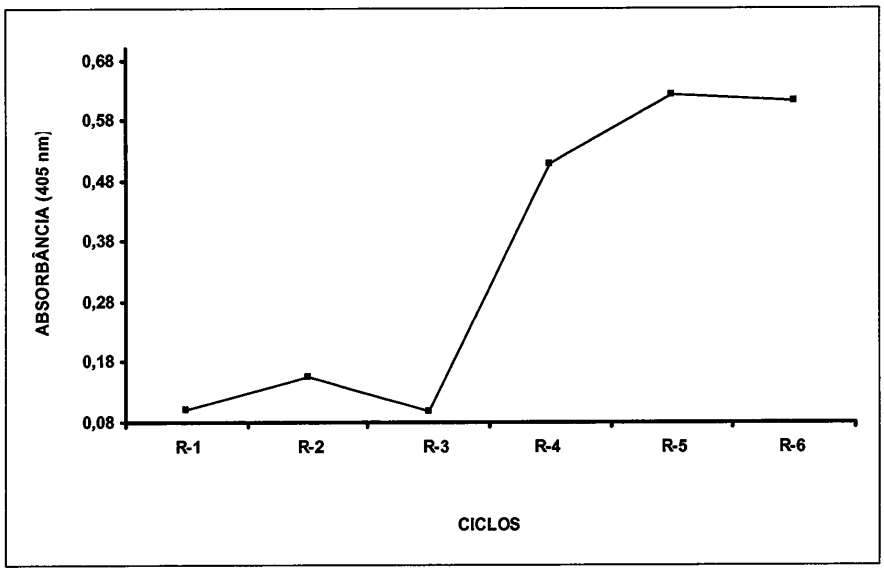

0,68
0,58
0,48
0,38
0,28
0,18
0,08
ABSORBÂNCIA (405 nm)
R-1
R-2
R-3
R-4
R-5
R-6
CICLOS

Fig. 11

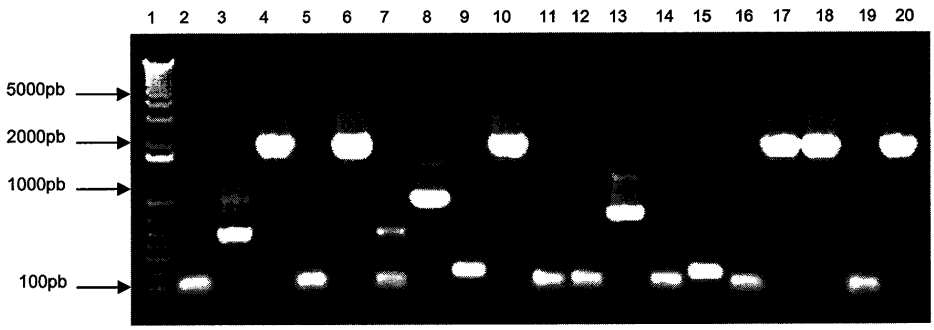


Fig. 12

	Nucleotídeos		Aminoácidos		
Gene	**Pares de base**	**Modificados (%)**	**Resíduos**	**Modificados (%)**	**DL 50 (%)**
cry8Ka1	2001	-	666	-	36,1
cry8Ka2	1982	13,29	660	2,1	54,6
cry8Ka3	1991	13,25	663	2,84	63
cry8Ka4	1989	14,1	663	2,99	50
cry8Ka5	1947	16,33	649	5,11	77,08

Fig. 13

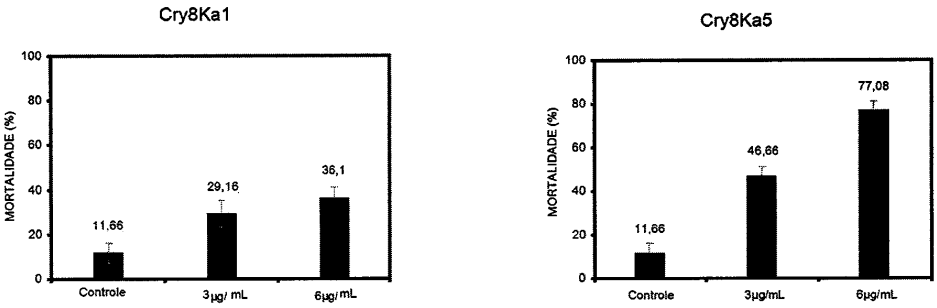

Cry8Ka1
MORTALIDADE (%)
100
80
60
40
20
0
11,66
29,16
36,1
Controle
3µg/ mL
6µg/mL
Cry8Ka5
MORTALIDADE (%)
100
80
60
40
20
0
11,66
46,66
77,08
Controle
3µg/mL
6µg/mL

Fig. 14

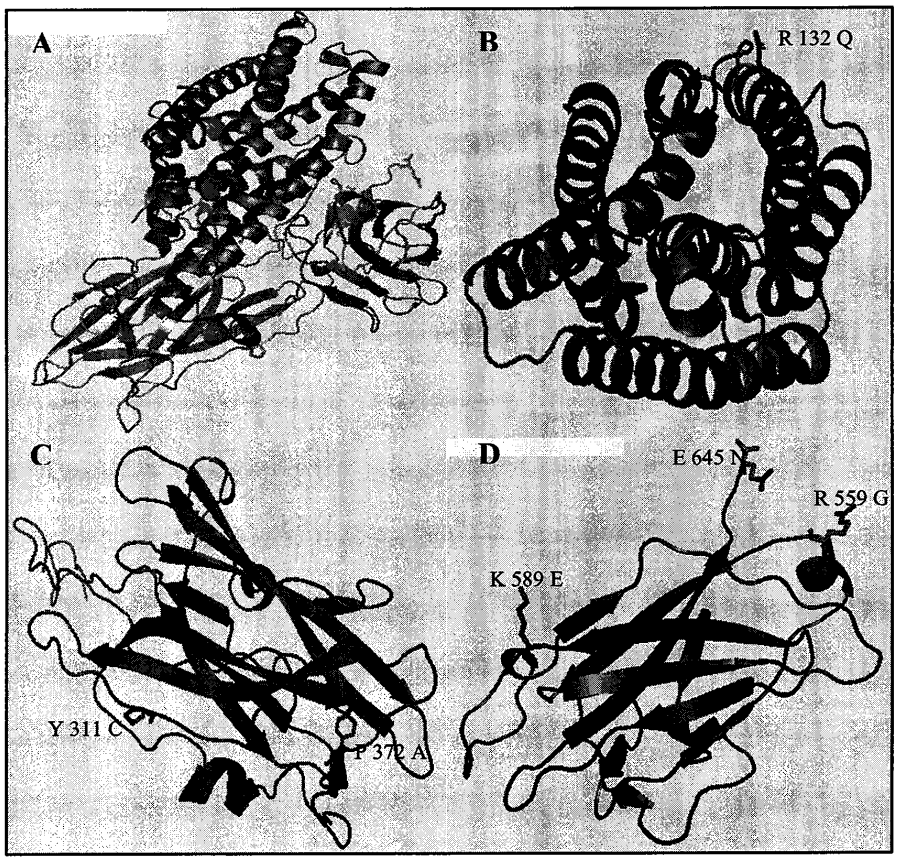

A
B
R 132 Q
C
D
E 645 N
R 559 G
K 589 E
Y 311 C
P 372 A

Fig. 15

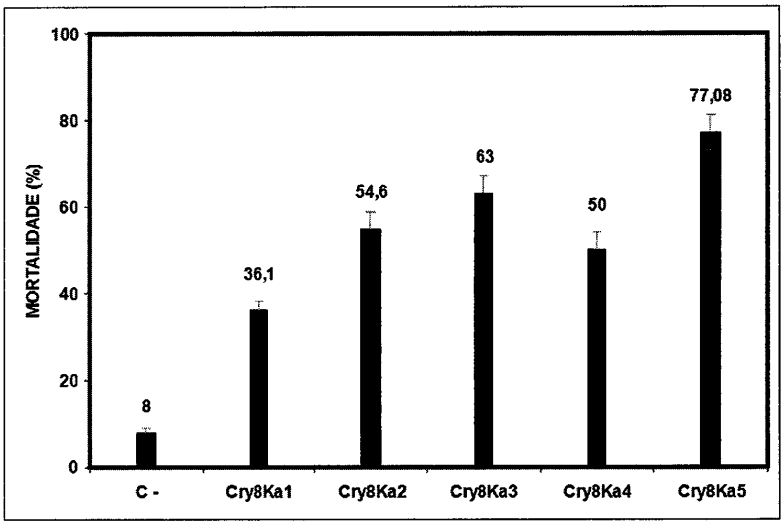


Fig. 16

	Segmento N-terminal domínios I, II & III do gene *Cry8Ka1*	*Cry8Ka1* sintético
Pares de base (pb)	1998 pb = 666 aa	1998 pb = 666 aa
A	690	558
T	597	565
C	333	441
G	378	434
A+T	1287 (64.4%)	1123 (56.2%)
C+G	711 (35.6%)	875 (43.8%)
pb modificados	0	262 (13%)
Códons modificados	0	261 (39%)
Motivo ATTTA	17	0
Sítios de poliadenilação putativos	26	1
Códons NCG	23	0
Códons NTA	72	0

Fig. 17

Fig. 18 (ABAIXO)

```
Cry8Bb1_Seq_15      ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
60
Cry8Bb1_Seq_17      ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
60
Cry8AB00.1_Seq_5    ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
60
50C__b_             ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTA
60
Cry8AB00.1_Seq_3    ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
60
Cry8Ka1             ATGAGTCCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTA
60
                    *************** ************************************ ******

Cry8Bb1_Seq_15      TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
120
Cry8Bb1_Seq_17      TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
120
Cry8AB00.1_Seq_5    TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
120
50C__b_             TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
120
Cry8AB00.1_Seq_3    TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCATTACAAAATATG
120
Cry8Ka1             TCTAATGATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATATG
120
                    ** ********** *********** ************ ******** ***********

Cry8Bb1_Seq_15      GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCT
180
Cry8Bb1_Seq_17      GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCT
180
Cry8AB00.1_Seq_5    GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCT
180
50C__b_             GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGTTAGTGAATACCCTGGTTCACCT
180
Cry8AB00.1_Seq_3    AATTATAAGGATTATTTAAGAATGTCTGAGGGGTATGATAGTGAATATTCTGGTTCACCT
180
Cry8Ka1             AATTATAAGGATTATTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAATCCT
180
                     ******* ********** ******** **  * * ** * ****   **     ***

Cry8Bb1_Seq_15      GAAGTACTTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTA
240
Cry8Bb1_Seq_17      GAAGTACTTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTA
240
Cry8AB00.1_Seq_5    GAAGTACTTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTA
240
50C__b_             GAGGTATTTCTAAGCGAGCAAGATGCAGTTAAGGCCGCAATTGATATAGTAGGTAAATTA
240
Cry8AB00.1_Seq_3    GGAGCACTTGTTAGTGGAAAACAAGCAATTAAGGTTGGAATCGATATTGTCGGCAACATA
240
Cry8Ka1             GAAGTGTTTGCT---GCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAATTA
237
                    *  *   **      *    *   *    **     * ***   *** **    **  **

Cry8Bb1_Seq_15      CTATCAGGTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATT
300
Cry8Bb1_Seq_17      CTATCAGGTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATT
300
Cry8AB00.1_Seq_5    CTATCAGGTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATT
300
50C__b_             CTAACAGGTTTAGGGGTTCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATT
300
Cry8AB00.1_Seq_3    TTAGGTAAGTTAGGAGTTCCGTTTGCTAGTCAGATAGTAAGTTTTTATAATTTTATTCTC
300
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8Ka1                 CTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTCATTCTA
297
                         *       *****  * ** **** * *    * **  *    *  ** *    ** *
Cry8Bb1_Seq_15          GATATTCTGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAA
360
Cry8Bb1_Seq_17          GATATTCTGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAA
360
Cry8AB00.1_Seq_5        GATATTCTGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAA
360
50C__b_                 GATATTCTGTGGCCTTCAAAACAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAA
360
Cry8AB00.1_Seq_3        GATCAGCTATGGCCATCAAATTCTGTGAGTGTATGGGAACAGATTATGACGCTAGTGGAA
360
Cry8Ka1                 GGTCTATTATGGCCAACA---TCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAA
354
                        * *    * *****  **         *     ****      * ***      ** ***

Cry8Bb1_Seq_15          GAACTCATTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAA
420
Cry8Bb1_Seq_17          GAACTCATTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAA
420
Cry8AB00.1_Seq_5        GAACTCATTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAA
420
50C__b_                 GAACTCATTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTGGAA
420
Cry8AB00.1_Seq_3        GAACTTGTAGATCAAAAAATAACAGAATATGCAAGAAATAAAGCACTCGCTGAATTAAAA
420
Cry8Ka1                 GAACTCATAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGGC
414
                        *****  *  ***********  ***   ** *** ** ***** **  * ** **

Cry8Bb1_Seq_15          GGATTAGGTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCA
480
Cry8Bb1_Seq_17          GGATTAGGTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCA
480
Cry8AB00.1_Seq_5        GGATTAGGTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCA
480
50C__b_                 GGGCTAGGGAATAATTACCAATTATATCTAACTGCGCTTGAAGAGTGGAAAGAAAATCCA
480
Cry8AB00.1_Seq_3        GGATTAGGAGATGCTTTGGGTGTATATCAGCAATCACTTGAAGCTTGGTTGGAAAATCGC
480
Cry8Ka1                 AATTCAGGTAGAGCCTTACGATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACCCT
474
                             ***       *       ***       *  ******  ***    **** *

Cry8Bb1_Seq_15          TTTCGACGAGGTTTTCGACGAGGTGCCTTACGAGATGTGCGAAATCGATTTGAAATCCTG
540
Cry8Bb1_Seq_17          TTTCGACGAGGTTTTCGACGAGGTGCCTTACGAGATGTGCGAAATCGATTTGAAATCCTG
540
Cry8AB00.1_Seq_5        AAT------GGTTC------AAGAGCCTTACGAGATGTGCGAAATCGATTTGAAATCCTG
528
50C__b_                 AAT------GGTTC------AAGAGCCTTACGAGATGTTCGAAATCGATTTGAAATCCTG
528
Cry8AB00.1_Seq_3        AAT------GACAC------GAGAGCTAGAAGTGTTGTTTCTAATCAATTTATAGCCTTA
528
Cry8Ka1                 AAT------ATCTTT-----CGGAGTAAAGAGTTA-GTAAAAGAAAGATTTTCAAACGCG
522
                          *                  * *      *    **     *   ****  *  *

Cry8Bb1_Seq_15          GATAGTTTATTTACGCAATATATGCCATCTTTTAGAGTGACAAATTTTGAAGTACCATTC
600
Cry8Bb1_Seq_17          GATAGTTTATTTACGCAATATATGCCATCTTTTAGAGTGACAAATTTTGAAGTACCATTC
600
Cry8AB00.1_Seq_5        GATAGTTTATTTACGCAATATATGCCATCTTTTAGAGTGACAAATTTTGAAGTACCATTC
588
```

Fig. 18 (CONTINUAÇÃO)

```
50C__b_                 GATAGTTTATTTACGCAATATATGCCATCTTTTCGAGTGACAAATTTTGAAGTACCATTC
588
Cry8AB00.1_Seq_3        GAACTGGATTTTGTTGGAGCAATTCCATCCTTTGCAGTATCCGGGCAGGAAGTACCATTA
588
Cry8Ka1                 GAACATTCATTACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAATTCCTCTT
582
                        **      **          **    ** ***    *          *** * **  *

Cry8Bb1_Seq_15          CTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGCGTCAATT
660
Cry8Bb1_Seq_17          CTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGCGTCAATT
660
Cry8AB00.1_Seq_5        CTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGCGTCAATT
648
50C__b_                 CTTACAGTATATACAATGGCAGCAAACCTACATTTACTTTTATTAAGGGACGCATCAATT
648
Cry8AB00.1_Seq_3        TTAGCAGTATATGCACAGGCTGTGAACATGCACTTATTGTTACTAAGAGACGCTTCTATT
648
Cry8Ka1                 TTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATATTCAAATT
642
                         *  *   **** **   ** *  **  * ** *** *  ** * *  **       ***

Cry8Bb1_Seq_15          TTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCGTCAAATG
720
Cry8Bb1_Seq_17          TTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCGTCAAATG
720
Cry8AB00.1_Seq_5        TTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCGTCAAATG
708
50C__b_                 TTTGGAGAAGAATGGGGATTGTCTACAAGCACTATTAATAACTACTATAATCGTCAAATG
708
Cry8AB00.1_Seq_3        TTTGGAGAAGAGTGGGGATTCACATCATCTGAAATTTCCACTTACTACAACCGTCAAGTG
708
Cry8Ka1                 TATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGAACAAGTA
702
                        * **** **** *******   *   *      ***      *  **       *** *

Cry8Bb1_Seq_15          AAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTTAGCAAAA
780
Cry8Bb1_Seq_17          AAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTTAGCAAAA
780
Cry8AB00.1_Seq_5        AAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTTAGCAAAA
768
50C__b_                 AAACTTACTGCAGAATATTCTGACCACTGTGTAAAGTGGTATGAAACTGGTTTAGCAAAA
768
Cry8AB00.1_Seq_3        CAACTCACTTCTCAATATTCCGATTATTGTGTGAAGTGGTACGATACCGGTTTACAGAAA
768
Cry8Ka1                 GAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTTAAATCAA
762
                         *  * **     ****  * **  * *** * **    **  *    ******    **

Cry8Bb1_Seq_15          TTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGAAATGACA
840
Cry8Bb1_Seq_17          TTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGAAATGACA
840
Cry8AB00.1_Seq_5        TTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGAAATGACA
828
50C__b_                 TTAAAAGGCTCGAGCGCTAAACAATGGATTGACTATAACCAATTCCGTAGAGAAATGACA
828
Cry8AB00.1_Seq_3        TTAAAAGGTACGAGCGCTGAGAGTTGGCTGGAGTATCATCAATTCCGCAGAGAGATGACT
828
Cry8Ka1                 TTAAAAGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGAAATGACA
822
                        ********  ***  *** *    *** * *  * * * *  ***** ***** *****

Cry8Bb1_Seq_15          CTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTACCCAATG
900
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8Bb1_Seq_17      CTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTACCCAATG
900
Cry8AB00.1_Seq_5    CTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTACCCAATG
888
50C__b_             TTGACGGTGTTAGACGTTGTTGCATTATTTTCAAACTATGATACGCGTACGTATCCACTG
888
Cry8AB00.1_Seq_3    TTCATGGTATTAGATTTGGTTGCATTATTTCCAAACTACGATACACACACGTATCCACTT
888
Cry8Ka1             TTGACGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTACCCTATA
882
                     *   ***  * **  * ***********  * ** ** **    *  * *** **  *

Cry8Bb1_Seq_15      GAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCG---------CG
951
Cry8Bb1_Seq_17      GAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCG---------CG
951
Cry8AB00.1_Seq_5    GAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCG---------CG
939
50C__b_             GCAACAACAGCTCAGCTTACAAGGGAAGTATATACAGATCCACTTGGCG---------CG
939
Cry8AB00.1_Seq_3    GAAACAAAGGCTCAACTTACACGAGAAGTATATACGGATCCGATCGCCTTTAATCTTTCT
948
Cry8Ka1             AAAACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACA------CG
936
                      *** *   *  * ** **  *   * * ***** *****  * *           *

Cry8Bb1_Seq_15      GTAAACGTGTCTTCAATTGGTTCCTGGT---ATGACAAAGCACCTTCTTTCGGAGTGATA
1008
Cry8Bb1_Seq_17      GTAAACGTGTCTTCAATTGGTTCCTGGT---ATGACAAAGCACCTTCTTTCGGAGTGATA
1008
Cry8AB00.1_Seq_5    GTAAACGTGTCTTCAATTGGTTCCTGGT---ATGACAAAGCACCTTCTTTCGGAGTGATA
996
50C__b_             GTAGATGTGCCTAATATTGGCTCCTGGT---ATGACAAAGCACCTTCTTTCTCAGAAATA
996
Cry8AB00.1_Seq_3    GGGGCAGCGGGTTTTTGTAGCCCTTGGTCAAAGTATACTGGTATTTCCTTTTCGGAGATT
1008
Cry8Ka1             AAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATATA
996
                          *    *     *    *    *   *  *    *    *   **       **

Cry8Bb1_Seq_15      GAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTAT
1068
Cry8Bb1_Seq_17      GAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTAT
1068
Cry8AB00.1_Seq_5    GAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTAT
1056
50C__b_             GAAAAAGCGGCTATTCGTCCACCTCATGTGTTTGATTATATAACGGGACTCACAGTTTAT
1056
Cry8AB00.1_Seq_3    GAAAATGATGTAATTCGTCCGCCTCATTTATTTAATCTACTCAGAAGTTTAGAGATTAAT
1068
Cry8Ka1             GAAAGTGTAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTAT
1056
                    ***      *  ****   * **   * *  ** *     * *      *     *  **

Cry8Bb1_Seq_15      ACACAATCAAGAAGCATTTC------TTCCGCTCGCTATATAAGACATTGGGCTGGTCAT
1122
Cry8Bb1_Seq_17      ACACAATCAAGAAGCATTTC------TTCCGCTCGCTATATAAGACATTGGGCTGGTCAT
1122
Cry8AB00.1_Seq_5    ACACAATCAAGAAGCATTTC------TTCCGCTCGCTATATAAGACATTGGGCTGGTCAT
1110
50C__b_             ACAAAAAAACGTAGCTTCAC------TTCTGATCGTTATATGAGATATTGGGCTGGTCAT
1110
Cry8AB00.1_Seq_3    ACAGTTAGGGGGACAATTTTAGGTAATACTAAAGATTACCTAAACTATTGGTCAGGTCAT
1128
Cry8Ka1             TCGAAATCCGCAAGGGCTAC-------ACCGCAAAGTGC--GGATTATTGGGCAGGACAT
1107
                     *          *               *       *         ***** * ** ***
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8Bb1_Seq_15      CAAATAAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAA-ATGTATGGAACTAA
1181
Cry8Bb1_Seq_17      CAAATAAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAA-ATGTATGGAACTAA
1181
Cry8AB00.1_Seq_5    CAAATAAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAA-ATGTATGGAACTAA
1169
50C__b_             CAAATAAGCTATAAGCATATCGGTACGAGTAGTACCTTTACACAG-ATGTATGGAACCAA
1169
Cry8AB00.1_Seq_3    TCTCTACAATATAATTTTATAGGTAAGA-CAATAGTCAGGGAAAGTAATTATGGAT---A
1184
Cry8Ka1             ACAATAACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCT-AATTATGGAGATAG
1166
                        **   **  *   *    *        *       *    *  ******

Cry8Bb1_Seq_15      TCAAAATCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCT
1241
Cry8Bb1_Seq_17      TCAAAATCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCT
1241
Cry8AB00.1_Seq_5    TCAAAATCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCT
1229
50C__b_             TCAAAATTTACAAAGTACTAGCAATTTTGATTTTACGAATTACGATATTTACAAGACTTT
1229
Cry8AB00.1_Seq_3    TCTTACTTCAGAAAAAACTAGGA---TTGAATTAGACACTAGAGATATTTTTGAAATTAA
1241
Cry8Ka1             AACGAATCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTC
1226
                        * *      *     *       * * **          ** ****       *

Cry8Bb1_Seq_15      ATCAAAGGATGCAGTACTCCTTGATATTGTTTACCCTGGTTATACGTATATATTTTTTGG
1301
Cry8Bb1_Seq_17      ATCAAAGGATGCAGTACTCCTTGATATTGTTTACCCTGGTTATACGTATATATTTTTTGG
1301
Cry8AB00.1_Seq_5    ATCAAAGGATGCAGTACTCCTTGATATTGTTTACCCTGGTTATACGTATATATTTTTTGG
1289
50C__b_             ATCAAATGGTGCAGTACTCCTTGATATAGTTTACCCTGGTTATACGTATACATTTTTTGG
1289
Cry8AB00.1_Seq_3    TTCAACTGCCGCAA-------------GCTTAGCG-AATTACTATCAAGAGACTTATGG
1286
Cry8Ka1             ATCATCTGTTGCT---------------TCAAGTACAACTAGTGGTGTTAAATTATTAA
1270
                     ***   *  **                    *       **           *  *

Cry8Bb1_Seq_15      AATGCCAGAAGTCGAGTTTTTCATGGTAA-ACCAAT-TGAATAATACCAGAAAGACGTTA
1359
Cry8Bb1_Seq_17      AATGCCAGAAGTCGAGTTTTTCATGGTAA-ACCAAT-TGAATAATACCAGAAAGACGTTA
1359
Cry8AB00.1_Seq_5    AATGCCAGAAGTCGAGTTTTTCATGGTAA-ACCAAT-TGAATAATACCAGAAAGACGTTA
1347
50C__b_             AATGCCAGAAACCGAGTTTTTTATGGTAA-ATCAAT-TGAATAATACCAGAAAGACGTTA
1347
Cry8AB00.1_Seq_3    TGTGCCAGAATCTAGGCTCCATTTGGTGAGATGGGC-TAGCCCATATTATACATCATCTC
1345
Cry8Ka1             C-TACTA------AGGCTATATTTGATGGCATAAGTACAAACAATGGACTAGTGAGTTAC
1323
                      * * *        * *     ** *   *           **     *

Cry8Bb1_Seq_15      AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
1413
Cry8Bb1_Seq_17      AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
1413
Cry8AB00.1_Seq_5    AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
1401
50C__b_             ACGTATAAACCAGCTTCCAAAGA--TATTATAGATCGGACAAGAGATT-CGGAATTA---
1401
Cry8AB00.1_Seq_3    ATCTTTATTCTAAAACACATACAACTGGAGAAGGTTGTACACAAGTTT-ATGAATCAAGT
1404
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8Ka1                 ATGTATGAAAAATTATCGAACTTTTTTAATGAACTAAAAGATACAATTACAGAGCTACCT
1383
                        *  * *     *       *       *      *      * *      **    **    *

Cry8Bb1_Seq_15          GAATTACCTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
1473
Cry8Bb1_Seq_17          GAATTACCTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
1473
Cry8AB00.1_Seq_5        GAATTACCTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
1461
50C__b_                 GAATTGCCTCCAGAAACTTCAGGTCAACCAAATTACGAGTCATATAGCCATAGATTAGGT
1461
Cry8AB00.1_Seq_3        GAGGAAATACCTGTAGACAGAACCGTACCGATAAATGAAGGTTATAGTCACAGACTATCG
1464
Cry8Ka1                 GTTCAGATATCCAGTCCTCCTACCTACGGGGATGCTGAACAGTACAGTCATCGGCTATCC
1443
                        *         *                              **    ** ** **  *  **

Cry8Bb1_Seq_15          CATATCACAAGTATTCCCGCG------ACGGGTAACACT---------ACCGGATTAGTA
1518
Cry8Bb1_Seq_17          CATATCACAAGTATTCCCGCG------ACGGGTAACACT---------ACCGGATTAGTA
1518
Cry8AB00.1_Seq_5        CATATCACAAGTATTCCCGCG------ACGGGTAACACT---------ACCGGATTAGTA
1506
50C__b_                 CATATTACATTTATTTACTCC------A---GTTCAACT---------AGCACGTATGTA
1503
Cry8AB00.1_Seq_3        TATGTCACCGCTCTCTTTTTCCAGAAAATTATTAATACTTTTTATAGAAATGGAACTCTA
1524
Cry8Ka1                 TATGTTTCTAATGCTCCAACAGAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATC
1503
                         ** *  *   *                                                *

Cry8Bb1_Seq_15          CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
1578
Cry8Bb1_Seq_17          CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
1578
Cry8AB00.1_Seq_5        CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
1566
50C__b_                 CCTGTATTTTCTTGGACACATCGGAGTGCAGATCTAACAAATACAGTTAAAAGTGGCGAA
1563
Cry8AB00.1_Seq_3        CCTGTCTTTGTTTGGACACATCGAAGTGCAGATCTTACAAATACAATTTATCCAGATGTA
1584
Cry8Ka1                 CCAGTACTGGGTTGGACGCATACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCA
1563
                        ** **  *   ****** ***   ***  *  *   *  ***    *  *    *    *

Cry8Bb1_Seq_15          ATCACTCAAATTCCGGCCGTTAAATGTTGGGA-----------TAATTTACCGTT-TGT
1625
Cry8Bb1_Seq_17          ATCACTCAAATTCCGGCCGTTAAATGTTGGGA-----------TAATTTACCGTT-TGT
1625
Cry8AB00.1_Seq_5        ATCACTCAAATTCCGGCCGTTAAATGTTGGGA-----------TAATTTACCGTT-TGT
1613
50C__b_                 ATCACCCAAATACCAGGGGGCAAGT-CTAGCA-----------CCATAGGCAGAAATAC
1610
Cry8AB00.1_Seq_3        ATTACTCAAATACCAGTGGTAAAGGCCTATGAATTGGGTAGCTCCATCTTACCAGATAGT
1644
Cry8Ka1                 ATTACTCAAATTCCAGCTGTTAAAGCAAATAG-----------TGTTAGTTCTTATGT
1610
                        ** ** ***** ** *  *  **

Cry8Bb1_Seq_15          TC--------CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTTATT-------ACA
1670
Cry8Bb1_Seq_17          TC--------CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTTATT-------ACA
1670
Cry8AB00.1_Seq_5        TC--------CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTTATT-------ACA
1658
```

Fig. 18 (CONTINUAÇÃO)

```
50C__b_                 TT--------ATATAATAAAAGGGCGTGGTTATACAGGGGGAGACTTAGTGGCTTTAACG
1662
Cry8AB00.1_Seq_3        CCATCACCTACTATTGTGCCAGGGCCTGGATTTACAGGGGGGGATATAATACAATTACTG
1704
Cry8Ka1                 TA--------CTGTTGAAAAGGGAACAGGCTTTACAGGTGGAGATTTAGTG------AAA
1656
                                    *       **    **   ****** ** **  ** *

Cry8Bb1_Seq_15          G--TATAATAGAAGTACTGGTTCTGTAG-GAACCTTATTTCTAGCTCGATATGGCCTA-G
1726
Cry8Bb1_Seq_17          G--TATAATAGAAGTACTGGTTCTGTAG-GAACCTTATTTCTAGCTCGATATGGCCTA-G
1726
Cry8AB00.1_Seq_5        G--TATAATAGAAGTACTGGTTCTGTAG-GAACCTTATTTCTAGCTCGATATGGCCTA-G
1714
50C__b_                 GACCGCATCGGAAGTTGTGAGTTTCAGA-TGATCTT--TCCAGAGTCTCAACGATTCC-G
1718
Cry8AB00.1_Seq_3        GCGAATACAAAAGGTATAGCAAATATGA-ATTTTGAAATTCAAGACATTAATAAAGAATA
1763
Cry8Ka1                 TTCTCCACTGGATTCATGTCTACAGGAATACAGTTTAATTTAAAGATAGAAGAAAGAAAG
1716
                              *    *                          *           *

Cry8Bb1_Seq_15          CATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGCTA-CTGATGCAGAT---
1782
Cry8Bb1_Seq_17          CATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGCTA-CTGATGCAGAT---
1782
Cry8AB00.1_Seq_5        CATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGCTA-CTGATGCAGAT---
1770
50C__b_                 TATTCGGA---TTCGTTACGCTTCTAATGAAACT-AGTTATATTAGTTTATACGGACTAA
1774
Cry8AB00.1_Seq_3        TATTATGAGAATTCGGTATGCTTCCGCTGCAAAT--CCTGAATTC---AATATAGCT---
1815
Cry8Ka1                 CGTTA------TCGTATCCGTATACGATATGCCG--CTGATGTTA----ATGCTACTCTA
1764
                          **                  *    *              *     **

Cry8Bb1_Seq_15          ATTGTATTGCATGTAAACGATGCTCAGATTCAGATGCCAAAAACAATGAACCCAGGTGAG
1842
Cry8Bb1_Seq_17          ATTGTATTGCATGTAAACGATGCTCAGATTCAGATGCCAAAAACAATGAACCCAGGTGAG
1842
Cry8AB00.1_Seq_5        ATTGTATTGCATGTAAACGATGCTCAGATTCAGATGCCAAAAACAATGAACCCAGGTGAG
1830
50C__b_                 ACCAAAGCGGAACTTTAAAATTCAACCAGACATATTCTAATAAAAATGAA-------AAT
1827
Cry8AB00.1_Seq_3        GTTGGTACTAGTGGAGAAAGAGTTAGTACTAGTGCTCAAAAAACTATGAATCCAGGGGAT
1875
Cry8Ka1                 TCTGCACTTGGATTAAATGATGCATTTATTAACATTAAATCGACAATGTCTCAAGACACA
1824
                                        *          *          *   *  ***

Cry8Bb1_Seq_15          GATCTGACATCTAAAACTTTTAAAGTTGCAGATGCTATCACAACAGTAAATTTAG--CAA
1900
Cry8Bb1_Seq_17          GATCTGACATCTAAAACTTTTAAAGTTGCAGATGCTATCACAACAGTAAATTTAG--CAA
1900
Cry8AB00.1_Seq_5        GATCTGACATCTAAAACTTTTAAAGTTGCAGATGCTATCACAACATTAAATTTAG--CAA
1888
50C__b_                 GATTTAACATATAATGATTTCAAATATATAGAA--TATC-CAAGAGTCATTTCAG--TAA
1882
Cry8AB00.1_Seq_3        ATTTTAACATTTAATAAATTTAATTACGCAACT--TTCCCTCCCATTAAATTTAATTCAA
1933
Cry8Ka1                 CCATTGAAGTATAACGATTTCCAATATGCAGAAGCTGACAAAACAGTGCATTTATACAAT
1884
                            * *  * ***    **  *      *     *  *     * *   ** *    *

Cry8Bb1_Seq_15          CAGATAGTTCGGTAGCAGTGAAACATAATTTAGGTGAAGACCCTAATTCAACATTATCTG
1960
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8Bb1_Seq_17      CAGATAGTTCGGTAGCAGTGAAACATAATGTAGGTGAAGACCCTAATTCAACATTATCTG
1960
Cry8AB00.1_Seq_5    CAGATAGTTCGCTAGCATTGAAACATAATTTAGGTGAAGACCCTAATTCAACATTATCTG
1948
50C__b_             ATGCTTCTTCAAACATACAGAGGTTATCTATAGGTATACAAACGAATACAAATTTATTTA
1942
Cry8AB00.1_Seq_3    CTAAAATTTCGATAATGTTAACAGCAAGATTGGCTGCTTTTGCAAGCACA---TTATTGG
1990
Cry8Ka1             CCTCGTTTTTCTTTATATTTAGA--AAATTCAGATCAATCCGGGAAAAG-----TATTTA
1937
                           **          *          * *         *         ***

Cry8Bb1_Seq_15      GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAT
2020
Cry8Bb1_Seq_17      GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAT
2020
Cry8AB00.1_Seq_5    GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAC
2008
50C__b_             TTTTAG---------ACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAA
1993
Cry8AB00.1_Seq_3    A---AACCTATATAGATAGAATCGAATTCATCCCAGTAGATGAAACATACGAGGCGGAGA
2047
Cry8Ka1             T----------ATAGATCGAATCGAATTCATCCCAGTAGATGAGACCTATGAAGCAGAAC
1987
                              *  ************************* ** ** ** ** **

Cry8Bb1_Seq_15      AA----------------------------------------------------------
2022
Cry8Bb1_Seq_17      AA----------------------------------------------------------
2022
Cry8AB00.1_Seq_5    AAGATTTAGAAGCAGCGAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGCT
2068
50C__b_             CGGATTTAGAAGCGGCAAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGAT
2053
Cry8AB00.1_Seq_3    CAGATTTAGAAACGGCGAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGCT
2107
Cry8Ka1             AAGAT-------------------------------------------------------
1992

Cry8Bb1_Seq_15      ----------------------------------------------------------
Cry8Bb1_Seq_17      ----------------------------------------------------------
Cry8AB00.1_Seq_5    TACGACCAGGCGTAACGGATTATGAAGTGAATCAAGCGGCAAACTTAGTGGAATGCCTAT
2128
50C__b_             TACAGCCAGGTGTAACGGATTATGAAGTAAATCAAGCGGCCAACTTAGTGGAATGCCTAT
2113
Cry8AB00.1_Seq_3    TACGACCAGGCGTAACGGATTATGAAGTGAATCAAGCGGCAAACTTAGTGTAGCTCGAG-
2166
Cry8Ka1             ----------------------------------------------------------

Cry8Bb1_Seq_15      ----------------------------------------------------------
Cry8Bb1_Seq_17      ----------------------------------------------------------
Cry8AB00.1_Seq_5    CGGATGATTTGTATCCAAATGAAAAACGATTGTTATTTGATGCAGTGAGAGAGGCAAAAC
2188
50C__b_             CGGATGATTTGTATCCAAATGAAAAACGATTGTTATTTGATGCAGTGAGAGAGGCAAAAC
2173
Cry8AB00.1_Seq_3    ----------------------------------------------------------
Cry8Ka1             ----------------------------------------------------------

Cry8Bb1_Seq_15      ----------------------------------------------------------
Cry8Bb1_Seq_17      ----------------------------------------------------------
Cry8AB00.1_Seq_5    GCCTCAGTGAGGCACGTAATTTGCTTCAAGATCCAGATTTCCAAGAGATAAATGGAGAAA
2248
50C__b_             GACTTAGCGAGGCACGGAACTTACTACAAGATCCAGATTTCCAAGAGATAAATGGAGAAA
2233
```

Fig. 18 (CONTINUAÇÃO)

```
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    ATGGCTGGACGGCAAGTACGGGAATTGAGGTTATAGAAGGGGATGCTTTATTCAAAGGGC
2308
50C__b_             ATGGATGGACGGCAAGTACGGGAATTGAGGTTATAGAAGGGGATGCTGTATTCAAAGGGC
2293
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    GTTATCTACGCCTACCAGGTGCGAGAGAAATAGATACGGAAACGTATCCAACGTATCTGT
2368
50C__b_             GTTATCTACGCCTACCAGGTGCGAGAGAAATAGATACGGAAACGTATCCAACGTATCTGT
2353
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    ATCAAAAAGTAGAGGAAGGTGTATTAAAACCATACACAAGATATAGATTGAGAGGGTTTG
2428
50C__b_             ATCAAAAAGTAGAGGAAGGTGTATTAAAACCATACACAAGGTATAGACTGAGAGGATTTG
2413
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    TCGGAAGCAGTCAAGGATTGGAAATTTTCACAATTCGTCATCAAACGAACCGAATTGTAA
2488
50C__b_             TGGGAAGTAGTCAAGGATTAGAAATTTATACGATTCGTCACCAAACGAATCGAATTGTAA
2473
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    AAAATGTACCGGATGATTTGCTGCCAGATGTATCTCCTGTTAACTCGGATGGTAGTATCA
2548
50C__b_             AAAATGTACCAGATGATTTACTGCCAGATGTACCTCCTGTAAACAATGATGGTAGAATCA
2533
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    ATCGATGCAGCGAACAAAAGTATGTGAATAGCCGTTTAGAAGTAGAAAACCGTTCTGGTG
2608
50C__b_             ATCGATGCAGCGAACAAAAGTATGTGAATAGTCGTTTAGAAGTAGAAAACCGTTCTGGTG
2593
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
```

```
Cry8AB00.1_Seq_5      AAGCGCATGAGTTCTCTATTCCTATTGATACAGGTGAAATCGATTACAATGAAAATGCAG
2668
50C__b_               AAGCGCATGAGTTCTCAATCCCTATCGATACAGGAGAGCTGGATTACAATGAAAATGCAG
2653
Cry8AB00.1_Seq_3      ------------------------------------------------------------
Cry8Ka1               ------------------------------------------------------------

Cry8Bb1_Seq_15        ------------------------------------------------------------
Cry8Bb1_Seq_17        ------------------------------------------------------------
Cry8AB00.1_Seq_5      GAATATGGGTTGGATTTAAGATTACGGACCCAGAGGGATATGCAACACTCGGAAACCTAG
2728
50C__b_               GAATATGGGTTGGATTTAAGATTACGGACCCAGAGGGATACGCAACACTTGGAAATCTTG
2713
Cry8AB00.1_Seq_3      ------------------------------------------------------------
Cry8Ka1               ------------------------------------------------------------

Cry8Bb1_Seq_15        ------------------------------------------------------------
Cry8Bb1_Seq_17        ------------------------------------------------------------
Cry8AB00.1_Seq_5      AATTGGTCGAAGAGGGACCTTTATCAGGAGACGCATTAGAACGCTTGCAAAGAGAAGAAC
2788
50C__b_               AATTGGTCGAAGAGGGACCTTTGTCAGGAGACGCATTAGAACGCTTGCAAAAAGAAGAAC
2773
Cry8AB00.1_Seq_3      ------------------------------------------------------------
Cry8Ka1               ------------------------------------------------------------
```

FIGURA 18 (Continuação)

```
Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    AACAGTGGAAGATTCAAATGACAAGAAGACGTGAAGAAACAGATAGAAGGTATATGGCAT
2848
50C__b_             AACAGTGGAAGATTCAAATGACAAGAAGACGTGAAGAGACAGATAGAAGATACATGGCAT
2833
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    CGAAACAAGCGGTAGATCGTTTATATGCCGATTATCAGGATCAGCAACTGAATCCTGATG
2908
50C__b_             CGAAACAAGCGGTAGATCGTTTATATGCCGATTATCAGGATCAGCAACTGAATCCGAATG
2893
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    TAGAGATTACAGATCTTACTGCGGCCCAAGATCTGATACAGTCCATTCCTTACGTATATA
2968
50C__b_             TAGAGATTACAGATCTTACTGCGGCTCAAGATCTAATACAGTCCATTCCTTACGTGTATA
2953
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    ACGAAATGTTCCCAGAAATACCAGGGATGAACTATACGAAGTTTACAGAATTAACAGATC
3028
50C__b_             ACGAAATGTTCCCAGAAATACCAGGAATGAACTATACGAAGTTTACAGAGTTAACAGATC
3013
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    GACTCCAACAAGCGTGGAGTTTGTATGATCAGCGAAATGCCATACCAAATGGTGATTTTC
3088
50C__b_             GACTCCAACAAGCCTGGGGATTGTATGATCAACGAAACGCTATACCAAATGGAGATTACC
3073
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    GAAATGGGTTAAGTAATTGGAATGCAACGCCTGGCGTAGAAGTACAACAAATCAATCATA
3148
50C__b_             GAAATGAATTAAGTAATTGGAATACAACATCTGGTGTGAATGTACAACAAATCAATCATA
3133
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    CATCTGTCCTTGTGATTCCAAACTGGGATGAGCAAGTTTCGCAACAGTTTACAGTTCAAC
3208
50C__b_             CATCTGTCCTTGTGATTCCAAACTGGAATGAACAAGTTTCACAAAAGTTTACAGTTCAAC
3193
Cry8AB00.1_Seq_3    ------------------------------------------------------------
```

```
Cry8Ka1                 ------------------------------------------------------------

Cry8Bb1_Seq_15          ------------------------------------------------------------
Cry8Bb1_Seq_17          ------------------------------------------------------------
Cry8AB00.1_Seq_5        CGAATCAAAGATATGTGTTACGAGTTACTGCGAGAAAAGAAGGGGTAGGAAATGGATATG
3268
50C__b_                 CGAATCAAAGATATGTGTTACGAGTTACTGCAAGAAAAGAAGGGGTAGGAAATGGATATG
3253
Cry8AB00.1_Seq_3        ------------------------------------------------------------
Cry8Ka1                 ------------------------------------------------------------
```

FIGURA 18 (Continuação)

```
Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    TAAGTATCCGTGATGGTGGAAATCAAACAGAAACGCTTACTTTTAGTGCAAGCGATTATG
3328
50C__b_             TAAGTATTCGTGATGGTGGAAATCAATCAGAAACGCTTACTTTTAGTGCAAGCGATTATG
3313
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    ATACAAATGGAATGTATAATACGCAAGTGTCCAATACAAATGGATATAACACAAATAATG
3388
50C__b_             ATACAAATGGTATGTATGATACACAAGCGTCGAATACAAACGGATATAACACAAATAGTG
3373
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    CGTATAATACACAAGCATCGAGTACAAACGGATATAACGCAAATAATATGTATAATACGC
3448
50C__b_             TGTACATGATCAAACCGGCTATATCACGAAAAACAGTGGACATTTCATCCGTATACAATC
3433
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    AAGCATCGAATACAAACGGATATAACACAAATAGTGTGTACAATGATCAAACCGGCTATA
3508
50C__b_             AAATGTGGATTGAGATAAGTGAGACAGAAGGTACGTTCTATATAGAAAGTGTAGAATTGA
3493
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ------------------------------------------------------------
Cry8Bb1_Seq_17      ------------------------------------------------------------
Cry8AB00.1_Seq_5    TCACAAAAACAGTGACATTCATCCCGTATACAGATCAAATGTGGATTGAGATGAGTGAGA
3568
50C__b_             TTGTAGACGTAGAG----------------------------------------------
3507
Cry8AB00.1_Seq_3    ------------------------------------------------------------
Cry8Ka1             ------------------------------------------------------------

Cry8Bb1_Seq_15      ----------------------------------------------------
Cry8Bb1_Seq_17      ----------------------------------------------------
Cry8AB00.1_Seq_5    CAGAAGGTACATTCTATATAGAAAGTGTAGAATTGATTGTAGACGTAGAGTAA 3621
50C__b_             ----------------------------------------------------
Cry8AB00.1_Seq_3    ----------------------------------------------------
Cry8Ka1             ----------------------------------------------------
```

FIGURA 19

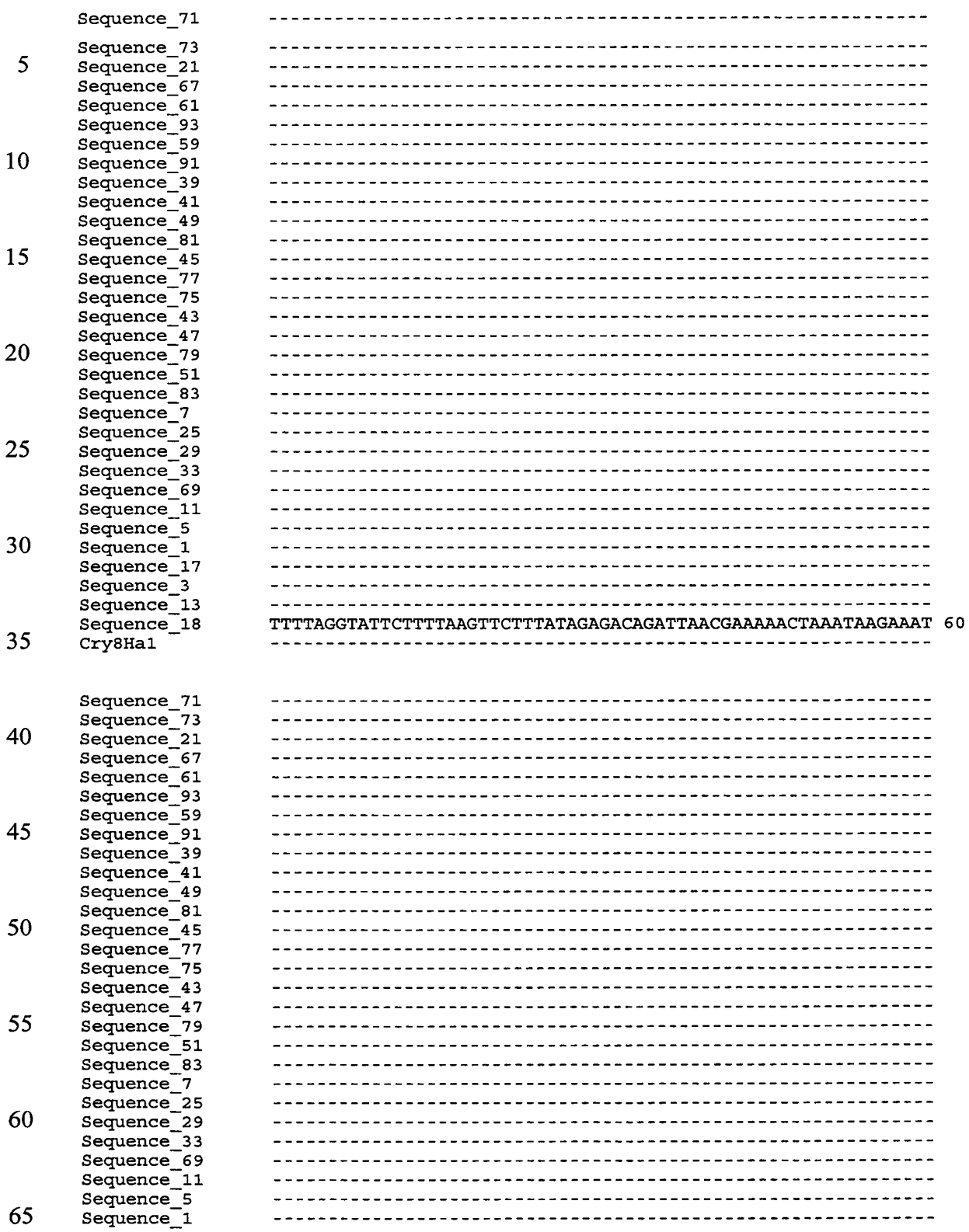
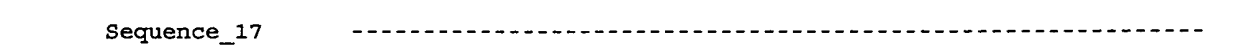


FIGURA 19 (Continuação)



```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT 120
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTACGAGGTCGAATTGACGTAACAGGGCACCTTTTTGGTCAAATTGACCAAAGAATCCA 180
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCCTTTGCATGAGCACTTCTCGAAACCACTTCCCATAGTGCACTTCTTATCTTTTGTATA 240
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TATTTCCTAAGGATATCGTAATCCCTATTTCTGATAAGAGGATTTTGTCAGTGTAGGAAG 300
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AGCGAATGTCTTTTCGTATTTCAAACAAAAAATAAAGGATGTTTATGCACGGAAATAATC 360
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   ATCATATTAATAATGCCCAGTACATAAAGATAGATGGGGGTCATTTTTTGAAATGATTCG 420
Cry8Ha1       ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC 480
Cry8Ha1         ------------------------------------------------------------


Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     -------------------------------------------GGTTTCCATTCCCACCG 17
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGATCAGTCGGATGTAGAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCCT 540
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTTATCT 77
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTCAATGTATGGTTTCCATTCCAACAGGTTTTCAAATTCAAAAACCCAATACACCGAAAC 600
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT 137
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TTGTCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG 660
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  AGATTTACATGTCTTAAAAATTAAAGGTGTTTTACCGTTTATCGTGAACGTATCCATTGA 197
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TAGAGGATTGTGGGCAAATTGAGATAGATTTACATGTCTTAAAAATTAAAGGTGTTTTAC 720
Cry8Ha1      ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTTAAG 257
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG 780
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_1      ------------------------------------------------------------
Sequence_17     TTGTCAAGAAACGGTATATGTGGATCATATTTTAAAATATAGTGTTGATCATGTCCCATA 317
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAGAGACACATCCTTATTTTTAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAAA 840
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TTATGTAATTGATGGCCATCATATTCAAGTGCGTGATGTATCGATTAAATTGATGGAAGA 377
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     ATATAGTGTTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGCGTGA 900
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AAACCCACAAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA 437
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTATCGATTAAATTGATGGAAGAAAACCCACAAACTGCTCAAATATCGGGTGTTTTTTA 960
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AATCAAAAAATATTTTGTGAAGAATCCCTAAAATTATCACAACATTGTTTATTATAAAAT 497
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTTTGATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA 1020
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AACTCATTTCAAGAAAAATCGTAATATTTTTTTATCTAACAGGAATTTTATCATCTACAG 557
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCACAACATTGTTTATTATAAAATAACTCATTTCAAGAAAAATCGTAATATTTTTTTATC 1080
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AAGAATATTCTTATCATGGTAATGAGGAGGGAGAGTGACAGAGAGGGGATAGACAATCAA 617
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAACAGGAATTTTATCATCTACAGAAGAATATTCTTATCATGGTAATGAGGAGGGAGAGT 1140
Cry8Ha1         ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71  ----------------------------------------------------------
Sequence_73  ----------------------------------------------------------
Sequence_21  ----------------------------------------------------------
Sequence_67  ----------------------------------------------------------
Sequence_61  ----------------------------------------------------------
Sequence_93  ----------------------------------------------------------
Sequence_59  ----------------------------------------------------------
Sequence_91  ----------------------------------------------------------
Sequence_39  ----------------------------------------------------------
Sequence_41  ----------------------------------------------------------
Sequence_49  ----------------------------------------------------------
Sequence_81  ----------------------------------------------------------
Sequence_45  ----------------------------------------------------------
Sequence_77  ----------------------------------------------------------
Sequence_75  ----------------------------------------------------------
Sequence_43  ----------------------------------------------------------
Sequence_47  ----------------------------------------------------------
Sequence_79  ----------------------------------------------------------
Sequence_51  ----------------------------------------------------------
Sequence_83  ----------------------------------------------------------
Sequence_7   ----------------------------------------------------------
Sequence_25  ----------------------------------------------------------
Sequence_29  ----------------------------------------------------------
Sequence_33  ----------------------------------------------------------
Sequence_69  ----------------------------------------------------------
Sequence_11  ----------------------------------------------------------
Sequence_5   ----------------------------------------------------------
Sequence_1   ----------------------------------------------------------
Sequence_17  AAGAGTATCTAGAAGAGTTTGTCATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC 677
Sequence_3   ----------------------------------------------------------
Sequence_13  ----------------------------------------------------------
Sequence_18  GACAGTCAAAAGAGTACCTGGTTTGTCGTGTAAGAAAAAAGAATCGATCGTACAGGAAAG 1200
Cry8Ha1      ----------------------------------------------------------

Sequence_71  ----------------------------------------------------ATGAGTC 7
Sequence_73  ----------------------------------------------------ATGAGTC 7
Sequence_21  ----------------------------------------------------ATGAGTC 7
Sequence_67  ----------------------------------------------------ATGAGTC 7
Sequence_61  ----------------------------------------------------ATGAGTC 7
Sequence_93  ----------------------------------------------------ATGAGTC 7
Sequence_59  ----------------------------------------------------ATGAGTC 7
Sequence_91  ----------------------------------------------------ATGAGTC 7
Sequence_39  ----------------------------------------------------ATGAGTC 7
Sequence_41  ----------------------------------------------------ATGAGTC 7
Sequence_49  ----------------------------------------------------ATGAGTC 7
Sequence_81  ----------------------------------------------------ATGAGTC 7
Sequence_45  ----------------------------------------------------ATGAGTC 7
Sequence_77  ----------------------------------------------------ATGAGTC 7
Sequence_75  ----------------------------------------------------ATGAGTC 7
Sequence_43  ----------------------------------------------------ATGAGTC 7
Sequence_47  ----------------------------------------------------ATGAGTC 7
Sequence_79  ----------------------------------------------------ATGAGTC 7
Sequence_51  ----------------------------------------------------ATGAGTC 7
Sequence_83  ----------------------------------------------------ATGAGTC 7
Sequence_7   ----------------------------------------------------ATGAGTC 7
Sequence_25  ----------------------------------------------------ATGAGTC 7
Sequence_29  ----------------------------------------------------ATGAGTC 7
Sequence_33  ----------------------------------------------------ATGAGTC 7
Sequence_69  ----------------------------------------------------ATGAGTC 7
Sequence_11  ----------------------------------------------------ATGAGTC 7
Sequence_5   ----------------------------------------------------ATGAGTC 7
```

FIGURA 19 (Continuação)

```
Sequence_1      ----------------------------------------------------ATGAGTC 7
Sequence_17     AAAAGAAAGTGTAAAAAATCTTTGTATCTTGTATATGTATAGGAGGAAAATAGATGAGTC 737
Sequence_3      ----------------------------------------------------ATGAGTC 7
Sequence_13     ----------------------------------------------------ATGAGTC 7
Sequence_18     TTAAAAAAAGTGTAAGAAATTTTATATCTTTTGTATGTATAGGAGGAAAATAGATGAGTC 1260
Cry8Ha1         ----------------------------------------------------ATGAGTC 7
                                                                   *******

Sequence_71     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_73     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_21     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_67     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_61     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_93     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_59     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_91     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_39     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_41     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_49     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_81     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_45     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_77     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_75     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_43     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_47     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_79     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_51     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_83     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_7      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_25     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_29     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_33     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_69     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_11     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_5      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_1      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_17     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 797
Sequence_3      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_13     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_18     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 1320
Cry8Ha1         CAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTATCTAATG 67
                ********* ************************************ ******** ****

Sequence_71     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_73     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_21     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_67     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_61     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_93     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_59     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_91     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_39     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_41     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_49     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_81     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_45     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_77     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_75     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_43     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_47     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_79     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_51     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
```

FIGURA 19 (Continuação)

```
Sequence_83     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_7      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_25     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_29     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_33     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_69     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_11     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_5      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_1      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_17     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 857
Sequence_3      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_13     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_18     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 1380
Cry8Ha1         ATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATATGAATTATA 127
                ****** *********** ************ ********* *********** ******

Sequence_71     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_73     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_21     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_67     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_61     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_93     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_59     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_91     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_39     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_41     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_49     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_81     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_45     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_77     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_75     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_43     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_47     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_79     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_51     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_83     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_7      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_25     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_29     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_33     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_69     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_11     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_5      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_1      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_17     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 917
Sequence_3      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_13     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_18     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 1440
Cry8Ha1         AGGATTATTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT 187
                * ********** ******** **  * * ** * ****   **     ********

Sequence_71     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_73     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_21     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_67     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_61     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_93     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_59     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_91     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_39     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_41     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_49     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
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FIGURA 19 (Continuação)

```
Sequence_81   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_45   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_77   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_75   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_43   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_47   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_79   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_51   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_83   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_7    TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_25   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_29   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_33   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_69   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_11   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_5    TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_1    TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_17   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 977
Sequence_3    TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_13   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_18   TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 1500
Cry8Ha1       TTGCT---GCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAATTACTGGGGT 244
              *** *   * ** ** **    **   * * ****  ******   *********

Sequence_71   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_73   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_21   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_67   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_61   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_93   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_59   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_91   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_39   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_41   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_49   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_81   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_45   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_77   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_75   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_43   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_47   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_79   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_51   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_83   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_7    GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_25   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_29   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_33   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_69   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_11   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_5    GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_1    GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_17   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1037
Sequence_3    GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_13   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_18   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1560
Cry8Ha1       GGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTCATTCTAGGTCTAT 304
              * *****  * ******* ****   * ** **    *  ** *    ** * * * *
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FIGURA 19 (Continuação)

```
Sequence_71     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_73     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_21     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_67     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_61     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_93     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_59     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_91     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_39     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_41     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_49     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_81     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_45     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_77     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_75     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_43     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_47     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_79     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_51     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_83     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_7      TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_25     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_29     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_33     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_69     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_11     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_5      TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_1      TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_17     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 1097
Sequence_3      TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_13     TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_18     TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 1620
Cry8Ha1         TATGGCCAACA---TCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAAGAACTCA 361
                * *****  **     *   *  *  ****      * ***  *   ************

Sequence_71     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_73     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_21     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_67     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_61     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_93     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_59     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_91     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_39     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_41     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_49     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_81     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_45     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_77     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_75     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_43     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_47     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_79     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_51     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_83     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_7      TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_25     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_29     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_33     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_69     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_11     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_5      TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
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FIGURA 19 (Continuação)

```
Sequence_1      TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_17     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1157
Sequence_3      TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_13     TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_18     TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1680
Cry8Ha1         TAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGGCAATTCAG 421
                * ************* ***   ** *** ** ***** **  **** ** *     * **

Sequence_71     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_73     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_21     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_67     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_61     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_93     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_59     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_91     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_39     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_41     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_49     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_81     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_45     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_77     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_75     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_43     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_47     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_79     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_51     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_83     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_7      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_25     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_29     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_33     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_69     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_11     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_5      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_1      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_17     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 1216
Sequence_3      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_13     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_18     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 1739
Cry8Ha1         GTAGAGCCTTACGATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACCCTAATATCT 481
                ***     *  * **  *** ***  **  ******* *** ** **** **   *

Sequence_71     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_73     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_21     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_67     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_61     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_93     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_59     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_91     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_39     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_41     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_49     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_81     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_45     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_77     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_75     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_43     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_47     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_79     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_51     GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
```

FIGURA 19 (Continuação)

```
Sequence_83   GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
Sequence_7    -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_25   -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_29   -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_33   -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_69   -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_11   -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_5    -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_1    -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_17   -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1252
Sequence_3    -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_13   -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_18   -TCAA-------GA--------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1775
Cry8Ha1       TTCG------------------------GAGTAAAGAGTTAGTAAAAGAAAGATTTTCA 516
                *                         *  * * *** * **   * *  *****  *

Sequence_71   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_73   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_21   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_67   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_61   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_93   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_59   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_91   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_39   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_41   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_49   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_81   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_45   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_77   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_75   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_43   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_47   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_79   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_51   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_83   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_7    ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_25   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_29   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_33   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_69   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_11   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_5    ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_1    ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_17   ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 1311
Sequence_3    ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_13   ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_18   ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 1834
Cry8Ha1       AACGCGGAACATTCATT-ACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAAT 575
              * *  ***   ** *** *** *   * ***   ******    * * *   ****** *

Sequence_71   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
Sequence_73   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_21   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_67   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_61   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_93   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_59   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_91   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_39   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
Sequence_41   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_49   ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
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FIGURA 19 (Continuação)

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Sequence_81     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_45     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_77     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_75     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_43     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_47     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_79     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_51     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_83     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_7      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_25     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_29     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_33     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_69     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_11     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_5      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_1      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_17     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1371
Sequence_3      ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_13     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_18     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1894
Cry8Ha1         TCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATAT 635
                 **  *  *  *   **** **   ** ** **  * ****** *  ** * ** **

Sequence_71     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_73     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_21     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_67     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_61     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_93     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_59     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_91     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_39     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_41     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_49     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_81     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_45     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_77     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_75     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_43     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_47     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_79     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_51     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_83     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_7      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_25     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_29     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_33     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_69     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_11     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_5      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_1      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_17     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 1431
Sequence_3      TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_13     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_18     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 1954
Cry8Ha1         TCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGA 695
                   ***** **** ************   *   * *   **** *
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FIGURA 19 (Continuação)

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Sequence_71     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_73     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_21     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_67     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_61     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_93     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_59     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_91     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_39     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_41     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_49     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_81     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_45     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_77     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_75     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_43     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_47     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_79     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_51     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_83     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_7      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_25     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_29     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_33     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_69     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_11     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_5      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_1      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_17     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 1491
Sequence_3      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_13     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_18     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 2014
Cry8Ha1         ACAAGTAGAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTT 755
                *** *  *  ****   ******  * ** ****** * **    *** *   ******

Sequence_71     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_73     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_21     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_67     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_61     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_93     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_59     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_91     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_39     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_41     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_49     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_81     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_45     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_77     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_75     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_43     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_47     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_79     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_51     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_83     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_7      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_25     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_29     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_33     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_69     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_11     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_5      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
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FIGURA 19 (Continuação)

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Sequence_1      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_17     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 1551
Sequence_3      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_13     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_18     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 2074
Cry8Ha1         AAATCAATTAAAAGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGA 815
                *    **********  ***  ***** ****** * *  * *** *  ***********

Sequence_71     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_73     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_21     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_67     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_61     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_93     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_59     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_91     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_39     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_41     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_49     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_81     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_45     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_77     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_75     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_43     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_47     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_79     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_51     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_83     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_7      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_25     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_29     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_33     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_69     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_11     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_5      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_1      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_17     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 1611
Sequence_3      AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_13     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_18     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 2134
Cry8Ha1         AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTA 875
                ******* ** ****  * ***** ************** ** *****   *   * ***

Sequence_71     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_73     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_21     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_67     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_61     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_93     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_59     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_91     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_39     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_41     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_49     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_81     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_45     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_77     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_75     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_43     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_47     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_79     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_51     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
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FIGURA 19 (Continuação)

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Sequence_83     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
Sequence_7      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_25     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_29     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_33     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_69     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_11     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_5      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_1      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_17     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 1671
Sequence_3      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_13     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_18     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 2194
Cry8Ha1         CCCTATAAAAACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACAC 935
                *** **  **** *   ** * ***** **   * * ***** ******** **

Sequence_71     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_73     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_21     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_67     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_61     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_93     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_59     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_91     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_39     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_41     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_49     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_81     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_45     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_77     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_75     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_43     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_47     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_79     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_51     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_83     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_7      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_25     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_29     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_33     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_69     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_11     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_5      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_1      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_17     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1725
Sequence_3      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_13     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_18     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 2248
Cry8Ha1         GAAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATAT 995
                 **   *  *** * * **       * ****** *  * * * **  ****  *   **

Sequence_71     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_73     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_21     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_67     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_61     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_93     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_59     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_91     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_39     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_41     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_49     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
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FIGURA 19 (Continuação)

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Sequence_81   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_45   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_77   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_75   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_43   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_47   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_79   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_51   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_83   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_7    AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_25   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_29   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_33   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_69   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_11   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_5    AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_1    AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_17   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1785
Sequence_3    AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_13   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_18   AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 2308
Cry8Ha1       AGAAAGTGTAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA 1055
              ****      *  **** * * **   * *  ** * *   ***      *   * * **

Sequence_71   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_73   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_21   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_67   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_61   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_93   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_59   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_91   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_39   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_41   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_49   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_81   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_45   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_77   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_75   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_43   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_47   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_79   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_51   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_83   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_7    TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_25   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_29   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_33   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_69   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_11   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_5    TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_1    TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_17   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1845
Sequence_3    TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_13   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_18   TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 2368
Cry8Ha1       TTCGAAATCCGCAAGGGCTACACC---GCAAAGTGCGGATTATTGGGCAGGACATACAAT 1112
              * *  ****   ***   * *  *    *    *       ******* ** ***  ***
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FIGURA 19 (Continuação)

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Sequence_71     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_73     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_21     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_67     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_61     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_93     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_59     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_91     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_39     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_41     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_49     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_81     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_45     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_77     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_75     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_43     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_47     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_79     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_51     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
Sequence_83     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
Sequence_7      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_25     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_29     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_33     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_69     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_11     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_5      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_1      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_17     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1905
Sequence_3      AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_13     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_18     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 2428
Cry8Ha1         AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAA 1172
                **  ** **           * *  *       **  *  ****** **     **

Sequence_71     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_73     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_21     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_67     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_61     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_93     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_59     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_91     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_39     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_41     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_49     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_81     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_45     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_77     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_75     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_43     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_47     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_79     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_51     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_83     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_7      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_25     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_29     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_33     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_69     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_11     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_5      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
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FIGURA 19 (Continuação)

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Sequence_1      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_17     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1965
Sequence_3      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_13     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_18     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 2488
Cry8Ha1         TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC 1232
                **     *     * *   * * *****  * *   *** ***** *       ****

Sequence_71     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_73     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_21     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_67     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_61     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_93     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_59     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_91     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_39     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_41     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_49     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_81     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_45     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_77     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_75     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_43     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_47     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_79     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_51     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_83     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_7      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_25     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_29     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_33     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_69     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_11     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_5      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_1      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_17     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 2024
Sequence_3      AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_13     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_18     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 2547
Cry8Ha1         TGTTGCTTCAAGTACAACTAGTGGTGTTAAATTATTAACTACTAAGGCTATATTTGATGG 1292
                 * ***            ** ** * *    *  ***       *   * * *   ***

Sequence_71     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_73     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_21     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_67     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_61     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_93     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_59     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_91     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_39     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_41     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_49     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_81     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_45     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_77     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_75     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_43     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_47     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_79     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_51     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
```

FIGURA 19 (Continuação)

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Sequence_83     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
Sequence_7      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_25     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_29     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_33     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_69     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_11     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_5      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_1      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_17     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2082
Sequence_3      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_13     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_18     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2605
Cry8Ha1         CATAAGTACAA------ACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAACTT 1346
                ** ****  *       *   *  ** * *    ** **    **** *   *  ** *

Sequence_71     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
Sequence_73     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_21     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_67     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_61     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_93     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_59     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_91     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_39     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
Sequence_41     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_49     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_81     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_45     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_77     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_75     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_43     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_47     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_79     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_51     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_83     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_7      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_25     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_29     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_33     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_69     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_11     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_5      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_1      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_17     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 2138
Sequence_3      TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_13     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_18     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 2661
Cry8Ha1         TTTTAATGAACTAAAAGATACAATTACAGAGCTACCTGTTCAGATATCCAGTCCTCCTAC 1406
                *  *   *     *******  **  *      *   * *  *  **          ***

Sequence_71     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_73     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_21     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_67     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_61     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_93     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_59     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_91     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_39     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_41     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_49     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
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FIGURA 19 (Continuação)

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Sequence_81   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_45   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_77   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_75   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_43   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_47   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_79   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_51   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_83   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_7    CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_25   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_29   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_33   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_69   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_11   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_5    CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_1    CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_17   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2198
Sequence_3    CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_13   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_18   CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2721
Cry8Ha1       CTACGGGGA-TGCTGAACAGTACAGTCATCGGCTATCCTAT-GTTTCTAATGCTCCAACA 1464
              ** * *  * * * ** **    * * **  *  **       *   * ***    * **

Sequence_71   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_73   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_21   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_67   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_61   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_93   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_59   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_91   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_39   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_41   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_49   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_81   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_45   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_77   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_75   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_43   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_47   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_79   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_51   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_83   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_7    CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_25   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_29   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_33   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_69   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_11   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_5    CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_1    CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_17   CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2256
Sequence_3    CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_13   CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_18   CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2779
Cry8Ha1       -GAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCCAGTACTGGGTTGGACGCA 1523
                **** **    * ***   *   * *   *** ** * ** *** *   ****** **
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FIGURA 19 (Continuação)

```
Sequence_71   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_73   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_21   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_67   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_61   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_93   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_59   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_91   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_39   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_41   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_49   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_81   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_45   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_77   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_75   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_43   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_47   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_79   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_51   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
Sequence_83   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
Sequence_7    TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_25   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_29   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_33   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_69   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_11   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_5    TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_1    TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_17   TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 2316
Sequence_3    TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_13   TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_18   TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 2839
Cry8Ha1       TACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCAATTACTCAAATTCCAGCTGT 1583
              *   ***     *   *  ***    *  **** **   *** ***** ***** *  **

Sequence_71   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_73   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_21   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_67   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_61   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_93   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_59   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_91   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_39   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_41   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_49   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_81   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_45   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_77   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_75   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_43   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_47   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_79   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_51   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_83   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_7    TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_25   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_29   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_33   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_69   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_11   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_5    TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
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FIGURA 19 (Continuação)

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Sequence_1      TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_17     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 2372
Sequence_3      AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_13     AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_18     AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 2899
Cry8Ha1         TAAAGCAAATAGTGTTAGTTCTTATGT------------------TACTGTTGAAAAGGG 1625
                 **       *      * * * *                    **     *    *

Sequence_71     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_73     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_21     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_67     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_61     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_93     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_59     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_91     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_39     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_41     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_49     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_81     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_45     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_77     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_75     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_43     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_47     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_79     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_51     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
Sequence_83     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
Sequence_7      GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_25     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_29     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_33     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_69     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_11     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_5      GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_1      GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_17     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 2427
Sequence_3      TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
Sequence_13     TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
Sequence_18     TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 2959
Cry8Ha1         AACAGGCTTTACAGGTGGAGATTTAGTGAAATTCTCC---ACTGGATTCATGTCTACAGG 1682
                    ** ****     *      ** *  ** *         ** *   *

Sequence_71     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_73     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_21     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_67     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_61     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_93     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_59     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_91     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_39     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_41     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_49     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_81     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_45     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_77     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_75     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_43     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_47     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_79     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_51     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
```

FIGURA 19 (Continuação)

```
Sequence_83     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
Sequence_7      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_25     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_29     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_33     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_69     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_11     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_5      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_1      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_17     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 2487
Sequence_3      TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_13     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_18     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 3016
Cry8Ha1         AATACAGTTTAATTTAAAGATAGAAGAAAGAAAGCGTTATCGTATCCGTATACGATATGC 1742
                    *    *     *     ***              *** ** *  *  *  * *****

Sequence_71     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1826
Sequence_73     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_21     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_67     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_61     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_93     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_59     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_91     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_39     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1826
Sequence_41     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_49     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_81     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_45     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_77     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_75     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_43     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_47     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_79     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_51     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1829
Sequence_83     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1829
Sequence_7      TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_25     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_29     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_33     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_69     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_11     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1805
Sequence_5      TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1805
Sequence_1      TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1805
Sequence_17     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 2535
Sequence_3      TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_13     TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_18     TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 3076
Cry8Ha1         CGCTGATGTTAATGCT--ACTCTATCTGCACTTGGATTAA-ATGATGCATTTATTAACAT 1799
                  * * *    **  *  * *  ** *  *              * *       * *

Sequence_71     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_73     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_21     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_67     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_61     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_93     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_59     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_91     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_39     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_41     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_49     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
```

FIGURA 19 (Continuação)

```
Sequence_81   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_45   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_77   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_75   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_43   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_47   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_79   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_51   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_83   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_7    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_25   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_29   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_33   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_69   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_11   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_5    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_1    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_17   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 2595
Sequence_3    TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_13   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_18   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 3135
Cry8Ha1       TAAATCGACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGC 1859
                 *   ** ***     **         * *  * ***    **  *   *** **

Sequence_71   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1942
Sequence_73   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_21   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_67   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_61   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_93   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_59   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_91   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_39   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1942
Sequence_41   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_49   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_81   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_45   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_77   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_75   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_43   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_47   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_79   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_51   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1945
Sequence_83   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1945
Sequence_7    TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1933
Sequence_25   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATGTAG 1933
Sequence_29   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCAGTGAAA--CATAATGTAG 1933
Sequence_33   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_69   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_11   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_5    TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_1    TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_17   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 2651
Sequence_3    TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_13   TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_18   TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 3194
Cry8Ha1       TGACAAAACAGTGCATTTA-----TACAATCCTCGTTTTTCTTTA-----TATTTAGAAA 1909
              *  *     * *  *****         *   *    *  *  *       **     *
```

FIGURA 19 (Continuação)

```
Sequence_71   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_73   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_21   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_67   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_61   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_93   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_59   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_91   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_39   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_41   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_49   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_81   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_45   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_77   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_75   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_43   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_47   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_79   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_51   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_83   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_7    GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_25   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_29   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_33   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_69   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_11   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_5    GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_1    GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_17   GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2711
Sequence_3    GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_13   GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_18   GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 3246
Cry8Ha1       ATTCAGATCAATCCGGGAAAAGT---------ATTTATATAGATCGAATCGAATTCATCC 1960
                  *   *       *                ***  * ** ********** ****

Sequence_71   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_73   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_21   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_67   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_61   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_93   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_59   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_91   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_39   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_41   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_49   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_81   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_45   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_77   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_75   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_43   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_47   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_79   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_51   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_83   CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_7    CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_25   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_29   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_33   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_69   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_11   CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2010
Sequence_5    CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2041
```

FIGURA 19 (Continuação)

```
Sequence_1      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2041
Sequence_17     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2771
Sequence_3      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2053
Sequence_13     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------ 2022
Sequence_18     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 3306
Cry8Ha1         CAGTAGATGAGACCTATGAAGCAGAACAAGAT-------------------------- 1992
                ************ ******** ***

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2101
Sequence_1      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2101
Sequence_17     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2831
Sequence_3      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2113
Sequence_13     ------------------------------------------------------------
Sequence_18     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 3366
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2161
Sequence_1   AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2161
Sequence_17  AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2891
Sequence_3   AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2173
Sequence_13  ------------------------------------------------------------
Sequence_18  AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 3426
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2221
Sequence_1   TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2221
Sequence_17  TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2951
Sequence_3   TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2233
Sequence_13  ------------------------------------------------------------
Sequence_18  TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 3486
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2281
Sequence_1      CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2281
Sequence_17     CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3011
Sequence_3      CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2293
Sequence_13     ------------------------------------------------------------
Sequence_18     CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3546
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2341
Sequence_1      TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2341
Sequence_17     TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3071
Sequence_3      TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2353
Sequence_13     ------------------------------------------------------------
Sequence_18     TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3606
Cry8Ha1         ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2401
Sequence_1    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2401
Sequence_17   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3131
Sequence_3    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2413
Sequence_13   ------------------------------------------------------------
Sequence_18   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3666
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_5      ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2461
Sequence_1      ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2461
Sequence_17     ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3191
Sequence_3      ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2473
Sequence_13     ------------------------------------------------------------
Sequence_18     ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3726
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2521
Sequence_1      TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2521
Sequence_17     TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3251
Sequence_3      TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2533
Sequence_13     ------------------------------------------------------------
Sequence_18     TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3786
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2581
Sequence_1   CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2581
Sequence_17  CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3311
Sequence_3   CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2593
Sequence_13  ------------------------------------------------------------
Sequence_18  CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3846
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2641
Sequence_1   GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2641
Sequence_17  GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3371
Sequence_3   GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2653
Sequence_13  ------------------------------------------------------------
Sequence_18  GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3906
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2701
Sequence_1    GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2701
Sequence_17   GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3431
Sequence_3    GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2713
Sequence_13   ------------------------------------------------------------
Sequence_18   GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3966
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2761
Sequence_1    AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2761
Sequence_17   AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 3491
Sequence_3    AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2773
Sequence_13   ------------------------------------------------------------
Sequence_18   AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 4026
Cry8Ha1       ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2821
Sequence_1    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2821
Sequence_17   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 3551
Sequence_3    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2833
Sequence_13   ------------------------------------------------------------
Sequence_18   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 4086
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_5      AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2881
Sequence_1      AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2881
Sequence_17     AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 3611
Sequence_3      AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2893
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 4146
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2941
Sequence_1      ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2941
Sequence_17     ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 3671
Sequence_3      ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2953
Sequence_13     ------------------------------------------------------------
Sequence_18     ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 4206
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3001
Sequence_1    TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3001
Sequence_17   TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3731
Sequence_3    TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3013
Sequence_13   ------------------------------------------------------------
Sequence_18   TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 4266
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3061
Sequence_1    ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3061
Sequence_17   ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3791
Sequence_3    ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3073
Sequence_13   ------------------------------------------------------------
Sequence_18   ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 4326
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3121
Sequence_1    GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3121
Sequence_17   GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3851
Sequence_3    GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3133
Sequence_13   ------------------------------------------------------------
Sequence_18   GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 4386
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3181
Sequence_1    GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3181
Sequence_17   GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3911
Sequence_3    GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3193
Sequence_13   ------------------------------------------------------------
Sequence_18   GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 4446
Cry8Ha1       ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3241
Sequence_1    AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3241
Sequence_17   AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3971
Sequence_3    AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3253
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 4506
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_5      GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3301
Sequence_1      GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3301
Sequence_17     GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4031
Sequence_3      GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3313
Sequence_13     ------------------------------------------------------------
Sequence_18     GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4566
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3361
Sequence_1      CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3361
Sequence_17     CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4091
Sequence_3      CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3373
Sequence_13     ------------------------------------------------------------
Sequence_18     CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4626
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3421
Sequence_1   ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3421
Sequence_17  ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4151
Sequence_3   ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3433
Sequence_13  ------------------------------------------------------------
Sequence_18  ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4686
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3481
Sequence_1   ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3481
Sequence_17  ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4211
Sequence_3   ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3493
Sequence_13  ------------------------------------------------------------
Sequence_18  ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4746
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3541
Sequence_1   GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3541
Sequence_17  GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4271
Sequence_3   GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3553
Sequence_13  ------------------------------------------------------------
Sequence_18  GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4806
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3601
Sequence_1   ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3601
Sequence_17  ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4331
Sequence_3   ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3613
Sequence_13  ------------------------------------------------------------
Sequence_18  ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4866
Cry8Ha1      ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71  ----------------------------------------------------------
Sequence_73  ----------------------------------------------------------
Sequence_21  ----------------------------------------------------------
Sequence_67  ----------------------------------------------------------
Sequence_61  ----------------------------------------------------------
Sequence_93  ----------------------------------------------------------
Sequence_59  ----------------------------------------------------------
Sequence_91  ----------------------------------------------------------
Sequence_39  ----------------------------------------------------------
Sequence_41  ----------------------------------------------------------
Sequence_49  ----------------------------------------------------------
Sequence_81  ----------------------------------------------------------
Sequence_45  ----------------------------------------------------------
Sequence_77  ----------------------------------------------------------
Sequence_75  ----------------------------------------------------------
Sequence_43  ----------------------------------------------------------
Sequence_47  ----------------------------------------------------------
Sequence_79  ----------------------------------------------------------
Sequence_51  ----------------------------------------------------------
Sequence_83  ----------------------------------------------------------
Sequence_7   ----------------------------------------------------------
Sequence_25  ----------------------------------------------------------
Sequence_29  ----------------------------------------------------------
Sequence_33  ----------------------------------------------------------
Sequence_69  ----------------------------------------------------------
Sequence_11  ----------------------------------------------------------
Sequence_5   TGATTGTAGACGTAGAGTAA---------------------------------------- 3621
Sequence_1   TGATTGTAGACGTAGAGTAA---------------------------------------- 3621
Sequence_17  TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4391
Sequence_3   TGATTGTAGACGTAGAGTAA---------------------------------------- 3633
Sequence_13  ----------------------------------------------------------
Sequence_18  TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4926
Cry8Ha1      ----------------------------------------------------------

Sequence_71  ----------------------------------------------------------
Sequence_73  ----------------------------------------------------------
Sequence_21  ----------------------------------------------------------
Sequence_67  ----------------------------------------------------------
Sequence_61  ----------------------------------------------------------
Sequence_93  ----------------------------------------------------------
Sequence_59  ----------------------------------------------------------
Sequence_91  ----------------------------------------------------------
Sequence_39  ----------------------------------------------------------
Sequence_41  ----------------------------------------------------------
Sequence_49  ----------------------------------------------------------
Sequence_81  ----------------------------------------------------------
Sequence_45  ----------------------------------------------------------
Sequence_77  ----------------------------------------------------------
Sequence_75  ----------------------------------------------------------
Sequence_43  ----------------------------------------------------------
Sequence_47  ----------------------------------------------------------
Sequence_79  ----------------------------------------------------------
Sequence_51  ----------------------------------------------------------
Sequence_83  ----------------------------------------------------------
Sequence_7   ----------------------------------------------------------
Sequence_25  ----------------------------------------------------------
Sequence_29  ----------------------------------------------------------
Sequence_33  ----------------------------------------------------------
Sequence_69  ----------------------------------------------------------
Sequence_11  ----------------------------------------------------------
Sequence_5   ----------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_1      ------------------------------------------------------------
Sequence_17     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4451
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4986
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 4511
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 5046
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 4571
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 5106
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 4631
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 5166
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA 4691
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA 5226
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT 4751
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT 5286
Cry8Ha1         ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT 4811
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT 5346
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_1      ------------------------------------------------------------
Sequence_17     GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG 4871
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG 5406
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     CTT--------------------------------------------------------- 4874
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CTTGTAATAAGTTTGTCCAATGTATGATTAAAATATATAATGTTTCCGTAAAAACATGCT 5466
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CGTCCCATTTGAACTGTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAAGCAAGA 5526
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAAACGTCTTTTATCATGTAAAA 5586
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81   ----------
Sequence_45   ----------
Sequence_77   ----------
Sequence_75   ----------
Sequence_43   ----------
Sequence_47   ----------
Sequence_79   ----------
Sequence_51   ----------
Sequence_83   ----------
Sequence_7    ----------
Sequence_25   ----------
Sequence_29   ----------
Sequence_33   ----------
Sequence_69   ----------
Sequence_11   ----------
Sequence_5    ----------
Sequence_1    ----------
Sequence_17   ----------
Sequence_3    ----------
Sequence_13   ----------
Sequence_18   TAAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAAATGATTTTTTGTT 5646
Cry8Ha1       ----------

Sequence_71   ----------
Sequence_73   ----------
Sequence_21   ----------
Sequence_67   ----------
Sequence_61   ----------
Sequence_93   ----------
Sequence_59   ----------
Sequence_91   ----------
Sequence_39   ----------
Sequence_41   ----------
Sequence_49   ----------
Sequence_81   ----------
Sequence_45   ----------
Sequence_77   ----------
Sequence_75   ----------
Sequence_43   ----------
Sequence_47   ----------
Sequence_79   ----------
Sequence_51   ----------
Sequence_83   ----------
Sequence_7    ----------
Sequence_25   ----------
Sequence_29   ----------
Sequence_33   ----------
Sequence_69   ----------
Sequence_11   ----------
Sequence_5    ----------
Sequence_1    ----------
Sequence_17   ----------
Sequence_3    ----------
Sequence_13   ----------
Sequence_18   TATTTTGGAGAGGCACATGTAGTTTGTCGGATAGTCTATGCAATAAGTTTAGAATTTCAG 5706
Cry8Ha1       ----------
```

FIGURA 19 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   GAACAATTTTCCATGCGTCATTTGATTTTTGTTGTACCATAGTTTCTAATTGCTCATACG 5766
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAAATGCATAATGATGATTAAAAAAAACAGAGAAGAGTTGGTAAACAGTCTCATGATTAA 5826
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     AATCAAGAGAAAAGGTATCCCGGAACAATTGACAAAATGAGCTGTTCTCAAAAATACTTA 5886
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTCATATGCTGGTGTTGTAAACGAA 5946
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_5   ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TCACATTCACCATTGTCCAATACCGAATCCGTATGAGGTCTGGAAAATTTAGTTGTATCT 6006
Cry8Ha1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   GATTTTTTTGGGTGACATATAGAAAGAGTTGATCCAATGCCTGTAGTTGGTTGTCTGGGA 6066
Cry8Ha1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_5    ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGGAGTATGAGTCACACCATATTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT 6126
Cry8Ha1       ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_5      ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     ----------------------------------------------------------
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     GTTGTTCATTTCCTATGATTTTACAAGGATTTGTTTGAATGTGTATCTCATATTGTTCGA 6186
Cry8Ha1         ----------------------------------------------------------

Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_5      ----------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGGAAGTACTAAGAAATAATTCCT 6246
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CCGCGATTGTCTCTATGTCATCTCTTTCATCAAAAAATATCCGTTCGATAAAGGAAAACT 6306
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CAGGACTTACAGATAAGACCTTTTGATATATAAAATCAATAGAATACTGAGAAGGATAGG 6366
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTAACATAATCCCTTTTATAGATGTCTCAATCTGAAAAGGTTGAAATTCTTGATTAATAA 6426
Cry8Ha1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_5    ----------------------------------------------------------
Sequence_1    ----------------------------------------------------------
Sequence_17   ----------------------------------------------------------
Sequence_3    ----------------------------------------------------------
Sequence_13   ----------------------------------------------------------
Sequence_18   ATTTAATGTCATCTCTCAAAATTCTTTCGGAACAATTTAGTGTTTGTGCACTCACTCCTA 6486
Cry8Ha1       ----------------------------------------------------------

Sequence_71   ----------------------------------------------------------
Sequence_73   ----------------------------------------------------------
Sequence_21   ----------------------------------------------------------
Sequence_67   ----------------------------------------------------------
Sequence_61   ----------------------------------------------------------
Sequence_93   ----------------------------------------------------------
Sequence_59   ----------------------------------------------------------
Sequence_91   ----------------------------------------------------------
Sequence_39   ----------------------------------------------------------
Sequence_41   ----------------------------------------------------------
Sequence_49   ----------------------------------------------------------
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_5    ----------------------------------------------------------
Sequence_1    ----------------------------------------------------------
Sequence_17   ----------------------------------------------------------
Sequence_3    ----------------------------------------------------------
Sequence_13   ----------------------------------------------------------
Sequence_18   ACGTATGCCATCCATCTTGTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT 6546
Cry8Ha1       ----------------------------------------------------------
```

FIGURA 19 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_5      ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTTATAAAATATCACTGAT 6606
Cry8Ha1         ------------------------------------------------------------

Sequence_71     -------
Sequence_73     -------
Sequence_21     -------
Sequence_67     -------
Sequence_61     -------
Sequence_93     -------
Sequence_59     -------
Sequence_91     -------
Sequence_39     -------
Sequence_41     -------
Sequence_49     -------
Sequence_81     -------
Sequence_45     -------
Sequence_77     -------
Sequence_75     -------
Sequence_43     -------
Sequence_47     -------
Sequence_79     -------
Sequence_51     -------
Sequence_83     -------
Sequence_7      -------
Sequence_25     -------
Sequence_29     -------
Sequence_33     -------
Sequence_69     -------
Sequence_11     -------
Sequence_5      -------
```

FIGURA 19 (Continuação)

```
Sequence_1      -------
Sequence_17     -------
Sequence_3      -------
Sequence_13     -------
Sequence_18     GGAATTC 6613
Cry8Ha1         -------
```

FIGURA 20

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TTTTAGGTATTCTTTTAAGTTCTTTATAGAGACAGATTAACGAAAAACTAAATAAGAAAT 60
Cry8Ka1       ------------------------------------------------------------
```

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_3    ------------------------------------------------------------
```

```
Sequence_13     ------------------------------------------------------------
Sequence_18     TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT 120
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTACGAGGTCGAATTGACGTAACAGGGCACCTTTTTGGTCAAATTGACCAAAGAATCCA 180
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCCTTTGCATGAGCACTTCTCGAAACCACTTCCCATAGTGCACTTCTTATCTTTTGTATA 240
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TATTTCCTAAGGATATCGTAATCCCTATTTCTGATAAGAGGATTTTGTCAGTGTAGGAAG 300
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  AGCGAATGTCTTTTCGTATTTCAAACAAAAAATAAAGGATGTTTATGCACGGAAATAATC 360
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  ATCATATTAATAATGCCCAGTACATAAAGATAGATGGGGGTCATTTTTTGAAATGATTCG 420
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC 480
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ----------------------------------------GGTTTCCATTCCCACCG 17
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGATCAGTCGGATGTAGAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCCT 540
Cry8Ka1       ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTTATCT 77
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTCAATGTATGGTTTCCATTCCAACAGGTTTTCAAATTCAAAAACCCAATACACCGAAAC 600
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT 137
```

FIGURA 20 (Continuação)

```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTGTCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG 660
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AGATTTACATGTCTTAAAAATTAAAGGTGTTTTACCGTTTATCGTGAACGTATCCATTGA 197
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAGAGGATTGTGGGCAAATTGAGATAGATTTACATGTCTTAAAAATTAAAGGTGTTTTAC 720
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTTAAG 257
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG 780
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   TTGTCAAGAAACGGTATATGTGGATCATATTTTAAAATATAGTGTTGATCATGTCCCATA 317
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TAGAGACACATCCTTATTTTTAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAAA 840
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  TTATGTAATTGATGGCCATCATATTCAAGTGCGTGATGTATCGATTAAATTGATGGAAGA 377
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  ATATAGTGTTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGCGTGA 900
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  AAACCCACAAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA 437
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TGTATCGATTAAATTGATGGAAGAAAACCCACAAACTGCTCAAATATCGGGTGTTTTTTA 960
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AATCAAAAAATATTTTGTGAAGAATCCCTAAAATTATCACAACATTGTTTATTATAAAAT 497
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTTTGATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA 1020
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AACTCATTTCAAGAAAAATCGTAATATTTTTTTATCTAACAGGAATTTTATCATCTACAG 557
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCACAACATTGTTTATTATAAAATAACTCATTTCAAGAAAAATCGTAATATTTTTTTATC 1080
Cry8Ka1         ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   AAGAATATTCTTATCATGGTAATGAGGAGGGAGAGTGACAGAGAGGGGATAGACAATCAA 617
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TAACAGGAATTTTATCATCTACAGAAGAATATTCTTATCATGGTAATGAGGAGGGAGAGT 1140
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_17     AAGAGTATCTAGAAGAGTTTGTCATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC 677
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GACAGTCAAAAGAGTACCTGGTTTGTCGTGTAAGAAAAAAGAATCGATCGTACAGGAAAG 1200
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ---------------------------------------------------------ATGAGTC 7
Sequence_73     ---------------------------------------------------------ATGAGTC 7
Sequence_21     ---------------------------------------------------------ATGAGTC 7
Sequence_67     ---------------------------------------------------------ATGAGTC 7
Sequence_61     ---------------------------------------------------------ATGAGTC 7
Sequence_93     ---------------------------------------------------------ATGAGTC 7
Sequence_59     ---------------------------------------------------------ATGAGTC 7
Sequence_91     ---------------------------------------------------------ATGAGTC 7
Sequence_39     ---------------------------------------------------------ATGAGTC 7
Sequence_41     ---------------------------------------------------------ATGAGTC 7
Sequence_49     ---------------------------------------------------------ATGAGTC 7
Sequence_81     ---------------------------------------------------------ATGAGTC 7
Sequence_45     ---------------------------------------------------------ATGAGTC 7
Sequence_77     ---------------------------------------------------------ATGAGTC 7
Sequence_75     ---------------------------------------------------------ATGAGTC 7
Sequence_43     ---------------------------------------------------------ATGAGTC 7
Sequence_47     ---------------------------------------------------------ATGAGTC 7
Sequence_79     ---------------------------------------------------------ATGAGTC 7
Sequence_51     ---------------------------------------------------------ATGAGTC 7
Sequence_83     ---------------------------------------------------------ATGAGTC 7
Sequence_7      ---------------------------------------------------------ATGAGTC 7
Sequence_25     ---------------------------------------------------------ATGAGTC 7
Sequence_29     ---------------------------------------------------------ATGAGTC 7
Sequence_33     ---------------------------------------------------------ATGAGTC 7
Sequence_69     ---------------------------------------------------------ATGAGTC 7
Sequence_11     ---------------------------------------------------------ATGAGTC 7
Sequence_1      ---------------------------------------------------------ATGAGTC 7
Sequence_17     AAAAGAAAGTGTAAAAAATCTTTGTATCTTGTATATGTATAGGAGGAAAATAGATGAGTC 737
Sequence_3      ---------------------------------------------------------ATGAGTC 7
Sequence_13     ---------------------------------------------------------ATGAGTC 7
Sequence_18     TTAAAAAAAGTGTAAGAAATTTTATATCTTTTGTATGTATAGGAGGAAAATAGATGAGTC 1260
Cry8Ka1         ---------------------------------------------------------ATGAGTC 7
                                                                          *******

Sequence_71     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_73     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_21     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_67     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_61     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_93     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_59     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_91     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_39     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_41     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_49     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_81     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_45     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_77     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_75     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_43     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_47     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_79     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_51     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_83     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_7      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
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FIGURA 20 (Continuação)

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Sequence_25     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_29     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_33     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_69     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_11     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_1      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_17     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 797
Sequence_3      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_13     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_18     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 1320
Cry8Ka1         CAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTATCTAATG 67
                ********* ************************************ ******** ****

Sequence_71     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_73     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_21     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_67     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_61     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_93     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_59     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_91     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_39     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_41     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_49     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_81     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_45     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_77     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_75     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_43     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_47     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_79     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_51     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_83     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_7      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_25     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_29     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_33     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_69     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_11     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_1      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_17     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 857
Sequence_3      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_13     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_18     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 1380
Cry8Ka1         ATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATATGAATTATA 127
                ****** *********** ************ ********* *********** ******

Sequence_71     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_73     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_21     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_67     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_61     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_93     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_59     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_91     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_39     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_41     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_49     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_81     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_45     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_77     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_75     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
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FIGURA 20 (Continuação)

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Sequence_43     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_47     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_79     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_51     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_83     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_7      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_25     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_29     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_33     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_69     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_11     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_1      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_17     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 917
Sequence_3      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_13     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_18     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 1440
Cry8Ka1         AGGATTATTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT 187
                * ********** ********  **  * * ** * ****   **     ********

Sequence_71     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_73     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_21     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_67     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_61     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_93     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_59     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_91     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_39     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_41     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_49     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_81     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_45     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_77     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_75     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_43     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_47     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_79     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_51     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_83     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_7      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_25     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_29     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_33     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_69     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_11     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_1      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_17     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 977
Sequence_3      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_13     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_18     TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 1500
Cry8Ka1         TTGCT---GCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAATTACTGGGGT 244
                *** *   * ** ** **    **   * * ****  ******   *********

Sequence_71     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_73     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_21     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_67     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_61     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_93     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_59     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_91     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_39     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
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FIGURA 20 (Continuação)

```
Sequence_41  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_49  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_81  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_45  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_77  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_75  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_43  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_47  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_79  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_51  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_83  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_7   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_25  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_29  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_33  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_69  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_11  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_1   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_17  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1037
Sequence_3   GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_13  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_18  GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1560
Cry8Ka1      GGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTCATTCTAGGTCTAT 304
             * *****  * ******* ****   * ** **    *  ** *    ** * * * *

Sequence_71  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_73  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_21  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_67  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_61  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_93  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_59  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_91  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_39  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_41  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_49  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_81  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_45  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_77  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_75  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_43  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_47  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_79  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_51  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_83  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_7   TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_25  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_29  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_33  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_69  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_11  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_1   TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_17  TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 1097
Sequence_3   TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_13  TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_18  TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 1620
Cry8Ka1      TATGGCCAACA---TCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAAGAACTCA 361
             * *****  **     *   *  *  ****      * ***  *   ************
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FIGURA 20 (Continuação)

```
Sequence_71   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_73   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_21   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_67   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_61   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_93   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_59   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_91   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_39   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_41   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_49   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_81   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_45   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_77   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_75   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_43   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_47   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_79   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_51   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_83   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_7    TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_25   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_29   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_33   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_69   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_11   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_1    TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_17   TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1157
Sequence_3    TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_13   TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_18   TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1680
Cry8Ka1       TAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGGCAATTCAG 421
              * ************** ***   ** *** ** ***** **  **** ** *     * **

Sequence_71   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_73   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_21   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_67   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_61   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_93   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_59   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_91   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_39   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_41   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_49   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_81   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_45   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_77   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_75   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_43   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_47   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_79   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_51   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_83   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_7    GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_25   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_29   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_33   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_69   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_11   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_1    GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_17   GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 1216
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FIGURA 20 (Continuação)

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Sequence_3      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_13     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_18     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 1739
Cry8Ka1         GTAGAGCCTTACGATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACCCTAATATCT 481
                ***     *  * **  *** ***  **  ******* *** ** **** **   *

Sequence_71     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_73     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_21     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_67     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_61     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_93     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_59     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_91     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_39     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_41     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_49     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_81     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_45     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_77     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_75     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_43     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_47     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_79     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_51     GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
Sequence_83     GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
Sequence_7      -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_25     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_29     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_33     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_69     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_11     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_1      -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_17     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1252
Sequence_3      -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_13     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_18     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1775
Cry8Ka1         TTCG------------------------GAGTAAAGAGTTAGTAAAAGAAAGATTTTCA 516
                  *                         *  * * *** * **   * *  *****  *

Sequence_71     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_73     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_21     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_67     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_61     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_93     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_59     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_91     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_39     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_41     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_49     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_81     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_45     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_77     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_75     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_43     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_47     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_79     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_51     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_83     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_7      ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_25     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
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FIGURA 20 (Continuação)

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Sequence_29     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_33     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_69     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_11     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_1      ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_17     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 1311
Sequence_3      ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_13     ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_18     ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 1834
Cry8Ka1         AACGCGGAACATTCATT-ACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAAT 575
                * *  ***   ** *** *** *   * ***   ******    * * *   ****** *

Sequence_71     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
Sequence_73     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_21     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_67     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_61     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_93     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_59     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_91     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_39     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
Sequence_41     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_49     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_81     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_45     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_77     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_75     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_43     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_47     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_79     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_51     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_83     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_7      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_25     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_29     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_33     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_69     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_11     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_1      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_17     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1371
Sequence_3      ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_13     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_18     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1894
Cry8Ka1         TCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATAT 635
                 **  *  *  *   **** **   ** ** **  * ****** *  ** * ** **

Sequence_71     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_73     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_21     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_67     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_61     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_93     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_59     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_91     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_39     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_41     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_49     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_81     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_45     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_77     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_75     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_43     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
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FIGURA 20 (Continuação)

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Sequence_47     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_79     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_51     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_83     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_7      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_25     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_29     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_33     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_69     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_11     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_1      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_17     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 1431
Sequence_3      TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_13     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_18     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 1954
Cry8Ka1         TCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGA 695
                   ***** **** ************   *   * *   **** *

Sequence_71     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_73     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_21     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_67     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_61     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_93     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_59     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_91     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_39     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_41     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_49     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_81     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_45     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_77     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_75     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_43     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_47     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_79     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_51     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_83     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_7      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_25     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_29     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_33     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_69     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_11     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_1      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_17     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 1491
Sequence_3      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_13     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_18     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 2014
Cry8Ka1         ACAAGTAGAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTT 755
                 *** *  *  ****   ******  * ** ****** * **    *** *   ******

Sequence_71     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_73     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_21     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_67     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_61     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_93     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_59     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_91     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_39     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_41     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
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FIGURA 20 (Continuação)

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Sequence_49     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_81     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_45     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_77     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_75     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_43     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_47     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_79     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_51     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_83     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_7      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_25     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_29     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_33     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_69     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_11     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_1      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_17     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 1551
Sequence_3      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_13     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_18     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 2074
Cry8Ka1         AAATCAATTAAAAGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGA 815
                *    **********  ***  ***** ****** * *  * *** *  ***********

Sequence_71     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_73     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_21     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_67     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_61     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_93     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_59     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_91     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_39     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_41     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_49     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_81     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_45     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_77     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_75     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_43     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_47     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_79     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_51     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_83     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_7      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_25     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_29     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_33     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_69     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_11     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_1      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_17     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 1611
Sequence_3      AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_13     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_18     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 2134
Cry8Ka1         AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTA 875
                ******* ** ****  * ***** ************** ** *****   *   * ***
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FIGURA 20 (Continuação)

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Sequence_71     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_73     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_21     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_67     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_61     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_93     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_59     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_91     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_39     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_41     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_49     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_81     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_45     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_77     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_75     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_43     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_47     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_79     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_51     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
Sequence_83     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
Sequence_7      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_25     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_29     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_33     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_69     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_11     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_1      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_17     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 1671
Sequence_3      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_13     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_18     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 2194
Cry8Ka1         CCCTATAAAAACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACAC 935
                *** **  **** *   ** * ***** **   * * ***** ******** **

Sequence_71     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_73     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_21     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_67     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_61     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_93     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_59     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_91     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_39     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_41     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_49     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_81     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_45     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_77     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_75     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_43     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_47     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_79     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_51     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_83     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_7      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_25     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_29     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_33     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_69     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_11     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_1      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_17     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1725
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FIGURA 20 (Continuação)

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Sequence_3      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_13     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_18     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 2248
Cry8Ka1         GAAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATAT 995
                 **   *  *** * * **       * ****** *  * * * **  ****  *   **

Sequence_71     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_73     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_21     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_67     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_61     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_93     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_59     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_91     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_39     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_41     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_49     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_81     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_45     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_77     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_75     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_43     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_47     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_79     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_51     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_83     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_7      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_25     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_29     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_33     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_69     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_11     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_1      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_17     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1785
Sequence_3      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_13     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_18     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 2308
Cry8Ka1         AGAAAGTGTAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA 1055
                ****      *  **** * * **   * *  ** * *   ***      *   * * **

Sequence_71     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_73     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_21     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_67     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_61     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_93     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_59     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_91     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_39     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_41     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_49     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_81     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_45     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_77     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_75     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_43     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_47     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_79     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_51     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_83     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_7      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_25     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
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FIGURA 20 (Continuação)

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Sequence_29     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_33     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_69     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_11     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_1      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_17     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1845
Sequence_3      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_13     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_18     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 2368
Cry8Ka1         TTCGAAATCCGCAAGGGCTACACC---GCAAAGTGCGGATTATTGGGCAGGACATACAAT 1112
                * *  ****   ***   * *  *    *    *       ******* ** ***  ***

Sequence_71     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_73     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_21     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_67     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_61     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_93     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_59     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_91     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_39     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_41     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_49     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_81     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_45     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_77     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_75     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_43     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_47     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_79     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_51     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
Sequence_83     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
Sequence_7      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_25     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_29     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_33     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_69     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_11     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_1      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_17     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1905
Sequence_3      AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_13     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_18     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 2428
Cry8Ka1         AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAA 1172
                **  ** **            * *  *       **  *  ******  **     **

Sequence_71     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_73     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_21     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_67     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_61     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_93     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_59     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_91     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_39     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_41     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_49     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_81     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_45     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_77     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_75     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_43     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
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FIGURA 20 (Continuação)

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Sequence_47     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_79     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_51     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_83     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_7      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_25     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_29     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_33     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_69     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_11     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_1      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_17     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1965
Sequence_3      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_13     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_18     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 2488
Cry8Ka1         TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC 1232
                **     *     * *   * * *****  * *   *** ***** *       ****

Sequence_71     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_73     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_21     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_67     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_61     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_93     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_59     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_91     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_39     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_41     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_49     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_81     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_45     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_77     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_75     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_43     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_47     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_79     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_51     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_83     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_7      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_25     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_29     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_33     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_69     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_11     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_1      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_17     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 2024
Sequence_3      AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_13     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_18     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 2547
Cry8Ka1         TGTTGCTTCAAGTACAACTAGTGGTGTTAAATTATTAACTACTAAGGCTATATTTGATGG 1292
                 * ***            ** ** * *    *  ***       *   * * *   ***

Sequence_71     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_73     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_21     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_67     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_61     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_93     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_59     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_91     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_39     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_41     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
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FIGURA 20 (Continuação)

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Sequence_49     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_81     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_45     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_77     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_75     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_43     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_47     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_79     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_51     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
Sequence_83     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
Sequence_7      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_25     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_29     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_33     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_69     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_11     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_1      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_17     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2082
Sequence_3      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_13     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_18     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2605
Cry8Ka1         CATAAGTACAA------ACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAACTT 1346
                ** **** *       *   * ** * *    ** **    **** *   *  ** *

Sequence_71     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
Sequence_73     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_21     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_67     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_61     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_93     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_59     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_91     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_39     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
Sequence_41     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_49     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_81     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_45     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_77     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_75     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_43     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_47     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_79     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_51     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_83     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_7      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_25     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_29     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_33     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_69     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_11     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_1      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_17     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 2138
Sequence_3      TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_13     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_18     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 2661
Cry8Ka1         TTTTAATGAACTAAAAGATACAATTACAGAGCTACCTGTTCAGATATCCAGTCCTCCTAC 1406
                *  *   *     ******* **  *      *   * *  *  **          ***
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FIGURA 20 (Continuação)

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Sequence_71     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_73     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_21     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_67     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_61     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_93     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_59     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_91     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_39     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_41     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_49     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_81     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_45     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_77     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_75     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_43     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_47     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_79     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_51     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_83     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_7      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_25     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_29     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_33     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_69     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_11     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_1      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_17     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2198
Sequence_3      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_13     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_18     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2721
Cry8Ka1         CTACGGGGA-TGCTGAACAGTACAGTCATCGGCTATCCTAT-GTTTCTAATGCTCCAACA 1464
                ** * *  * * * ** **    * * **  *  **       *   * ***    * **

Sequence_71     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_73     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_21     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_67     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_61     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_93     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_59     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_91     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_39     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_41     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_49     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_81     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_45     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_77     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_75     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_43     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_47     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_79     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_51     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_83     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_7      CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_25     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_29     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_33     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_69     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_11     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_1      CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_17     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2256
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FIGURA 20 (Continuação)

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Sequence_3      CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_13     CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_18     CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2779
Cry8Ka1         -GAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCCAGTACTGGGTTGGACGCA 1523
                  **** **    * ***   *   * *   *** ** * ** *** *   ****** **

Sequence_71     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_73     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_21     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_67     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_61     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_93     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_59     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_91     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_39     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_41     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_49     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_81     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_45     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_77     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_75     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_43     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_47     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_79     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_51     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
Sequence_83     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
Sequence_7      TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_25     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_29     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_33     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_69     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_11     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_1      TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_17     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 2316
Sequence_3      TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_13     TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_18     TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 2839
Cry8Ka1         TACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCAATTACTCAAATTCCAGCTGT 1583
                *   ***     *   *  ***    *  **** **   *** ***** ***** *  **

Sequence_71     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_73     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_21     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_67     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_61     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_93     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_59     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_91     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_39     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_41     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_49     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_81     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_45     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_77     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_75     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_43     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_47     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_79     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_51     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_83     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_7      TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_25     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
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FIGURA 20 (Continuação)

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Sequence_29   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_33   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_69   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_11   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_1    TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_17   TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 2372
Sequence_3    AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_13   AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_18   AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 2899
Cry8Ka1       TAAAGCAAATAGTGTTAGTTCTTATGT-----------------TACTGTTGAAAAGGG 1625
                **         *       * * * *                    **      *    *

Sequence_71   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_73   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_21   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_67   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_61   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_93   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_59   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_91   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_39   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_41   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_49   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_81   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_45   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_77   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_75   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_43   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_47   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_79   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_51   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
Sequence_83   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
Sequence_7    GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_25   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_29   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_33   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_69   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_11   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_1    GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_17   GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 2427
Sequence_3    TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
Sequence_13   TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
Sequence_18   TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 2959
Cry8Ka1       AACAGGCTTTACAGGTGGAGATTTAGTGAAATTCTCC---ACTGGATTCATGTCTACAGG 1682
                  ** ****     *      ** *  ** *         ** *   *

Sequence_71   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_73   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_21   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_67   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_61   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_93   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_59   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_91   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_39   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_41   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_49   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_81   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_45   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_77   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_75   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_43   AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
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FIGURA 20 (Continuação)

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Sequence_47     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_79     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_51     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
Sequence_83     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
Sequence_7      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_25     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_29     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_33     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_69     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_11     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_1      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_17     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 2487
Sequence_3      TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_13     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_18     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 3016
Cry8Ka1         AATACAGTTTAATTTAAAGATAGAAGAAAGAAAGCGTTATCGTATCCGTATACGATATGC 1742
                    *    *     *    ***             *** ** *  *  *  * *****

Sequence_71     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1826
Sequence_73     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_21     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_67     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_61     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_93     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_59     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_91     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_39     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1826
Sequence_41     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_49     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1820
Sequence_81     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1820
Sequence_45     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_77     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_75     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1820
Sequence_43     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1820
Sequence_47     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_79     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1823
Sequence_51     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1829
Sequence_83     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1829
Sequence_7      TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_25     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_29     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_33     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_69     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1817
Sequence_11     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1805
Sequence_1      TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 1805
Sequence_17     TACTGATGCAGATATTGTATTGCATGTAAAC----------GATGCTCAGATTCAGAT 2535
Sequence_3      TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_13     TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_18     TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 3076
Cry8Ka1         CGCTGATGTTAATGCT--ACTCTATCTGCACTTGGATTAA-ATGATGCATTTATTAACAT 1799
                  * * *    **  *  * *  ** *  *              * *       * *

Sequence_71     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_73     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_21     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_67     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_61     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_93     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_59     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_91     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_39     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_41     GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
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FIGURA 20 (Continuação)

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Sequence_49   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_81   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_45   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_77   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_75   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_43   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_47   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_79   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_51   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_83   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_7    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_25   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_29   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_33   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_69   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_11   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_1    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_17   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 2595
Sequence_3    TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_13   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_18   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 3135
Cry8Ka1       TAAATCGACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGC 1859
                 *   ** ***     **         * *  * ***    **  *   *** **

Sequence_71   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1942
Sequence_73   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_21   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_67   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_61   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_93   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_59   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_91   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_39   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1942
Sequence_41   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_49   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_81   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_45   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_77   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_75   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_43   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_47   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_79   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_51   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1945
Sequence_83   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1945
Sequence_7    TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1933
Sequence_25   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATGTAG 1933
Sequence_29   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCAGTGAAA--CATAATGTAG 1933
Sequence_33   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_69   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_11   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_1    TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_17   TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 2651
Sequence_3    TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_13   TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_18   TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 3194
Cry8Ka1       TGACAAAACAGTGCATTTA-----TACAATCCTCGTTTTTCTTTA-----TATTTAGAAA 1909
              *  *     * *  *****         *   *    *  *  *       **     *
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FIGURA 20 (Continuação)

```
Sequence_71     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_73     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_21     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_67     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_61     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_93     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_59     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_91     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_39     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_41     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_49     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_81     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_45     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_77     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_75     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_43     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_47     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_79     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_51     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_83     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_7      GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_25     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_29     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_33     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_69     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_11     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_1      GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_17     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2711
Sequence_3      GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_13     GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_18     GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 3246
Cry8Ka1         ATTCAGATCAATCCGGGAAAAGT---------ATTTATATAGATCGAATCGAATTCATCC 1960
                    *   *        *               ***  * ** ********** ****

Sequence_71     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_73     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_21     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_67     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_61     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_93     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_59     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_91     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_39     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_41     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_49     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_81     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_45     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_77     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_75     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_43     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_47     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_79     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_51     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_83     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_7      CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_25     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_29     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_33     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_69     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_11     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2010
Sequence_1      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2041
Sequence_17     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2771
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FIGURA 20 (Continuação)

```
Sequence_3      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2053
Sequence_13     CAGTAGATGAGACATATGAAGCGGAATAA---------------------------- 2022
Sequence_18     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 3306
Cry8Ka1         CAGTAGATGAGACCTATGAAGCAGAACAAGAT---------------------------- 1992
                ************* ******** ***

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2101
Sequence_17     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2831
Sequence_3      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2113
Sequence_13     ------------------------------------------------------------
Sequence_18     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 3366
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2161
Sequence_17     AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2891
Sequence_3      AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2173
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 3426
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2221
Sequence_17     TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2951
Sequence_3      TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2233
Sequence_13     ------------------------------------------------------------
Sequence_18     TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 3486
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2281
Sequence_17   CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3011
Sequence_3    CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2293
Sequence_13   ------------------------------------------------------------
Sequence_18   CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3546
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2341
Sequence_17   TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3071
Sequence_3    TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2353
Sequence_13   ------------------------------------------------------------
Sequence_18   TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3606
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2401
Sequence_17   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3131
Sequence_3    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2413
Sequence_13   ------------------------------------------------------------
Sequence_18   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3666
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2461
Sequence_17   ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3191
Sequence_3    ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2473
Sequence_13   ------------------------------------------------------------
Sequence_18   ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3726
Cry8Ka1       ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2521
Sequence_17     TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3251
Sequence_3      TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2533
Sequence_13     ------------------------------------------------------------
Sequence_18     TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3786
Cry8Ka1         ------------------------------------------------------------


Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2581
Sequence_17     CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3311
```

FIGURA 20 (Continuação)

```
Sequence_3      CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2593
Sequence_13     ------------------------------------------------------------
Sequence_18     CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3846
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2641
Sequence_17     GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3371
Sequence_3      GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2653
Sequence_13     ------------------------------------------------------------
Sequence_18     GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3906
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2701
Sequence_17     GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3431
Sequence_3      GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2713
Sequence_13     ------------------------------------------------------------
Sequence_18     GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3966
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2761
Sequence_17     AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 3491
Sequence_3      AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2773
Sequence_13     ------------------------------------------------------------
Sequence_18     AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 4026
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2821
Sequence_17   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 3551
Sequence_3    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2833
Sequence_13   ------------------------------------------------------------
Sequence_18   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 4086
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2881
Sequence_17   AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 3611
Sequence_3    AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2893
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 4146
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2941
Sequence_17     ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 3671
Sequence_3      ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2953
Sequence_13     ------------------------------------------------------------
Sequence_18     ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 4206
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3001
Sequence_17     TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3731
Sequence_3      TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3013
Sequence_13     ------------------------------------------------------------
Sequence_18     TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 4266
Cry8Ka1         ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3061
Sequence_17     ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3791
Sequence_3      ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3073
Sequence_13     ------------------------------------------------------------
Sequence_18     ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 4326
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3121
Sequence_17     GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3851
```

FIGURA 20 (Continuação)

```
Sequence_3      GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3133
Sequence_13     ------------------------------------------------------------
Sequence_18     GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 4386
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3181
Sequence_17     GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3911
Sequence_3      GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3193
Sequence_13     ------------------------------------------------------------
Sequence_18     GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 4446
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3241
Sequence_17     AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3971
Sequence_3      AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3253
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 4506
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3301
Sequence_17     GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4031
Sequence_3      GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3313
Sequence_13     ------------------------------------------------------------
Sequence_18     GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4566
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3361
Sequence_17  CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4091
Sequence_3   CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3373
Sequence_13  ------------------------------------------------------------
Sequence_18  CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4626
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3421
Sequence_17  ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4151
Sequence_3   ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3433
Sequence_13  ------------------------------------------------------------
Sequence_18  ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4686
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3481
Sequence_17     ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4211
Sequence_3      ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3493
Sequence_13     ------------------------------------------------------------
Sequence_18     ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4746
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3541
Sequence_17     GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4271
Sequence_3      GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3553
Sequence_13     ------------------------------------------------------------
Sequence_18     GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4806
Cry8Ka1         ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3601
Sequence_17     ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4331
Sequence_3      ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3613
Sequence_13     ------------------------------------------------------------
Sequence_18     ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4866
Cry8Ka1         ------------------------------------------------------------


Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      TGATTGTAGACGTAGAGTAA---------------------------------------- 3621
Sequence_17     TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4391
```

FIGURA 20 (Continuação)

```
Sequence_3      TGATTGTAGACGTAGAGTAA---------------------------------------- 3633
Sequence_13     ----------------------------------------------------------
Sequence_18     TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4926
Cry8Ka1         ----------------------------------------------------------

Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4451
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4986
Cry8Ka1         ----------------------------------------------------------

Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 4511
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 5046
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 4571
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 5106
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 4631
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 5166
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA 4691
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA 5226
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT 4751
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT 5286
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT 4811
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT 5346
Cry8Ka1      ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG 4871
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG 5406
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  CTT--------------------------------------------------------- 4874
```

FIGURA 20 (Continuação)

```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CTTGTAATAAGTTTGTCCAATGTATGATTAAAATATATAATGTTTCCGTAAAAACATGCT 5466
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CGTCCCATTTGAACTGTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAAGCAAGA 5526
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAAACGTCTTTTATCATGTAAAA 5586
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAAATGATTTTTTGTT 5646
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TATTTTGGAGAGGCACATGTAGTTTGTCGGATAGTCTATGCAATAAGTTTAGAATTTCAG 5706
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   GAACAATTTTCCATGCGTCATTTGATTTTTGTTGTACCATAGTTTCTAATTGCTCATACG 5766
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

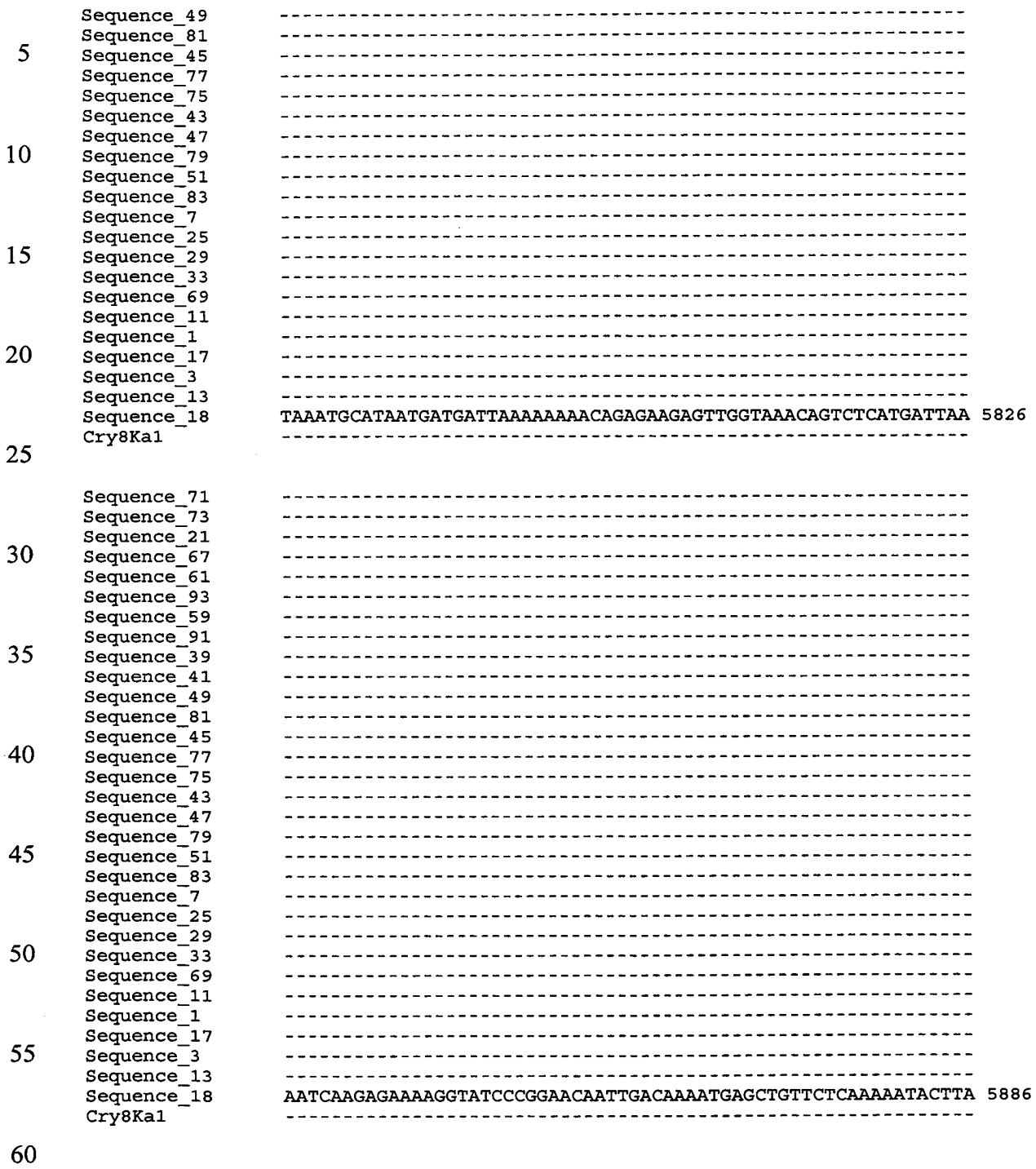

FIGURA 20 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTCATATGCTGGTGTTGTAAACGAA 5946
Cry8Ka1       ------------------------------------------------------------


Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCACATTCACCATTGTCCAATACCGAATCCGTATGAGGTCTGGAAAATTTAGTTGTATCT 6006
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GATTTTTTTGGGTGACATATAGAAAGAGTTGATCCAATGCCTGTAGTTGGTTGTCTGGGA 6066
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGGAGTATGAGTCACACCATATTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT 6126
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   GTTGTTCATTTCCTATGATTTTACAAGGATTTGTTTGAATGTGTATCTCATATTGTTCGA 6186
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGGAAGTACTAAGAAATAATTCCT 6246
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  CCGCGATTGTCTCTATGTCATCTCTTTCATCAAAAAATATCCGTTCGATAAAGGAAAACT 6306
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
```

FIGURA 20 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   CAGGACTTACAGATAAGACCTTTTGATATATAAAATCAATAGAATACTGAGAAGGATAGG 6366
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TTAACATAATCCCTTTTATAGATGTCTCAATCTGAAAAGGTTGAAATTCTTGATTAATAA 6426
Cry8Ka1       ------------------------------------------------------------
```

FIGURA 20 (Continuação)

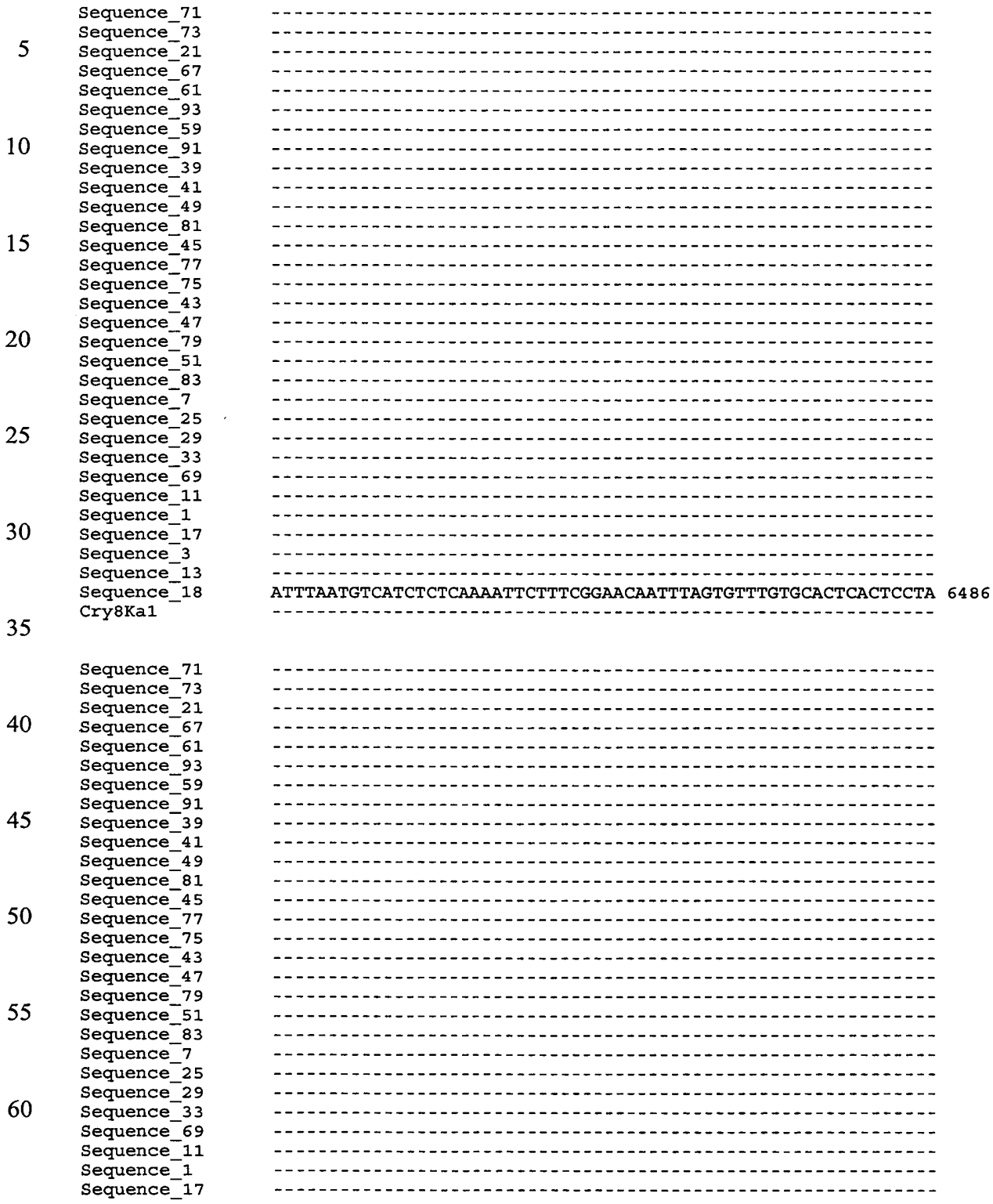

FIGURA 20 (Continuação)

```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     ACGTATGCCATCCATCTTGTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT 6546
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTTATAAAATATCACTGAT 6606
Cry8Ka1         ------------------------------------------------------------

Sequence_71     -------
Sequence_73     -------
Sequence_21     -------
Sequence_67     -------
Sequence_61     -------
Sequence_93     -------
Sequence_59     -------
Sequence_91     -------
Sequence_39     -------
Sequence_41     -------
Sequence_49     -------
Sequence_81     -------
Sequence_45     -------
Sequence_77     -------
Sequence_75     -------
Sequence_43     -------
Sequence_47     -------
Sequence_79     -------
Sequence_51     -------
Sequence_83     -------
Sequence_7      -------
Sequence_25     -------
Sequence_29     -------
Sequence_33     -------
Sequence_69     -------
Sequence_11     -------
Sequence_1      -------
```

```
Sequence_17      -------
Sequence_3       -------
Sequence_13      -------
Sequence_18      GGAATTC 6613
Cry8Ka1          -------
```

FIGURA 21

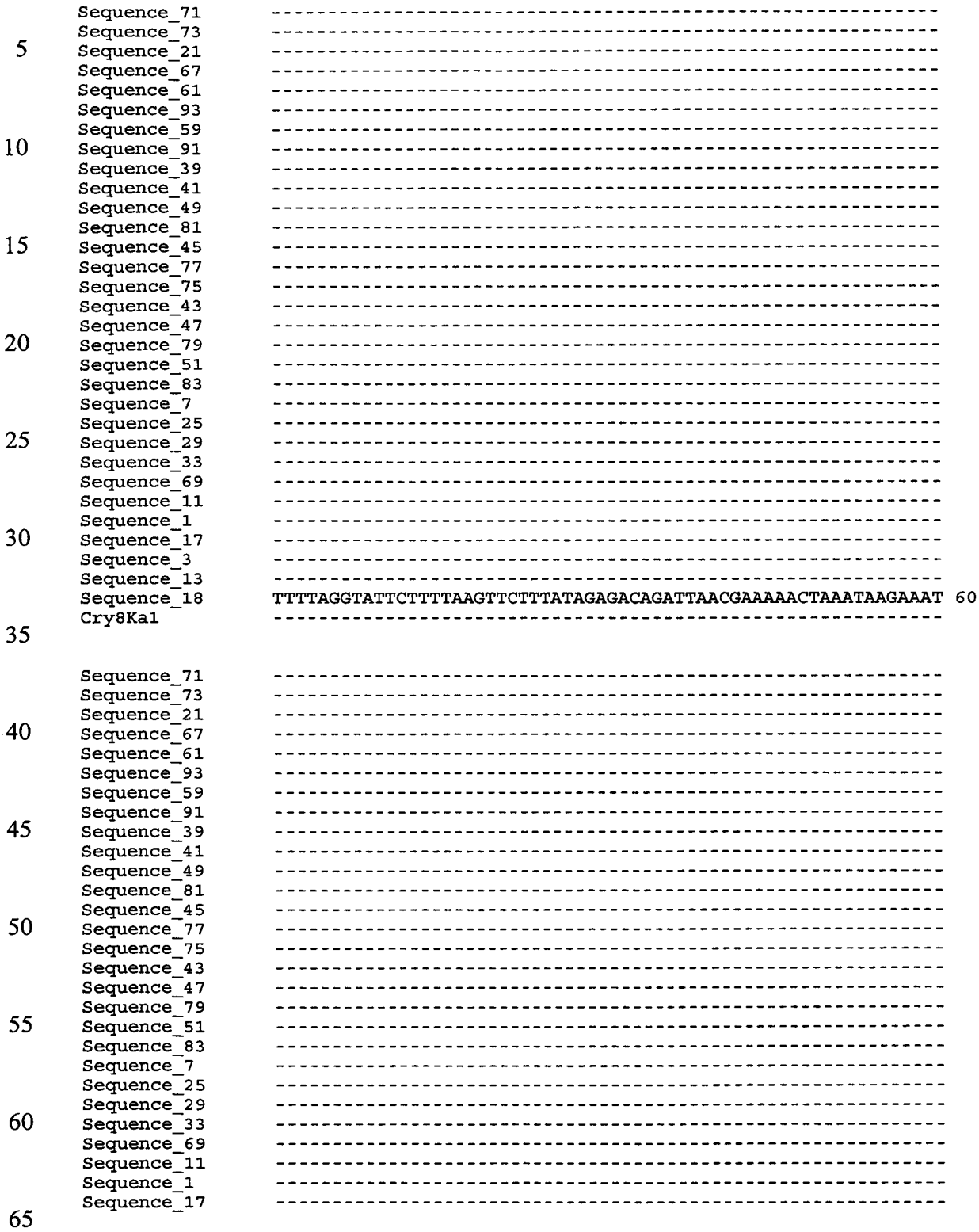
Sequence_71
Sequence_73
Sequence_21
Sequence_67
Sequence_61
Sequence_93
Sequence_59
Sequence_91
Sequence_39
Sequence_41
Sequence_49
Sequence_81
Sequence_45
Sequence_77
Sequence_75
Sequence_43
Sequence_47
Sequence_79
Sequence_51
Sequence_83
Sequence_7
Sequence_25
Sequence_29
Sequence_33
Sequence_69
Sequence_11
Sequence_1
Sequence_17
Sequence_3
Sequence_13
Sequence_18
TTTTAGGTATTCTTTTAAGTTCTTTATAGAGACAGATTAACGAAAAACTAAATAAGAAAT 60
Cry8Ka1

FIGURA 21 (Continuação)

```
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT 120
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTACGAGGTCGAATTGACGTAACAGGGCACCTTTTTGGTCAAATTGACCAAAGAATCCA 180
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TCCTTTGCATGAGCACTTCTCGAAACCACTTCCCATAGTGCACTTCTTATCTTTTGTATA 240
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
Sequence_47  ------------------------------------------------------------
Sequence_79  ------------------------------------------------------------
Sequence_51  ------------------------------------------------------------
Sequence_83  ------------------------------------------------------------
Sequence_7   ------------------------------------------------------------
Sequence_25  ------------------------------------------------------------
Sequence_29  ------------------------------------------------------------
Sequence_33  ------------------------------------------------------------
Sequence_69  ------------------------------------------------------------
Sequence_11  ------------------------------------------------------------
Sequence_1   ------------------------------------------------------------
Sequence_17  ------------------------------------------------------------
Sequence_3   ------------------------------------------------------------
Sequence_13  ------------------------------------------------------------
Sequence_18  TATTTCCTAAGGATATCGTAATCCCTATTTCTGATAAGAGGATTTTGTCAGTGTAGGAAG 300
Cry8Ka1      ------------------------------------------------------------

Sequence_71  ------------------------------------------------------------
Sequence_73  ------------------------------------------------------------
Sequence_21  ------------------------------------------------------------
Sequence_67  ------------------------------------------------------------
Sequence_61  ------------------------------------------------------------
Sequence_93  ------------------------------------------------------------
Sequence_59  ------------------------------------------------------------
Sequence_91  ------------------------------------------------------------
Sequence_39  ------------------------------------------------------------
Sequence_41  ------------------------------------------------------------
Sequence_49  ------------------------------------------------------------
Sequence_81  ------------------------------------------------------------
Sequence_45  ------------------------------------------------------------
Sequence_77  ------------------------------------------------------------
Sequence_75  ------------------------------------------------------------
Sequence_43  ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AGCGAATGTCTTTTCGTATTTCAAACAAAAAATAAAGGATGTTTATGCACGGAAATAATC 360
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   ATCATATTAATAATGCCCAGTACATAAAGATAGATGGGGGTCATTTTTTGAAATGATTCG 420
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC 480
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ----------------------------------------------GGTTTCCATTCCCACCG 17
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGATCAGTCGGATGTAGAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCCT 540
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_93   ------------------------------------------------------------
```

```
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTTATCT 77
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTCAATGTATGGTTTCCATTCCAACAGGTTTTCAAATTCAAAAACCCAATACACCGAAAC 600
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT 137
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTGTCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG 660
Cry8Ka1         ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
```

```
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     AGATTTACATGTCTTAAAAATTAAAGGTGTTTTACCGTTTATCGTGAACGTATCCATTGA 197
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAGAGGATTGTGGGCAAATTGAGATAGATTTACATGTCTTAAAAATTAAAGGTGTTTTAC 720
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTTAAG 257
Sequence_3      ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_13     ------------------------------------------------------------
Sequence_18     CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG 780
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
```

```
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TTGTCAAGAAACGGTATATGTGGATCATATTTTAAAATATAGTGTTGATCATGTCCCATA 317
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAGAGACACATCCTTATTTTTAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAAA 840
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TTATGTAATTGATGGCCATCATATTCAAGTGCGTGATGTATCGATTAAATTGATGGAAGA 377
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     ATATAGTGTTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGCGTGA 900
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
```

```
Sequence_67   ----------------------------------------------------------
Sequence_61   ----------------------------------------------------------
Sequence_93   ----------------------------------------------------------
Sequence_59   ----------------------------------------------------------
Sequence_91   ----------------------------------------------------------
Sequence_39   ----------------------------------------------------------
Sequence_41   ----------------------------------------------------------
Sequence_49   ----------------------------------------------------------
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_1    ----------------------------------------------------------
Sequence_17   AAACCCACAAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA 437
Sequence_3    ----------------------------------------------------------
Sequence_13   ----------------------------------------------------------
Sequence_18   TGTATCGATTAAATTGATGGAAGAAAACCCACAAACTGCTCAAATATCGGGTGTTTTTTA 960
Cry8Ka1       ----------------------------------------------------------

Sequence_71   ----------------------------------------------------------
Sequence_73   ----------------------------------------------------------
Sequence_21   ----------------------------------------------------------
Sequence_67   ----------------------------------------------------------
Sequence_61   ----------------------------------------------------------
Sequence_93   ----------------------------------------------------------
Sequence_59   ----------------------------------------------------------
Sequence_91   ----------------------------------------------------------
Sequence_39   ----------------------------------------------------------
Sequence_41   ----------------------------------------------------------
Sequence_49   ----------------------------------------------------------
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_1    ----------------------------------------------------------
Sequence_17   AATCAAAAAATATTTTGTGAAGAATCCCTAAAATTATCACAACATTGTTTATTATAAAAT 497
Sequence_3    ----------------------------------------------------------
Sequence_13   ----------------------------------------------------------
Sequence_18   TTTTGATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA 1020
Cry8Ka1       ----------------------------------------------------------

Sequence_71   ----------------------------------------------------------
Sequence_73   ----------------------------------------------------------
```

```
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   AACTCATTTCAAGAAAAATCGTAATATTTTTTTATCTAACAGGAATTTTATCATCTACAG 557
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TCACAACATTGTTTATTATAAAATAACTCATTTCAAGAAAAATCGTAATATTTTTTTATC 1080
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   AAGAATATTCTTATCATGGTAATGAGGAGGGAGAGTGACAGAGAGGGGATAGACAATCAA 617
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TAACAGGAATTTTATCATCTACAGAAGAATATTCTTATCATGGTAATGAGGAGGGAGAGT 1140
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
```

```
Sequence_73     ----------
Sequence_21     ----------
Sequence_67     ----------
Sequence_61     ----------
Sequence_93     ----------
Sequence_59     ----------
Sequence_91     ----------
Sequence_39     ----------
Sequence_41     ----------
Sequence_49     ----------
Sequence_81     ----------
Sequence_45     ----------
Sequence_77     ----------
Sequence_75     ----------
Sequence_43     ----------
Sequence_47     ----------
Sequence_79     ----------
Sequence_51     ----------
Sequence_83     ----------
Sequence_7      ----------
Sequence_25     ----------
Sequence_29     ----------
Sequence_33     ----------
Sequence_69     ----------
Sequence_11     ----------
Sequence_1      ----------
Sequence_17     AAGAGTATCTAGAAGAGTTTGTCATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC 677
Sequence_3      ----------
Sequence_13     ----------
Sequence_18     GACAGTCAAAAGAGTACCTGGTTTGTCGTGTAAGAAAAAAGAATCGATCGTACAGGAAAG 1200
Cry8Ka1         ----------

Sequence_71     ----------ATGAGTC 7
Sequence_73     ----------ATGAGTC 7
Sequence_21     ----------ATGAGTC 7
Sequence_67     ----------ATGAGTC 7
Sequence_61     ----------ATGAGTC 7
Sequence_93     ----------ATGAGTC 7
Sequence_59     ----------ATGAGTC 7
Sequence_91     ----------ATGAGTC 7
Sequence_39     ----------ATGAGTC 7
```

FIGURA 21 (Continuação)

```
Sequence_41     ----------ATGAGTC 7
Sequence_49     ----------ATGAGTC 7
Sequence_81     ----------ATGAGTC 7
Sequence_45     ----------ATGAGTC 7
Sequence_77     ----------ATGAGTC 7
Sequence_75     ----------ATGAGTC 7
Sequence_43     ----------ATGAGTC 7
Sequence_47     ----------ATGAGTC 7
Sequence_79     ----------ATGAGTC 7
Sequence_51     ----------ATGAGTC 7
Sequence_83     ----------ATGAGTC 7
Sequence_7      ----------ATGAGTC 7
Sequence_25     ----------ATGAGTC 7
Sequence_29     ----------ATGAGTC 7
Sequence_33     ----------ATGAGTC 7
Sequence_69     ----------ATGAGTC 7
Sequence_11     ----------ATGAGTC 7
Sequence_1      ----------ATGAGTC 7
Sequence_17     AAAAGAAAGTGTAAAAAATCTTTGTATCTTGTATATGTATAGGAGGAAAATAGATGAGTC 737
Sequence_3      ----------ATGAGTC 7
Sequence_13     ----------ATGAGTC 7
Sequence_18     TTAAAAAAAGTGTAAGAAATTTTATATCTTTTGTATGTATAGGAGGAAAATAGATGAGTC 1260
Cry8Ka1         ----------ATGAGTC 7
                          *******
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Sequence_71     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_73     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_21     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_67     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_61     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_93     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_59     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_91     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_39     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_41     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_49     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_81     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_45     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_77     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_75     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_43     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_47     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_79     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_51     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_83     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_7      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_25     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_29     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_33     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_69     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_11     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_1      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_17     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 797
Sequence_3      CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_13     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_18     CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 1320
Cry8Ka1         CAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTATCTAATG 67
                ********* ************************************ ******** ****
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FIGURA 21 (Continuação)

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Sequence_71     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_73     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_21     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_67     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_61     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_93     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_59     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_91     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_39     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_41     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_49     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_81     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_45     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_77     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_75     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_43     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_47     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_79     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_51     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_83     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_7      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_25     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_29     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_33     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_69     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_11     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_1      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_17     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 857
Sequence_3      ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_13     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 127
Sequence_18     ATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA 1380
Cry8Ka1         ATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATATGAATTATA 127
                ****** *********** ************ ********* *********** ******

Sequence_71     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_73     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_21     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_67     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_61     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_93     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_59     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_91     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_39     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_41     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_49     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_81     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_45     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_77     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_75     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_43     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_47     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_79     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_51     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_83     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_7      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_25     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_29     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_33     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_69     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_11     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_1      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_17     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 917
Sequence_3      AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
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FIGURA 21 (Continuação)

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Sequence_13     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 187
Sequence_18     AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC 1440
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Cry8Ka1          AGGATTATTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT 187
                 * ********** ******** **  * * ** * ****   **     ********

Sequence_71      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_73      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_21      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_67      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_61      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_93      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_59      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_91      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_39      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_41      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_49      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_81      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_45      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_77      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_75      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_43      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_47      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_79      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_51      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_83      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_7       TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_25      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_29      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_33      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_69      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_11      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_1       TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_17      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 977
Sequence_3       TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_13      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 247
Sequence_18      TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG 1500
Cry8Ka1          TTGCT---GCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAATTACTGGGGT 244
                 *** *   * ** ** **    **   * * ****  ******   *********

Sequence_71      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_73      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_21      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_67      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_61      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_93      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_59      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_91      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_39      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_41      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_49      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_81      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_45      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_77      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_75      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_43      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_47      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_79      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_51      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_83      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_7       GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_25      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_29      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_33      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
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FIGURA 21 (Continuação)

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Sequence_69      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_11      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_1       GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_17      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1037
Sequence_3       GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
Sequence_13      GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 307
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Sequence_18     GTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC 1560
Cry8Ka1         GGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTCATTCTAGGTCTAT 304
                * *****  * ******* ****   * ** **    *  ** *    ** * * * *

Sequence_71     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_73     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_21     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_67     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_61     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_93     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_59     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_91     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_39     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_41     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_49     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_81     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_45     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_77     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_75     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_43     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_47     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_79     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_51     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_83     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_7      TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_25     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_29     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_33     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_69     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_11     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_1      TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_17     TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAAGAACTCA 1097
Sequence_3      TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_13     TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 367
Sequence_18     TGTGGCCTTCAGGGCAAAAGAGTCAATGGGAGATTTTTATGGAACAAGTAGAAGAACTCA 1620
Cry8Ka1         TATGGCCAACA---TCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAAGAACTCA 361
                * *****  **     *   *  *  ****      * ***  *   *************

Sequence_71     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_73     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_21     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_67     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_61     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_93     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_59     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_91     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_39     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_41     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_49     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_81     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_45     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_77     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_75     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_43     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_47     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_79     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_51     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
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FIGURA 21 (Continuação)

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Sequence_83     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_7      TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_25     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_29     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_33     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_69     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_11     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_1      TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_17     TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1157
Sequence_3      TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
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Sequence_13     TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 427
Sequence_18     TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG 1680
Cry8Ka1         TAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGGCAATTCAG 421
                * ************* ***   ** *** ** ***** **  **** ** *     * **

Sequence_71     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_73     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_21     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_67     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_61     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_93     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_59     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_91     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGA- 486
Sequence_39     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_41     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_49     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_81     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_45     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_77     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_75     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_43     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT 487
Sequence_47     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_79     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_51     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_83     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTCGAA 487
Sequence_7      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_25     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_29     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_33     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_69     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_11     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_1      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 486
Sequence_17     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT- 1216
Sequence_3      GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_13     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 486
Sequence_18     GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT- 1739
Cry8Ka1         GTAGAGCCTTACGATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACCCTAATATCT 481
                ***     *  * **  *** ***  **  ******* *** ** **** **   *

Sequence_71     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_73     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_21     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_67     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_61     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_93     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_59     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_91     --CGAGGTTTTCGA---CGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_39     GTCGAGGTTTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 543
Sequence_41     GTCGAGGTTTTCGAAGTCGAGGT------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_49     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_81     CCCGG---TTTCGAAGTCGA---CAA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_45     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_77     CCCGG---TTTCGAAGTCGAGGTCCA---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
```

FIGURA 21 (Continuação)

```
Sequence_75     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_43     CCCGG---TTTCGAAGTCGAG---GT---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 537
Sequence_47     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_79     GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 540
Sequence_51     GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
Sequence_83     GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA 546
Sequence_7      -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_25     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_29     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_33     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_69     -TCAA-------GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA 534
Sequence_11     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_1      -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_17     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1252
```

```
Sequence_3      -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_13     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 522
Sequence_18     -TCAA-------GA---------------GCCTTACGAGAT-GTGCGAAATCGATTTGAA 1775
Cry8Ka1         TTCG-------------------------GAGTAAAGAGTTAGTAAAAGAAAGATTTTCA 516
                  *                           *  * * *** * **   * *  ***** *

Sequence_71     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_73     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_21     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_67     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_61     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_93     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_59     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_91     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_39     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 602
Sequence_41     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_49     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_81     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_45     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_77     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_75     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_43     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 596
Sequence_47     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_79     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 599
Sequence_51     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_83     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 605
Sequence_7      ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_25     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_29     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_33     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_69     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 593
Sequence_11     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_1      ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 581
Sequence_17     ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT 1311
Sequence_3      ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_13     ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 581
Sequence_18     ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT 1834
Cry8Ka1         AACGCGGAACATTCATT-ACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAAT 575
                * *  ***   ** *** *** *   * ***   ******    * * *   ****** *

Sequence_71     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
Sequence_73     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_21     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_67     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_61     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_93     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_59     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_91     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_39     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 662
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FIGURA 21 (Continuação)

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Sequence_41     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_49     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_81     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_45     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_77     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_75     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_43     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 656
Sequence_47     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_79     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 659
Sequence_51     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_83     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 665
Sequence_7      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_25     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_29     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_33     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_69     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 653
Sequence_11     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_1      ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
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Sequence_17     ACCATTCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1371
Sequence_3      ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_13     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 641
Sequence_18     ACCATTCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC 1894
Cry8Ka1         TCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATAT 635
                 **  *  *  *   **** **   ** ** **  * ****** *  ** * ** **

Sequence_71     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_73     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_21     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_67     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_61     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_93     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACGTGGTGGATCG 713
Sequence_59     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_91     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_39     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 722
Sequence_41     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_49     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_81     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_45     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_77     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_75     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_43     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 716
Sequence_47     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_79     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 719
Sequence_51     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_83     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 725
Sequence_7      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_25     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_29     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_33     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_69     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 713
Sequence_11     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_1      GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 701
Sequence_17     GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACTACTATTAATAACTATTATGATCG 1431
Sequence_3      TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_13     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 701
Sequence_18     TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG 1954
Cry8Ka1         TCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGA 695
                   ***** **** ************   *   * *   **** *

Sequence_71     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_73     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_21     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_67     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
```

FIGURA 21 (Continuação)

```
Sequence_61     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_93     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_59     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_91     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_39     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 782
Sequence_41     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_49     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_81     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_45     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_77     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_75     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_43     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 776
Sequence_47     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_79     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 779
Sequence_51     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_83     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 785
Sequence_7      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_25     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_29     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_33     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_69     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 773
Sequence_11     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTGTAAAGTGGTATGAAACTGGTTT 761
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Sequence_1      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_17     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 1491
Sequence_3      TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_13     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 761
Sequence_18     TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT 2014
Cry8Ka1         ACAAGTAGAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTT 755
                *** *  *  ****   ******  * ** ****** * **    *** *   ******

Sequence_71     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_73     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_21     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_67     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_61     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_93     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_59     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_91     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_39     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 842
Sequence_41     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_49     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_81     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_45     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_77     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_75     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_43     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 836
Sequence_47     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_79     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 839
Sequence_51     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_83     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 845
Sequence_7      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_25     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_29     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_33     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_69     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 833
Sequence_11     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_1      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 821
Sequence_17     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA 1551
Sequence_3      AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_13     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 821
Sequence_18     AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA 2074
Cry8Ka1         AAATCAATTAAAAGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGA 815
                *    **********  ***  ***** ****** * *  * *** *  ***********
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FIGURA 21 (Continuação)

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Sequence_71     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_73     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_21     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_67     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_61     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_93     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_59     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_91     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA 893
Sequence_39     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 902
Sequence_41     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_49     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_81     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_45     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_77     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_75     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_43     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 896
Sequence_47     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_79     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 899
Sequence_51     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_83     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 905
Sequence_7      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_25     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_29     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_33     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_69     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 893
Sequence_11     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
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Sequence_1      AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_17     AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 1611
Sequence_3      AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_13     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 881
Sequence_18     AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA 2134
Cry8Ka1         AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTA 875
                ******* ** ****  * ***** ************** ** *****   *   * ***

Sequence_71     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_73     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_21     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_67     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_61     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_93     CCCAATAGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_59     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_91     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_39     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 962
Sequence_41     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_49     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_81     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_45     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_77     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_75     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_43     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 956
Sequence_47     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_79     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 959
Sequence_51     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
Sequence_83     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 965
Sequence_7      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_25     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_29     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_33     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_69     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 953
Sequence_11     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_1      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_17     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 1671
Sequence_3      CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
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FIGURA 21 (Continuação)

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Sequence_13     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 941
Sequence_18     CCCAATGGAAACGAAAGCACAACTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT 2194
Cry8Ka1         CCCTATAAAAACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACAC 935
                *** **  **** *   ** * ***** **   * * ***** ******** **

Sequence_71     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_73     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_21     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_67     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_61     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_93     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_59     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_91     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_39     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1016
Sequence_41     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_49     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_81     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_45     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_77     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_75     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_43     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1010
Sequence_47     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_79     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1013
Sequence_51     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_83     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1019
Sequence_7      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_25     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_29     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_33     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
Sequence_69     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1007
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Sequence_11     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_1      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_17     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 1725
Sequence_3      AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_13     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 995
Sequence_18     AAACGTGTCTTCAATTGGT------TCCTGGTATGACAAAGCACCTTCTTTCGGAGTGAT 2248
Cry8Ka1         GAAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATAT 995
                 **   *  *** * * **       * ****** *  * * * **  ****  *   **

Sequence_71     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_73     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_21     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_67     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_61     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_93     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_59     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_91     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_39     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1076
Sequence_41     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_49     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_81     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_45     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_77     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_75     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_43     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1070
Sequence_47     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_79     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1073
Sequence_51     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_83     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1079
Sequence_7      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_25     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_29     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_33     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
```

FIGURA 21 (Continuação)

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Sequence_69     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1067
Sequence_11     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_1      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_17     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1785
Sequence_3      AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_13     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 1055
Sequence_18     AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA 2308
Cry8Ka1         AGAAAGTGTAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA 1055
                ****      *  **** * * **   * *  ** * *   ***      *   * * **

Sequence_71     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_73     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_21     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_67     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_61     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_93     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_59     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_91     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_39     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1136
Sequence_41     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_49     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_81     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_45     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_77     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_75     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_43     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1130
Sequence_47     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_79     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1133
Sequence_51     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_83     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1139
Sequence_7      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_25     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_29     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_33     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
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Sequence_69     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1127
Sequence_11     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_1      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_17     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1845
Sequence_3      TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_13     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 1115
Sequence_18     TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT 2368
Cry8Ka1         TTCGAAATCCGCAAGGGCTACACC---GCAAAGTGCGGATTATTGGGCAGGACATACAAT 1112
                * *  ****   ***   * *  *    *    *       ******* ** ***  ***

Sequence_71     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_73     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_21     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_67     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_61     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_93     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_59     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_91     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_39     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1196
Sequence_41     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_49     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_81     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_45     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_77     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_75     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_43     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1190
Sequence_47     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_79     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1193
Sequence_51     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
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FIGURA 21 (Continuação)

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Sequence_83     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1199
Sequence_7      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_25     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_29     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_33     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_69     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1187
Sequence_11     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_1      AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1175
Sequence_17     AAGCTACCATCGTGTCAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACTAATCAAAA 1905
Sequence_3      AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_13     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 1175
Sequence_18     AAGCTATCATCGGATTTTTAGTGATAATATTATAAAACAGATGTATGGAACTAATCAAAA 2428
Cry8Ka1         AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAA 1172
                **  ** **             * *  *       **  *  ******  **     **

Sequence_71     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_73     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_21     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_67     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_61     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_93     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_59     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_91     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_39     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1256
Sequence_41     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_49     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_81     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_45     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_77     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_75     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_43     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1250
Sequence_47     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_79     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1253
Sequence_51     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_83     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1259
Sequence_7      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_25     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_29     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
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Sequence_33     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_69     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1247
Sequence_11     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_1      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1235
Sequence_17     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1965
Sequence_3      TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_13     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
Sequence_18     TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 2488
Cry8Ka1         TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC 1232
                **     *     * *   * * *****  * *   *** ***** *       ****

Sequence_71     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_73     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_21     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_67     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_61     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_93     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_59     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_91     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_39     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1315
Sequence_41     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_49     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_81     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_45     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_77     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
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FIGURA 21 (Continuação)

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Sequence_75     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_43     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1309
Sequence_47     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_79     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1312
Sequence_51     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_83     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1318
Sequence_7      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_25     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_29     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_33     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_69     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1306
Sequence_11     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_1      GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_17     GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAATGC 2024
Sequence_3      AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_13     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 1294
Sequence_18     AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAATGC 2547
Cry8Ka1         TGTTGCTTCAAGTACAACTAGTGGTGTTAAATTATTAACTACTAAGGCTATATTTGATGG 1292
                 * ***           ** ** * *    *  ***       *   * * *   ***

Sequence_71     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_73     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_21     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_67     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_61     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_93     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_59     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_91     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_39     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
Sequence_41     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_49     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_81     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_45     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_77     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_75     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_43     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1367
Sequence_47     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_79     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
Sequence_51     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
Sequence_83     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1376
Sequence_7      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_25     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
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Sequence_29     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_33     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_69     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1364
Sequence_11     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_1      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_17     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2082
Sequence_3      CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_13     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1352
Sequence_18     CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 2605
Cry8Ka1         CATAAGTACAA------ACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAACTT 1346
                ** **** *       *   *  ** * *    ** **    **** *   *  ** *

Sequence_71     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
Sequence_73     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_21     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_67     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_61     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_93     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_59     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_91     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_39     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1429
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FIGURA 21 (Continuação)

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Sequence_41     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_49     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_81     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_45     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_77     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_75     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_43     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1423
Sequence_47     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_79     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1426
Sequence_51     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_83     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1432
Sequence_7      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_25     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_29     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_33     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_69     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1420
Sequence_11     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_1      TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_17     TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC 2138
Sequence_3      TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_13     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 1408
Sequence_18     TAATCCGGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC 2661
Cry8Ka1         TTTTAATGAACTAAAAGATACAATTACAGAGCTACCTGTTCAGATATCCAGTCCTCCTAC 1406
                *  *   *     ******* **  *      *   * *  *  **          ***

Sequence_71     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_73     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_21     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_67     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_61     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_93     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_59     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_91     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_39     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1489
Sequence_41     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_49     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_81     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_45     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_77     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_75     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_43     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1483
Sequence_47     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_79     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1486
Sequence_51     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_83     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1492
Sequence_7      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
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Sequence_25     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_29     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_33     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_69     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1480
Sequence_11     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_1      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_17     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2198
Sequence_3      CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_13     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 1468
Sequence_18     CTCCAGAAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA 2721
Cry8Ka1         CTACGGGGA-TGCTGAACAGTACAGTCATCGGCTATCCTAT-GTTTCTAATGCTCCAACA 1464
                ** * *  * * * ** **    * * **  * *  **       *   * ***    * **

Sequence_71     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_73     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_21     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_67     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
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FIGURA 21 (Continuação)

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Sequence_61     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_93     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_59     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_91     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_39     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1547
Sequence_41     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_49     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_81     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_45     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_77     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_75     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_43     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1541
Sequence_47     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_79     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1544
Sequence_51     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_83     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1550
Sequence_7      CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_25     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_29     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_33     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_69     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1538
Sequence_11     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_1      CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_17     CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2256
Sequence_3      CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_13     CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 1526
Sequence_18     CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA 2779
Cry8Ka1         -GAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCCAGTACTGGGTTGGACGCA 1523
                  **** **    * ***   *   * *   *** ** * ** *** *   ****** **

Sequence_71     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_73     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_21     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_67     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_61     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_93     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_59     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_91     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_39     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1607
Sequence_41     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_49     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_81     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_45     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_77     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_75     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_43     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1601
Sequence_47     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_79     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1604
Sequence_51     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
Sequence_83     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1610
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Sequence_7      TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_25     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_29     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_33     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_69     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1598
Sequence_11     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_1      TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 1586
Sequence_17     TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCCGGCCGT 2316
Sequence_3      TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_13     TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 1586
Sequence_18     TCGGAGTGCCGATCTTATAAATGCAGTTCATTCAGATAAAATTACTCAGATTCCGGTCGT 2839
Cry8Ka1         TACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCAATTACTCAAATTCCAGCTGT 1583
                *   ***     *   *  ***    *  **** **   *** ***** ***** *  **
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FIGURA 21 (Continuação)

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Sequence_71     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_73     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_21     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_67     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_61     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_93     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_59     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_91     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_39     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1663
Sequence_41     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_49     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_81     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_45     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_77     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_75     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_43     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1657
Sequence_47     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_79     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1660
Sequence_51     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_83     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1666
Sequence_7      TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_25     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_29     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_33     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_69     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1654
Sequence_11     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_1      TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 1642
Sequence_17     TAAATGTTGGGATAATTTACCGTTTGTTCCAGTGGT----AAAAGGACCAGGACATACAG 2372
Sequence_3      AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_13     AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 1646
Sequence_18     AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG 2899
Cry8Ka1         TAAAGCAAATAGTGTTAGTTCTTATGT-----------------TACTGTTGAAAAGGG 1625
                 **        *       * * * *                    **      *    *

Sequence_71     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_73     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_21     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_67     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_61     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_93     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_59     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_91     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_39     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1718
Sequence_41     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_49     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_81     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_45     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_77     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_75     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_43     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1712
Sequence_47     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_79     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1715
Sequence_51     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
Sequence_83     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1721
```

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Sequence_7      GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_25     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_29     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_33     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_69     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1709
Sequence_11     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_1      GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 1697
Sequence_17     GAGGGGATTTATTACAGT----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT 2427
Sequence_3      TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
```

FIGURA 21 (Continuação)

```
Sequence_13     TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 1706
Sequence_18     TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA 2959
Cry8Ka1         AACAGGCTTTACAGGTGGAGATTTAGTGAAATTCTCC---ACTGGATTCATGTCTACAGG 1682
                    ** ****     *      ** *  ** *         ** *   *

Sequence_71     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_73     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_21     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_67     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_61     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_93     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_59     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_91     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_39     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1778
Sequence_41     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_49     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_81     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_45     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_77     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_75     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_43     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1772
Sequence_47     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_79     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1775
Sequence_51     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
Sequence_83     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1781
Sequence_7      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_25     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_29     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_33     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_69     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1769
Sequence_11     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_1      AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 1757
Sequence_17     AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC 2487
Sequence_3      TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_13     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 1763
Sequence_18     TATGCG---TGTTAAAATTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC 3016
Cry8Ka1         AATACAGTTTAATTTAAAGATAGAAGAAAGAAAGCGTTATCGTATCCGTATACGATATGC 1742
                    *    *     *     ***              *** ** *  *  *  * *****

Sequence_71     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1826
Sequence_73     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_21     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_67     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_61     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_93     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_59     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_91     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_39     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1826
Sequence_41     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_49     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_81     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_45     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_77     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_75     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_43     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1820
Sequence_47     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_79     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1823
Sequence_51     TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1829
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Sequence_83   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1829
Sequence_7    TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_25   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_29   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_33   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
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FIGURA 21 (Continuação)

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Sequence_69   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1817
Sequence_11   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1805
Sequence_1    TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 1805
Sequence_17   TACTGATGCAGATATTGTATTGCATGTAAAC-----------GATGCTCAGATTCAGAT 2535
Sequence_3    TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_13   TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 1823
Sequence_18   TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC 3076
Cry8Ka1       CGCTGATGTTAATGCT--ACTCTATCTGCACTTGGATTAA-ATGATGCATTTATTAACAT 1799
                * * *    **  *  * *  ** * *              * *       * *

Sequence_71   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_73   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_21   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_67   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_61   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_93   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_59   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_91   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_39   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1886
Sequence_41   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_49   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_81   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_45   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_77   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_75   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_43   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1880
Sequence_47   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_79   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1883
Sequence_51   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_83   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1889
Sequence_7    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_25   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_29   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_33   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_69   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1877
Sequence_11   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_1    GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 1865
Sequence_17   GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACTTTTAAAGTTGCAGATGC 2595
Sequence_3    TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_13   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 1882
Sequence_18   TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT 3135
Cry8Ka1       TAAATCGACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGC 1859
                *   ** ***     **         * *  * ***    **  *   *** **

Sequence_71   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1942
Sequence_73   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_21   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_67   TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_61   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_93   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_59   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1933
Sequence_91   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1933
Sequence_39   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1942
Sequence_41   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_49   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_81   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_45   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_77   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
Sequence_75   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1936
Sequence_43   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1936
Sequence_47   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1939
Sequence_79   TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1939
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Sequence_51     TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1945
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FIGURA 21 (Continuação)

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Sequence_83     TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1945
Sequence_7      TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1933
Sequence_25     TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATGTAG 1933
Sequence_29     TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCAGTGAAA--CATAATGTAG 1933
Sequence_33     TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
Sequence_69     TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
Sequence_11     TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_1      TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
Sequence_17     TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 2651
Sequence_3      TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_13     TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 1941
Sequence_18     TGCCCCC-TATTAAATTTACGACAACCGAACCTTTCATTACTCTAGGGGCTATATTTGAA 3194
Cry8Ka1         TGACAAAACAGTGCATTTA-----TACAATCCTCGTTTTTCTTTA-----TATTTAGAAA 1909
                *  *     * *  *****         *   *    *  *  *       **     *

Sequence_71     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_73     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_21     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_67     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_61     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_93     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_59     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_91     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_39     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2002
Sequence_41     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_49     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_81     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_45     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_77     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_75     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_43     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
Sequence_47     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_79     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
Sequence_51     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_83     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
Sequence_7      GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_25     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_29     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_33     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_69     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
Sequence_11     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_1      GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
Sequence_17     GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2711
Sequence_3      GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_13     GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 1993
Sequence_18     GCGGAAGACTTTCTTGGAATTGA--------AGCTTATATAGACCGAATCGAATTTATCC 3246
Cry8Ka1         ATTCAGATCAATCCGGGAAAAGT---------ATTTATATAGATCGAATTCATCC 1960
                    *   *        *                ***  * ** ********** ****

Sequence_71     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_73     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_21     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_67     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_61     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_93     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_59     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_91     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2019
Sequence_39     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2028
Sequence_41     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_49     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_81     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_45     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_77     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
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FIGURA 21 (Continuação)

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Sequence_75     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
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```
Sequence_43     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2022
Sequence_47     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_79     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2025
Sequence_51     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_83     CAGTAGATGAGACATATGAAGCGGAA---------------------------------- 2031
Sequence_7      CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_25     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_29     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_33     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_69     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_11     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2010
Sequence_1      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2041
Sequence_17     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2771
Sequence_3      CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 2053
Sequence_13     CAGTAGATGAGACATATGAAGCGGAATAA------------------------------- 2022
Sequence_18     CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG 3306
Cry8Ka1         CAGTAGATGAGACCTATGAAGCAGAACAAGAT---------------------------- 1992
                ************ ******** ***

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2101
Sequence_17     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2831
Sequence_3      CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 2113
Sequence_13     ------------------------------------------------------------
Sequence_18     CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC 3366
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
```

```
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2161
Sequence_17     AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2891
Sequence_3      AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 2173
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGCGGCAAACTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT 3426
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2221
Sequence_17     TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2951
Sequence_3      TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 2233
Sequence_13     ------------------------------------------------------------
Sequence_18     TATTTGATGCAGTGAGAGAGGCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC 3486
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
```

```
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2281
Sequence_17   CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3011
Sequence_3    CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 2293
Sequence_13   ------------------------------------------------------------
Sequence_18   CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA 3546
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2341
Sequence_17   TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3071
Sequence_3    TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 2353
Sequence_13   ------------------------------------------------------------
Sequence_18   TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG 3606
Cry8Ka1       ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
```

```
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2401
Sequence_17   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3131
Sequence_3    ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 2413
Sequence_13   ------------------------------------------------------------
Sequence_18   ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT 3666
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2461
Sequence_17   ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3191
Sequence_3    ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 2473
```

FIGURA 21 (Continuação)

```
Sequence_13   ------------------------------------------------------------
Sequence_18   ACACAAGATATAGATTGAGAGGGTTTGTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA 3726
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
```

```
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2521
Sequence_17   TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3251
Sequence_3    TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 2533
Sequence_13   ------------------------------------------------------------
Sequence_18   TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT 3786
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2581
Sequence_17   CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3311
Sequence_3    CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 2593
Sequence_13   ------------------------------------------------------------
Sequence_18   CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC 3846
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
```

```
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2641
Sequence_17   GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3371
Sequence_3    GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 2653
Sequence_13   ------------------------------------------------------------
Sequence_18   GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCTATTGATACAG 3906
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2701
Sequence_17   GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3431
Sequence_3    GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 2713
Sequence_13   ------------------------------------------------------------
Sequence_18   GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG 3966
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
```

```
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2761
Sequence_17   AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 3491
Sequence_3    AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 2773
Sequence_13   ------------------------------------------------------------
Sequence_18   AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG 4026
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2821
Sequence_17   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 3551
Sequence_3    CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 2833
Sequence_13   ------------------------------------------------------------
Sequence_18   CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG 4086
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
```

```
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2881
Sequence_17   AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 3611
Sequence_3    AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 2893
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT 4146
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2941
Sequence_17   ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 3671
Sequence_3    ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 2953
Sequence_13   ------------------------------------------------------------
Sequence_18   ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC 4206
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
```

```
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3001
Sequence_17   TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3731
Sequence_3    TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 3013
Sequence_13   ------------------------------------------------------------
Sequence_18   TGATACAGTCCATTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT 4266
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3061
Sequence_17   ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3791
Sequence_3    ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 3073
Sequence_13   ------------------------------------------------------------
Sequence_18   ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC 4326
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
```

```
Sequence_91   ----------------------------------------------------------
Sequence_39   ----------------------------------------------------------
Sequence_41   ----------------------------------------------------------
Sequence_49   ----------------------------------------------------------
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_1    GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3121
Sequence_17   GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3851
Sequence_3    GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 3133
Sequence_13   ----------------------------------------------------------
Sequence_18   GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG 4386
Cry8Ka1       ----------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_71   ----------------------------------------------------------
Sequence_73   ----------------------------------------------------------
Sequence_21   ----------------------------------------------------------
Sequence_67   ----------------------------------------------------------
Sequence_61   ----------------------------------------------------------
Sequence_93   ----------------------------------------------------------
Sequence_59   ----------------------------------------------------------
Sequence_91   ----------------------------------------------------------
Sequence_39   ----------------------------------------------------------
Sequence_41   ----------------------------------------------------------
Sequence_49   ----------------------------------------------------------
Sequence_81   ----------------------------------------------------------
Sequence_45   ----------------------------------------------------------
Sequence_77   ----------------------------------------------------------
Sequence_75   ----------------------------------------------------------
Sequence_43   ----------------------------------------------------------
Sequence_47   ----------------------------------------------------------
Sequence_79   ----------------------------------------------------------
Sequence_51   ----------------------------------------------------------
Sequence_83   ----------------------------------------------------------
Sequence_7    ----------------------------------------------------------
Sequence_25   ----------------------------------------------------------
Sequence_29   ----------------------------------------------------------
Sequence_33   ----------------------------------------------------------
Sequence_69   ----------------------------------------------------------
Sequence_11   ----------------------------------------------------------
Sequence_1    GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3181
Sequence_17   GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3911
Sequence_3    GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 3193
Sequence_13   ----------------------------------------------------------
Sequence_18   GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC 4446
Cry8Ka1       ----------------------------------------------------------

Sequence_71   ----------------------------------------------------------
Sequence_73   ----------------------------------------------------------
Sequence_21   ----------------------------------------------------------
Sequence_67   ----------------------------------------------------------
Sequence_61   ----------------------------------------------------------
Sequence_93   ----------------------------------------------------------
Sequence_59   ----------------------------------------------------------
```

```
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3241
Sequence_17   AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3971
Sequence_3    AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 3253
```

FIGURA 21 (Continuação)

```
Sequence_13   ------------------------------------------------------------
Sequence_18   AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA 4506
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3301
Sequence_17   GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4031
Sequence_3    GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 3313
Sequence_13   ------------------------------------------------------------
Sequence_18   GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA 4566
Cry8Ka1       ------------------------------------------------------------

Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
```

```
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3361
Sequence_17     CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4091
Sequence_3      CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 3373
Sequence_13     ------------------------------------------------------------
Sequence_18     CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA 4626
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3421
Sequence_17     ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4151
Sequence_3      ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 3433
Sequence_13     ------------------------------------------------------------
Sequence_18     ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT 4686
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
```

```
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3481
Sequence_17     ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4211
Sequence_3      ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 3493
Sequence_13     ------------------------------------------------------------
Sequence_18     ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA 4746
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3541
Sequence_17     GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4271
Sequence_3      GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 3553
Sequence_13     ------------------------------------------------------------
Sequence_18     GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTCATCCCGTATACAG 4806
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
```

```
Sequence_61   ----------
Sequence_93   ----------
Sequence_59   ----------
Sequence_91   ----------
Sequence_39   ----------
Sequence_41   ----------
Sequence_49   ----------
Sequence_81   ----------
Sequence_45   ----------
Sequence_77   ----------
```

FIGURA 21 (Continuação)

```
Sequence_75   ----------
Sequence_43   ----------
Sequence_47   ----------
Sequence_79   ----------
Sequence_51   ----------
Sequence_83   ----------
Sequence_7    ----------
Sequence_25   ----------
Sequence_29   ----------
Sequence_33   ----------
Sequence_69   ----------
Sequence_11   ----------
Sequence_1    ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3601
Sequence_17   ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4331
Sequence_3    ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 3613
Sequence_13   ----------
Sequence_18   ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT 4866
Cry8Ka1       ----------
```

```
Sequence_71   ----------
Sequence_73   ----------
Sequence_21   ----------
Sequence_67   ----------
Sequence_61   ----------
Sequence_93   ----------
Sequence_59   ----------
Sequence_91   ----------
Sequence_39   ----------
Sequence_41   ----------
Sequence_49   ----------
Sequence_81   ----------
Sequence_45   ----------
Sequence_77   ----------
Sequence_75   ----------
Sequence_43   ----------
Sequence_47   ----------
Sequence_79   ----------
Sequence_51   ----------
Sequence_83   ----------
Sequence_7    ----------
Sequence_25   ----------
Sequence_29   ----------
Sequence_33   ----------
Sequence_69   ----------
Sequence_11   ----------
Sequence_1    TGATTGTAGACGTAGAGTAA---------- 3621
Sequence_17   TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4391
Sequence_3    TGATTGTAGACGTAGAGTAA---------- 3633
Sequence_13   ----------
Sequence_18   TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT 4926
Cry8Ka1       ----------
```

```
Sequence_71   ----------
Sequence_73   ----------
Sequence_21   ----------
```

```
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4451
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT 4986
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 4511
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA 5046
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
```

```
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 4571
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 5106
Cry8Ka1         ----------------------------------------------------------

Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 4631
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     GTTTCTCGTGAATGAGAGTGAATATTTCTTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 5166
Cry8Ka1         ----------------------------------------------------------

Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
```

FIGURA 21 (Continuação)

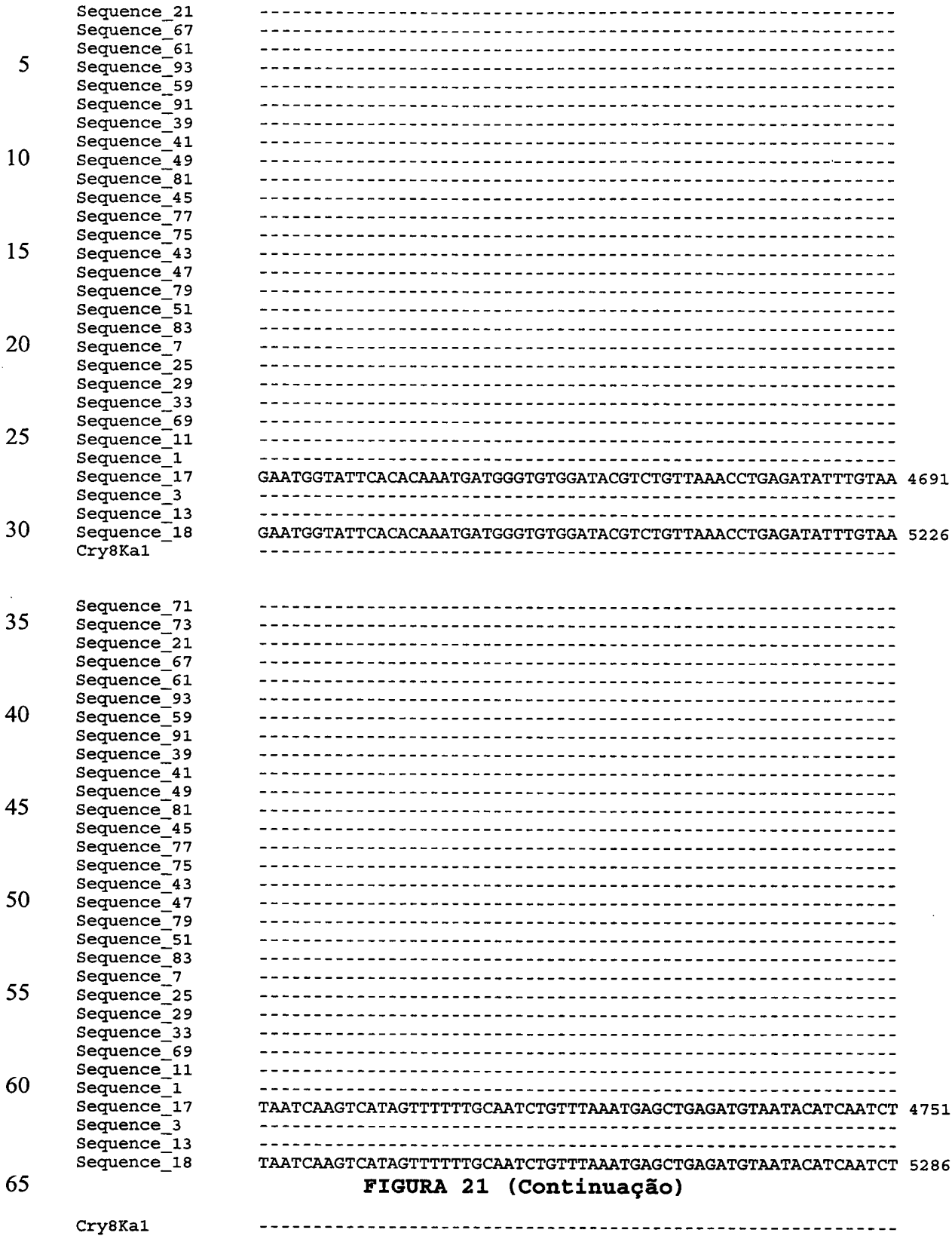


FIGURA 21 (Continuação)

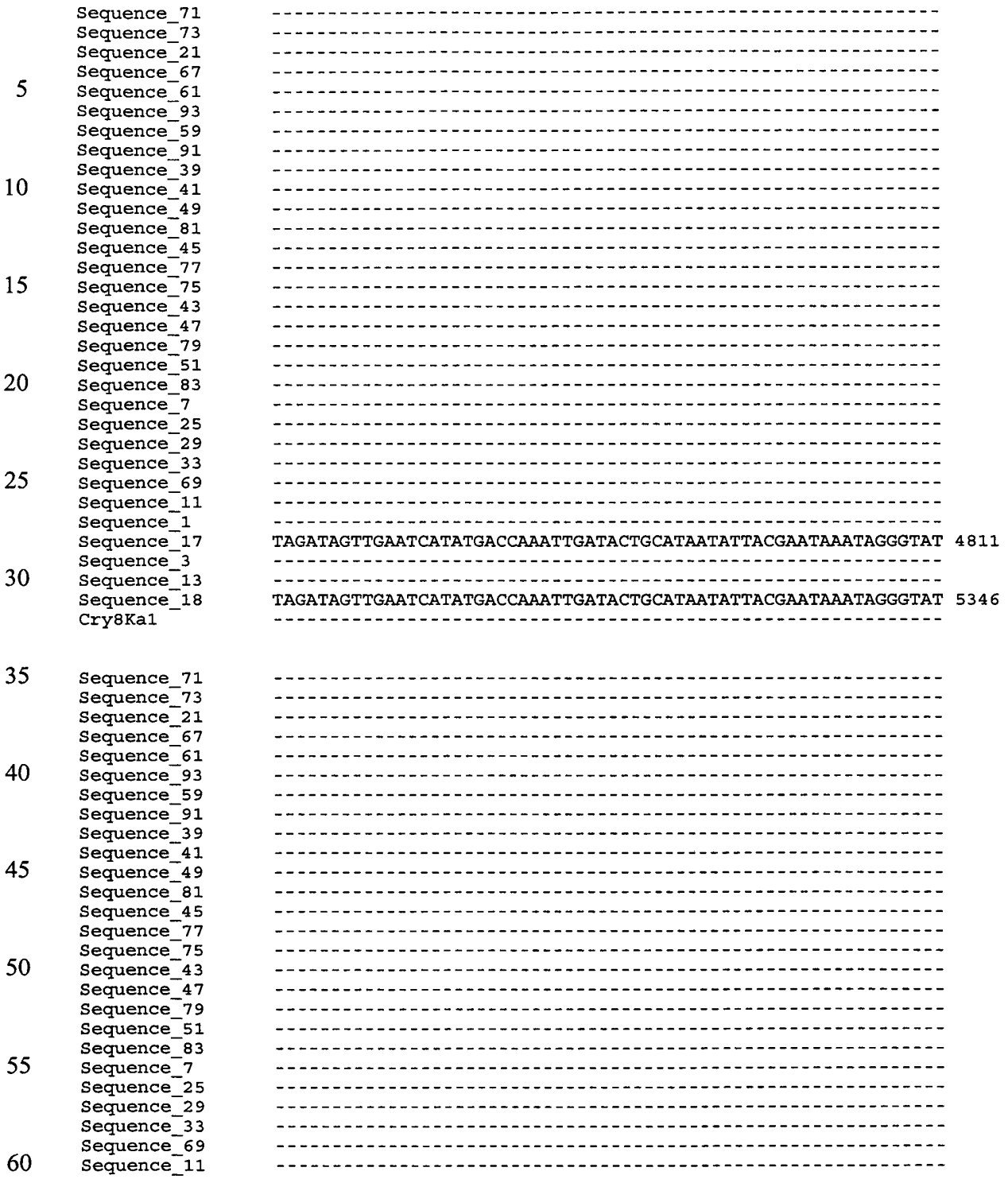
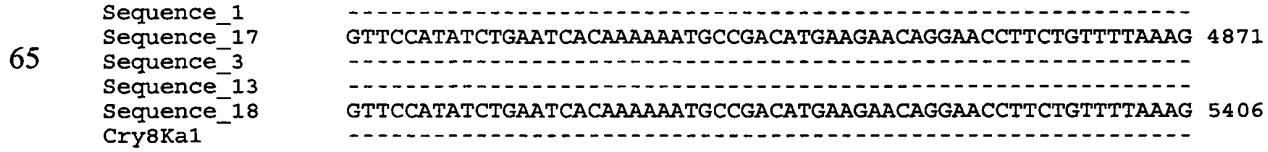


FIGURA 21 (Continuação)



```
Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     CTT------------------------------------------------------- 4874
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     CTTGTAATAAGTTTGTCCAATGTATGATTAAAATATATAATGTTTCCGTAAAAACATGCT 5466
Cry8Ka1         ----------------------------------------------------------
```

```
Sequence_71     ----------------------------------------------------------
Sequence_73     ----------------------------------------------------------
Sequence_21     ----------------------------------------------------------
Sequence_67     ----------------------------------------------------------
Sequence_61     ----------------------------------------------------------
Sequence_93     ----------------------------------------------------------
Sequence_59     ----------------------------------------------------------
Sequence_91     ----------------------------------------------------------
Sequence_39     ----------------------------------------------------------
Sequence_41     ----------------------------------------------------------
Sequence_49     ----------------------------------------------------------
Sequence_81     ----------------------------------------------------------
Sequence_45     ----------------------------------------------------------
Sequence_77     ----------------------------------------------------------
Sequence_75     ----------------------------------------------------------
Sequence_43     ----------------------------------------------------------
Sequence_47     ----------------------------------------------------------
Sequence_79     ----------------------------------------------------------
Sequence_51     ----------------------------------------------------------
Sequence_83     ----------------------------------------------------------
Sequence_7      ----------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_25     ----------------------------------------------------------
Sequence_29     ----------------------------------------------------------
Sequence_33     ----------------------------------------------------------
Sequence_69     ----------------------------------------------------------
Sequence_11     ----------------------------------------------------------
Sequence_1      ----------------------------------------------------------
Sequence_17     ----------------------------------------------------------
Sequence_3      ----------------------------------------------------------
Sequence_13     ----------------------------------------------------------
Sequence_18     CGTCCCATTTGAACTGTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAAGCAAGA 5526
Cry8Ka1         ----------------------------------------------------------
```

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAACGTCTTTTATCATGTAAAA 5586
Cry8Ka1       ------------------------------------------------------------
```

```
Sequence_71   ------------------------------------------------------------
Sequence_73   ------------------------------------------------------------
Sequence_21   ------------------------------------------------------------
Sequence_67   ------------------------------------------------------------
Sequence_61   ------------------------------------------------------------
Sequence_93   ------------------------------------------------------------
Sequence_59   ------------------------------------------------------------
Sequence_91   ------------------------------------------------------------
Sequence_39   ------------------------------------------------------------
Sequence_41   ------------------------------------------------------------
Sequence_49   ------------------------------------------------------------
Sequence_81   ------------------------------------------------------------
Sequence_45   ------------------------------------------------------------
Sequence_77   ------------------------------------------------------------
Sequence_75   ------------------------------------------------------------
Sequence_43   ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_47   ------------------------------------------------------------
Sequence_79   ------------------------------------------------------------
Sequence_51   ------------------------------------------------------------
Sequence_83   ------------------------------------------------------------
Sequence_7    ------------------------------------------------------------
Sequence_25   ------------------------------------------------------------
Sequence_29   ------------------------------------------------------------
Sequence_33   ------------------------------------------------------------
Sequence_69   ------------------------------------------------------------
Sequence_11   ------------------------------------------------------------
Sequence_1    ------------------------------------------------------------
Sequence_17   ------------------------------------------------------------
Sequence_3    ------------------------------------------------------------
Sequence_13   ------------------------------------------------------------
Sequence_18   TAAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAAATGATTTTTTGTT 5646
```

```
Cry8Ka1          ------------------------------------------------------------

Sequence_71      ------------------------------------------------------------
Sequence_73      ------------------------------------------------------------
Sequence_21      ------------------------------------------------------------
Sequence_67      ------------------------------------------------------------
Sequence_61      ------------------------------------------------------------
Sequence_93      ------------------------------------------------------------
Sequence_59      ------------------------------------------------------------
Sequence_91      ------------------------------------------------------------
Sequence_39      ------------------------------------------------------------
Sequence_41      ------------------------------------------------------------
Sequence_49      ------------------------------------------------------------
Sequence_81      ------------------------------------------------------------
Sequence_45      ------------------------------------------------------------
Sequence_77      ------------------------------------------------------------
Sequence_75      ------------------------------------------------------------
Sequence_43      ------------------------------------------------------------
Sequence_47      ------------------------------------------------------------
Sequence_79      ------------------------------------------------------------
Sequence_51      ------------------------------------------------------------
Sequence_83      ------------------------------------------------------------
Sequence_7       ------------------------------------------------------------
Sequence_25      ------------------------------------------------------------
Sequence_29      ------------------------------------------------------------
Sequence_33      ------------------------------------------------------------
Sequence_69      ------------------------------------------------------------
Sequence_11      ------------------------------------------------------------
Sequence_1       ------------------------------------------------------------
Sequence_17      ------------------------------------------------------------
Sequence_3       ------------------------------------------------------------
Sequence_13      ------------------------------------------------------------
Sequence_18      TATTTTGGAGAGGCACATGTAGTTTGTCGGATAGTCTATGCAATAAGTTTAGAATTTCAG 5706
Cry8Ka1          ------------------------------------------------------------

Sequence_71      ------------------------------------------------------------
Sequence_73      ------------------------------------------------------------
Sequence_21      ------------------------------------------------------------
Sequence_67      ------------------------------------------------------------
Sequence_61      ------------------------------------------------------------
Sequence_93      ------------------------------------------------------------
Sequence_59      ------------------------------------------------------------
Sequence_91      ------------------------------------------------------------
Sequence_39      ------------------------------------------------------------
Sequence_41      ------------------------------------------------------------
Sequence_49      ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_81      ------------------------------------------------------------
Sequence_45      ------------------------------------------------------------
Sequence_77      ------------------------------------------------------------
Sequence_75      ------------------------------------------------------------
Sequence_43      ------------------------------------------------------------
Sequence_47      ------------------------------------------------------------
Sequence_79      ------------------------------------------------------------
Sequence_51      ------------------------------------------------------------
Sequence_83      ------------------------------------------------------------
Sequence_7       ------------------------------------------------------------
Sequence_25      ------------------------------------------------------------
Sequence_29      ------------------------------------------------------------
Sequence_33      ------------------------------------------------------------
Sequence_69      ------------------------------------------------------------
Sequence_11      ------------------------------------------------------------
Sequence_1       ------------------------------------------------------------
Sequence_17      ------------------------------------------------------------
Sequence_3       ------------------------------------------------------------
Sequence_13      ------------------------------------------------------------
```

```
Sequence_18     GAACAATTTTCCATGCGTCATTTGATTTTTGTTGTACCATAGTTTCTAATTGCTCATACG 5766
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TAAATGCATAATGATGATTAAAAAAAACAGAGAAGAGTTGGTAAACAGTCTCATGATTAA 5826
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
```

```
Sequence_13     ------------------------------------------------------------
Sequence_18     AATCAAGAGAAAAGGTATCCCGGAACAATTGACAAAATGAGCTGTTCTCAAAAATACTTA 5886
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTCATATGCTGGTGTTGTAAACGAA 5946
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
```

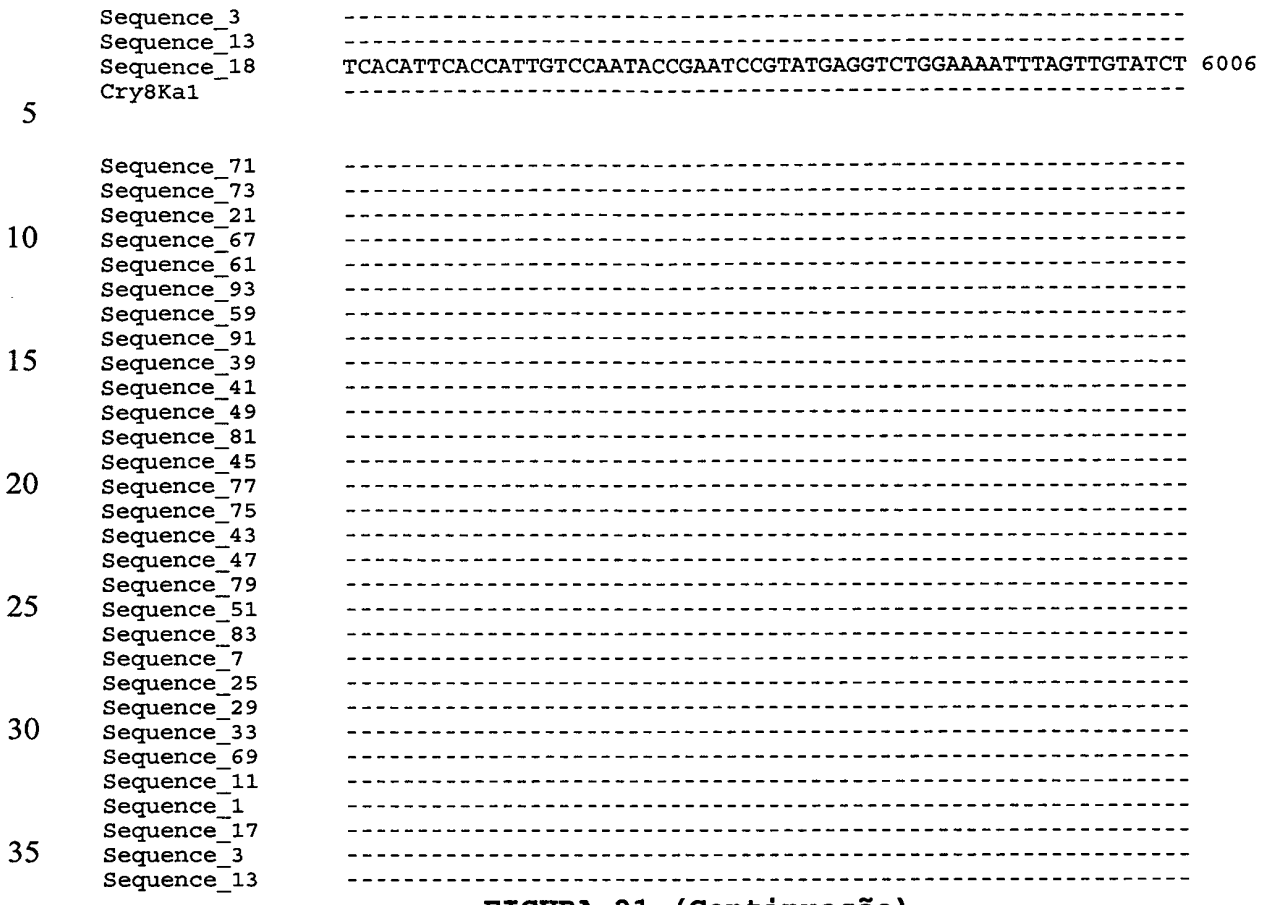
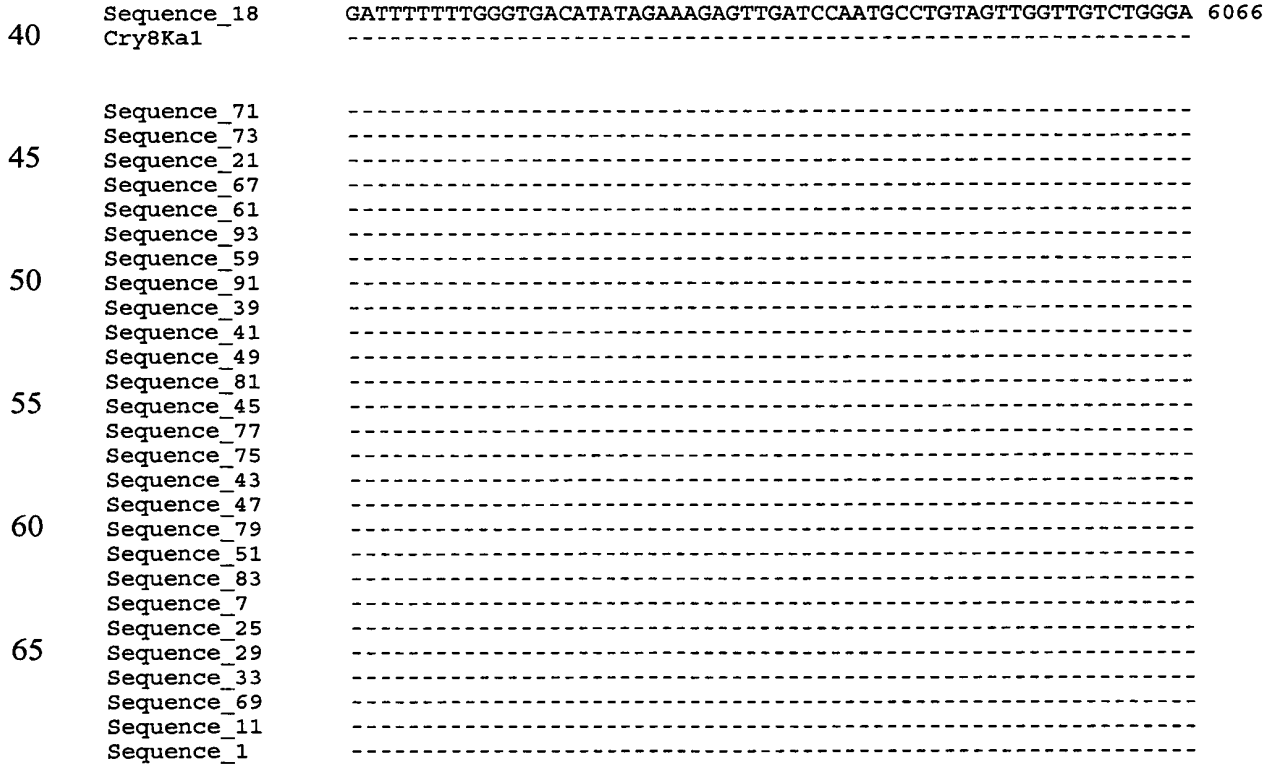


FIGURA 21 (Continuação)



```
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     AAGGAGTATGAGTCACACCATATTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT 6126
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GTTGTTCATTTCCTATGATTTTACAAGGATTTGTTTGAATGTGTATCTCATATTGTTCGA 6186
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
```

```
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGGAAGTACTAAGAAATAATTCCT 6246
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     CCGCGATTGTCTCTATGTCATCTCTTTCATCAAAAAATATCCGTTCGATAAAGGAAAACT 6306
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
```

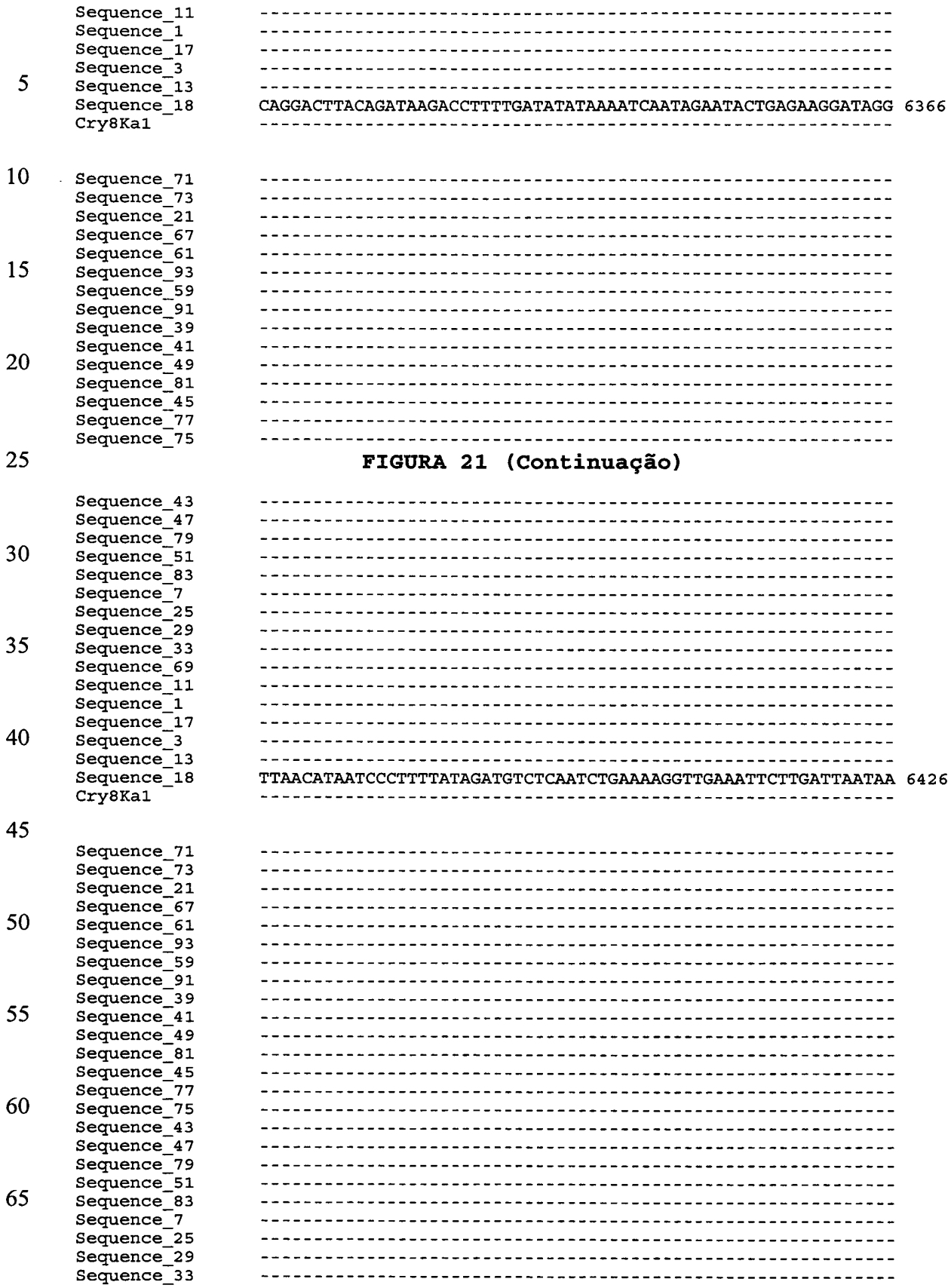


FIGURA 21 (Continuação)

```
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     ATTTAATGTCATCTCTCAAAATTCTTTCGGAACAATTTAGTGTTTGTGCACTCACTCCTA 6486
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
```

FIGURA 21 (Continuação)

```
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     ACGTATGCCATCCATCTTGTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT 6546
Cry8Ka1         ------------------------------------------------------------

Sequence_71     ------------------------------------------------------------
Sequence_73     ------------------------------------------------------------
Sequence_21     ------------------------------------------------------------
Sequence_67     ------------------------------------------------------------
Sequence_61     ------------------------------------------------------------
Sequence_93     ------------------------------------------------------------
Sequence_59     ------------------------------------------------------------
Sequence_91     ------------------------------------------------------------
Sequence_39     ------------------------------------------------------------
Sequence_41     ------------------------------------------------------------
Sequence_49     ------------------------------------------------------------
Sequence_81     ------------------------------------------------------------
Sequence_45     ------------------------------------------------------------
Sequence_77     ------------------------------------------------------------
Sequence_75     ------------------------------------------------------------
Sequence_43     ------------------------------------------------------------
Sequence_47     ------------------------------------------------------------
Sequence_79     ------------------------------------------------------------
Sequence_51     ------------------------------------------------------------
Sequence_83     ------------------------------------------------------------
Sequence_7      ------------------------------------------------------------
Sequence_25     ------------------------------------------------------------
Sequence_29     ------------------------------------------------------------
```

```
Sequence_33     ------------------------------------------------------------
Sequence_69     ------------------------------------------------------------
Sequence_11     ------------------------------------------------------------
Sequence_1      ------------------------------------------------------------
Sequence_17     ------------------------------------------------------------
Sequence_3      ------------------------------------------------------------
Sequence_13     ------------------------------------------------------------
Sequence_18     TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTTATAAAATATCACTGAT 6606
Cry8Ka1         ------------------------------------------------------------

Sequence_71     -------
Sequence_73     -------
Sequence_21     -------
Sequence_67     -------
Sequence_61     -------
```

FIGURA 21 (Continuação)

```
Sequence_93     -------
Sequence_59     -------
Sequence_91     -------
Sequence_39     -------
Sequence_41     -------
Sequence_49     -------
Sequence_81     -------
Sequence_45     -------
Sequence_77     -------
Sequence_75     -------
Sequence_43     -------
Sequence_47     -------
Sequence_79     -------
Sequence_51     -------
Sequence_83     -------
Sequence_7      -------
Sequence_25     -------
Sequence_29     -------
Sequence_33     -------
Sequence_69     -------
Sequence_11     -------
Sequence_1      -------
Sequence_17     -------
Sequence_3      -------
Sequence_13     -------
Sequence_18     GGAATTC 6613
Cry8Ka1         -------
```

FIGURA 22

```
Cry8Ba1          MSPNNQNEYEIIDATPSTSVSNDSNRYPFANEPTNALQNMDYKDYLKMSAGNVSEYPGSP 60
50c_b_           MSPNNQNEYEIIDATPSTSVSNDSNRYPFANEPTNALQNMDYKDYLKMSAGNVSEYPGSP 60
Cry8Bb1          MSPNNQNEYEIIDATPSTSVSNDSNRYPFANEPTNALQNMDYKDYLKMSAGNASEYPGSP 60
Cry8Bc1          MSPNNQNEYEIIDATPSTSVSNDSNRYPFANEPTNALQNMDYKDYLKMSAGNASEYPGSP 60
Cry8Aa1          MSPNNQNEYEIIDATPSTSVSSDSNRYPFANEPTDALQNMNYKDYLKMSGGENPELFGNP 60
Cry8AB001.1      MSPNNQNEYEIIDATPSTSVSNDSNRYPFANEPTNALQNMNYKDYLRMSEGYDSEYSGSP 60
Cry8Da1          MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLRMSEGENPELFGNP 60
Cry8Da3          MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLRMSEGENPELFGNP 60
Cry8Da2          MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLRMSEGENPELFGNP 60
Cry8Ca1          MSPNNQNEYEIIDALSPTSVSDNSIRYPLANDQTNTLQNMNYKDYLKMTESTNAELSRNP 60
Cry8Ca2          MSPNNQNEYEIIDALSPTSVSDNSIRYPLANDQTNTLQNMNYKDYLKMTESTNAELSRNP 60
Cry8Ka1          MSPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFANP 60
                 ***** *****:** ..****.:* *** **: * :****:*****:*: .   :   .*

Cry8Ba1          EVFLSEQDAVKAAIDIVGKLLTGLGVPFVGPIVSLYTQLIDILWPSKQKSQWEIFMEQVE 120
50c_b_           EVFLSEQDAVKAAIDIVGKLLTGLGVPFVGPIVSLYTQLIDILWPSKQKSQWEIFMEQVE 120
Cry8Bb1          EVLVSGQDAAKAAIDIVGKLLSGLGVPFVGPIVSLYTQLIDILWPSGEKSQWEIFMEQVE 120
Cry8Bc1          EVLVSGQDAAKAAIDIVGKLLSGLGVPFVGPIVSLYTQLIDILWPSGQKSQWEIFMEQVE 120
Cry8Aa1          ETFISS-STIQTGIGIVGRILGALGVPFASQIASFYSFIVGQLWPSKSVDIWGEIMERVE 119
Cry8AB001.1      GALVSGKQAIKVGIDIVGNILGKLGVPFASQIVSFYNFILDQLWPSNSVSVWEQIMTLVE 120
Cry8Da1          ETFISSS-TVQTGIGIVGQVLGALGVPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
Cry8Da3          ETFISSS-TVQTGIGIVGQVLGALGVPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
Cry8Da2          ETFISSS-TVQTGIGIVGQVLGALGVPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
Cry8Ca1          GTFISAQDAVGTGIDIVSTIISGLGIPVLGEVFSILGSLIGLLWPSNNENVWQIFMNRVE 120
Cry8Ca2          GTFISAQDAVGTGIDIVSTIISGLGIPVLGEVFSILGSLIGLLWPSNNENVWQIFMNRVE 120
Cry8Ka1          EVFAAPG-GITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSG-NPWAELMILVE 118
                  .: :      ..* **  ::  **:*. .        ::. ***:   . *  :*  **

Cry8Ba1          ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWKENPNGSRALRDVRNRFEILDSLF 180
50c_b_           ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWKENPNGSRALRDVRNRFEILDSLF 180
Cry8Bb1          ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWEENPNGSRALRDVRNRFEILDSLF 180
Cry8Bc1          ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWKENPNGSRALRDVRNRFEILDSLF 180
Cry8Aa1          ELVDQKIEKYVKDKALAELKGLGNALDVYQQSLEDWLENRNDARTRSVVSNQFIALDLNF 179
Cry8AB001.1      ELVDQKITEYARNKALAELKGLGDALGVYQQSLEAWLENRNDTRARSVVSNQFIALELDF 180
Cry8Da1          DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
Cry8Da3          DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
Cry8Da2          DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
Cry8Ca1          ELIDQKILDSVRSRAIADLANSRIAVEYYQNALEDWRKNPHSTRSAALVKERFGNAEAIL 180
Cry8Ca2          ELIDQKILDSVRSRAIADLANSRIAVEYYQNALEDWRKNPHSTRSAALVKERFGNAEAIL 180
Cry8Ka1          ELINQKIEETVRNKALADLGNSGRALRSYLNAFEDWQKNPNIFRSKELVKERFSNAEHSL 178
                 :*::*** . .:. *:: * .       *  ::: * :* :  *:   *  ::   :  :

Cry8Ba1          TQYMPSFRVTNFEVPFLTVYTMAANLHLLLLRDASIFGEEWGLSTSTINNYYNRQMKLTA 240
50c_b_           TQYMPSFRVTNFEVPFLTVYTMAANLHLLLLRDASIFGEEWGLSTSTINNYYNRQMKLTA 240
Cry8Bb1          TQYMPSFRVTNFEVPFLTVYAMAANLHLLLLKDASIFGEEWGWSTTTINNYYDRQMKLTA 240
Cry8Bc1          TQYMPSFRVTNFEVPFLTVYTQAANLHLLLLKDASIFGEEWGWSTTTINNYYDRQMKLTA 240
Cry8Aa1          VSSIPSFAVSGHEVLLLAVYAQAVNLHLLLLRDASIFGEEWGFTPGEISRFYNRQVQLTA 239
Cry8AB001.1      VGAIPSFAVSGQEVPLLAVYAQAVNMHLLLLRDASIFGEEWGFTSSEISTYYNRQVQLTS 240
Cry8Da1          VAKIPSFAISGQEVPLLSVYAQAANLHLLLLRDASIFGAEWGFTPGEISTFYDRQVTRTA 239
Cry8Da3          VAKIPSFAISGQEVPLLSVYAQAANLHLLLLRDASIFGAEWGFTPGEISTFYDRQVTRTA 239
Cry8Da2          VAKIPSFAISGQEVPLLSVYAQAANLHLLLLRDASIFGAEWGFTPGEISTFYDRQVTRTA 239
Cry8Ca1          RTNMGSFSQTNYETPLLPTYAQAASLHLLVMRDVQIYGKEWGYPQNDIDLFYKEQVSYTA 240
Cry8Ca2          RTNMGSFSQTNYETPLLPTYAQAASLHLLVMRDVQIYGKEWGYPQNDIDLFYKEQVSYTA 240
Cry8Ka1          RTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEFTK 238
                    : **   . *  :*..*: *..:**::::* .*:* *** .   *. :* .*:  *
```

FIGURA 22 (Continuação)

```
Cry8Ba1          EYSDHCVKWYETGLAKLKGSSAKQWIDYNQFRREMTLTVLDVVALFSNYDTRTYPLATTA 300
50c_b_           EYSDHCVKWYETGLAKLKGSSAKQWIDYNQFRREMTLTVLDVVALFSNYDTRTYPLATTA 300
Cry8Bb1          EYSDHCVKWYETGLAKLKGTSAKQWVDYNQFRREMTLAVLDVVALFPNYDTRTYPMETKA 300
Cry8Bc1          EYSDHCVKWYETGLAKLKGTSAKQWVDYNQFRREMTLTVLDVVALFPNYDTRTYPMETKA 300
Cry8Aa1          EYSDYCVKWYKIGLDKLKGTTSKSWLNYHQFRREMTLLVLDLVALFPNYDTHMYPIETTA 299
Cry8AB001.1      QYSDYCVKWYDTGLQKLKGTSAESWLEYHQFRREMTFMVLDLVALFPNYDTHTYPLETKA 300
Cry8Da1          QYSDYCVKWYNTGLDKLKGTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA 299
Cry8Da3          QYSDYCVKWYNTGLDKLKGTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA 299
Cry8Da2          QYSDYCVKWYNTGLDKLKGTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA 299
Cry8Ca1          RYSDHCVQWYNAGLNKLRGTGAKQWVDYNRFRREMNVMVLDLVALFPNYDARIYPLETNA 300
Cry8Ca2          RYSDHCVQWYNAGLNKLRGTGAKQWVDYNRFRREMNVMVLDLVALFPNYDARIYPLETNA 300
Cry8Ka1          EYTEHCINIYNDGLNQLKGSNAKQWIAFNRFRREMTLTVLDVVALFPNYDVRMYPIKTTT 298
                 .*:::*:: *. ** :*:*: : .*: :::*****.. ***:****.***.: **: *.:

Cry8Ba1          QLTREVYTDPLGAVDVPNIG---SWYDKAP----SFSEIEKAAIRPPHVFDYITGLTVYT 353
50c_b_           QLTREVYTDPLGAVDVPNIG---SWYDKAP----SFSEIEKAAIRPPHVFDYITGLTVYT 353
Cry8Bb1          QLTREVYTDPLGAVNVSSIG---SWYDKAP----SFGVIESSVIRPPHVFDYITGLTVYT 353
Cry8Bc1          QLTREVYTDPLGAVNVSSIG---SWYDKAP----SFGVIESSVIRPPHVFDYITGLTVYT 353
Cry8Aa1          QLTRDVYTDPIAFNIVTSTG---FCNPWSTHSGILFYEVENNVIRPPHLFDILSSVEINT 356
Cry8AB001.1      QLTREVYTDPIAFNLSGAAG---FCSPWSKYTGISFSEIENDVIRPPHLFNLLRSLEINT 357
Cry8Da1          QLTREVYTDPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHLFDILSEIEFYT 356
Cry8Da3          QLTREVYTDPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHLFDILSEIEFYT 356
Cry8Da2          QLTREVYTDPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHLFDILSEIEFYT 356
Cry8Ca1          ELTREIFTDPVGSYVTGQSSTLISWYDMIPAALPSFSTLEN-LLRKPDFFTLLQEIRMYT 359
Cry8Ca2          ELTREIFTDPVGSYVTGQSSTLISWYDMIPAALPSFSTLEN-LLRKPDFFTLLQEIRMYT 359
Cry8Ka1          ELTRTIYTDPLGYTKTGSSSTP-PWYNYGS----SFSYIESVAIPAPSLVKWLSQIEIYS 353
                 :*** ::***:        .              *  :*.  :  * ..  :  : . :

Cry8Ba1          KKRSFTS--DRYMRYWAGHQISYKHIGTSSTFTQMYGTNQNLQSTSNFDFTNYDIYKTLS 411
50c_b_           KKRSFTS--DRYMRYWAGHQISYKHIGTSSTFTQMYGTNQNLQSTSNFDFTNYDIYKTLS 411
Cry8Bb1          QSRSISS--ARYIRHWAGHQISYHRVSRGSNLQQMYGTNQNLHSTSTFDFTNYDIYKTLS 411
Cry8Bc1          QSRSISS--ARYIRHWAGHQISYHRIFSDNIIKQMYGTNQNLHSTSTFDFTNYDIYKTLS 411
Cry8Aa1          SRGGITLNNDAYINYWSGHTLKYRRTADSTVTYTAN-YGRITSEKNSFALEDRDIFEINS 415
Cry8AB001.1      VRGTILGNTKDYLNYWSGHSLQYN-FIGKTIVRESN-YGYLTSEKTRIELDTRDIFEINS 415
Cry8Da1          TRAGLPLNNTEYLEYWVGHSIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS 415
Cry8Da3          TRAGLPLNNTEYLEYWVGHSIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS 415
Cry8Da2          TRAGLPLNNTEYLEYWVGHSIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS 415
Cry8Ca1          SFR--QNGTIEYYNYWGGQRLTLSYIYGSS-FNK--YSGVLAGAEDIIPVGQNDIYRV-- 412
Cry8Ca2          SFR--QNGTIEYYNYWGGQRLTLSYIYGSS-FNK--YSGVLAGAEDIIPVGQNDIYRV-- 412
Cry8Ka1          KSARATP---QSADYWAGHTITYHYSGDDGQAVPNYGDRTNPVIVNRYNFEQADIYRVSS 410
                            :* *: :                                .   **:.

Cry8Ba1          NGAVLLDIVYPGYTYTFFGMPETEFFMVNQLNNTRKT-LTYKPASKDIID---RTRDSEL 467
50c_b_           NGAVLLDIVYPGYTYTFFGMPETEFFMVNQLNNTRKT-LTYKPASKDIID---RTRDSEL 467
Cry8Bb1          KDAVLLDIVYPGYTYIFFGMPEVEFFMVNQLNNTRKT-LKYNPVSKDIIA---STRDSEL 467
Cry8Bc1          KDAVLLDIVFPGYTYIFFGMPEVEFFMVNQLNNTRKT-LKYNPVSKDIIA---GTRDSEL 467
Cry8Aa1          TVANLAN-----YYQKAYGVPGSWFHMVKRG-TSSTT-AYLYSKTHTALQGCTQVYESSD 468
Cry8AB001.1      TAASLAN-----YYQETYGVPESRLHLVRWASPYYTS-SHLYSKTHTTGEGCTQVYESSE 469
Cry8Da1          LGADLAN-----YYAQVYGVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID 470
Cry8Da3          LGADLAN-----YYAQVYGVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID 470
Cry8Da2          LGADLAN-----YYAQVYGVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID 470
Cry8Ca1          VWTYIGR-----YTNSLLGVNPVTFYFSNNTQK-------TYSKPKQ-FAGGIKTIDSGE 459
Cry8Ca2          VWTYIGR-----YTNSLLGVNPVTFYFSNNTQK-------TYSKPKQ-FAGGIKTIDSGE 459
Cry8Ka1          SVASSTT------SGVKLLTTKAIFDGISTNNGLVSY---MYEKLSNFFN---ELKDTIT 458
                   :                  :                                  ::
```

FIGURA 22 (Continuação)

```
Cry8Ba1          ELPPETSG---QPNYESYSHRLGHITFIYSS------STSTYVPVFSWTHRSADLTNTVK 518
50c_b_           ELPPETSG---QPNYESYSHRLGHITFIYSS------STSTYVPVFSWTHRSADLTNTVK 518
Cry8Bb1          ELPPETSD---QPNYESYSHRLCHITSIPATG-----NTTGLVPVFSWTHRSADLNNTIY 519
Cry8Bc1          ELPPETSD---QPNYESYSHRLCHITSIPATG-----STTGLVPVFSWTHRSADLINAVH 519
Cry8Aa1          EIPLDRT----VPVAESYSHRLSHITSHSFSKNGSAYY--GSFPVFVWTHTSADLNNTIY 522
Cry8AB001.1      EIPVDRT----VPINEGYSHRLSYVTALFFQKIINTFYRNGTLPVFVWTHRSADLTNTIY 525
Cry8Da1          EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY 525
Cry8Da3          EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY 525
Cry8Da2          EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY 525
Cry8Ca1          ELTYEN--------YQSYSHRVSYIT--SFEIKSTGGTVLGVVPIFGWTHSSASRNNFIY 509
Cry8Ca2          ELTYEN--------YQSYSHRVSYIT--SFEIKSTGGTVLGVVPIFGWTHSSASRNNFIY 509
Cry8Ka1          ELPVQISSPPTYGDAEQYSHRLSYVSNAPTEYSSGGHLILGLIPVLGWTHTSLTQTNQIH 518
                 *:. :          . ****: :::                .*:: *** *    * :

Cry8Ba1          SGEITQIPGGKSSTIGRNTY-------IIKGRG-YTGGDLVALTDRIG------SCEFQM 564
50c_b_           SGEITQIPGGKSSTIGRNTY-------IIKGRG-YTGGDLVALTDRIG------SCEFQM 564
Cry8Bb1          SDKITQIPAVKCWDNLPFVP-------VVKGPG-HTGGDLLQYNRSTGSVGTLFLARYGL 571
Cry8Bc1          SDKITQIPVVKVSDLAPSITG-GPNNTVVSGPG-FTGGGIIKVIRN----GVIISHMRVK 573
Cry8Aa1          SDKITQIPAVKGDML-------YLGGSVVQGPG-FTGGDILKRTNPSIL----GTFAVTV 570
Cry8AB001.1      PDVITQIPVVKAYELGSSILPDSPSPTIVPGPG-FTGGDIIQLLANTKG----IANMNFE 580
Cry8Da1          SDKITQIPVVKAHTLVSGTT-------VIKGPG-FTGGNILKRTSSGP----LAYTSVSV 573
Cry8Da3          SDKITQIPVVKAHTLVSGTT-------VIKGPG-FTGGNILKRTSSGP----LAYTSVSV 573
Cry8Da2          SDKITQIPVVKAHTLVSGTT-------VIKGPG-FTGGNILKRTSSGP----LAYTSVSV 573
Cry8Ca1          ATKISQIPINKASRTSGGAV-------WNFQEGLYNGGPVMKLSGSGSQ--VINLRVATD 560
Cry8Ca2          ATKISQIPINKASRTSGGAV-------WNFQEGLYNGGPVMKLSGSGSQ--VINLRVATD 560
Cry8Ka1          SDSITQIPAVKANSVSSYVT-------VEKGTG-FTGGDLVKFSTGFMS----TGIQFNL 566
                 .  *:***  *                    * ..** ::

Cry8Ba1          IFPESQRFRIRIRYASNETSYISLYGLN----QSGTLKFNQTYSNKNENDLTYNDFKYIE 620
50c_b_           IFPESQRFRIRIRYASNETSYISLYGLN----QSGTLKFNQTYSNKNENDLTYNDFKYIE 620
Cry8Bb1          ALEKAGKYRVRLRYATDADIVLHVN--------DAQIQMPKTMN--PGEDLTSKTFKVAD 621
Cry8Bc1          ISDINKEYSMRIRYASANNTEFYINPSE----ENVKSHAQKTMN--RGEALTYNKFNYAT 627
Cry8Aa1          NGSLSQRYRVRIRYASTTDFEFTLYLGD----TIE--KNRFNKTMDNGASLTYETFKFAS 624
Cry8AB001.1      IQDINKEYIMRIRYASAANPEFNIAVGT----SGERVSTSAQKTMNPGDILTFNKFNYAT 636
Cry8Da1          KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMNKGDDLTFNTFDLAT 628
Cry8Da3          KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMNKGDDLTFNTFDLAT 628
Cry8Da2          KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMNKGDDLTFNTFDLAT 628
Cry8Ca1          AKGASQRYRIRIRYASDRAGKFTISSRSPENPATYSASIAYTNTMSTNASLTYSTFAYAE 620
Cry8Ca2          AKGASQRYRIRIRYASDRAGKFTISSRSPENPATYSASIAYTNTMSTNASLTYSTFAYAE 620
Cry8Ka1          KIEERKRYRIRIRYAADVNATLSALGLN-------DAFINIKSTMSQDTPLKYNDFQYAE 619
                       .:  *:***:     :                    .      *. . *

Cry8Ba1          YPRVISVNASSNIQRLSIG----IQTNTNLFILDRIEFIPVDETYEAETDLEAAKKAVNA 676
50c_b_           YPRVISVNASSNIQRLSIG----IQTNTNLFILDRIEFIPVDETYEAETDLEAAKKAVNA 676
Cry8Bb1          AITTLNLATDSSLALKHNLGEDPNSTLSGIVYVDRIEFIPVDETYEAEQDLEAAKKAVNA 681
Cry8Bc1          LPPIKFTTTEPFITLGAIF--EAEDFLGIEAYIDRIEFIPVDETYEAEQDLEAAKKAVNA 685
Cry8Aa1          FITDFQFRETQDKILLS---MGDFSS-GQEVYIDRIEFIPVDETYEAEQDLEAAKKAVNA 680
Cry8AB001.1      FPP-IKFNSTKISIMLTAR-LAAFASTLLETYIDRIEFIPVDETYEAETDLETAKKAVNA 694
Cry8Da1          IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVK- 683
Cry8Da3          IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVNG 684
Cry8Da2          IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVNG 684
Cry8Ca1          SGP-INLGISGSSRTFDIS--ITKEAGAANLYIDRIEFIPVNTLFEAEEDLDVAKKAVNG 677
Cry8Ca2          SGP-INLGISGSSRTFDIS--ITKEAGAANLYIDRIEFIPVNTLFEAEEDLDVAKKAVNG 677
Cry8Ka1          ADKTVHLYNPRFSLYLENS-----DQSGKSIYIDRIEFIPVDETYEAEQDLE-------- 666
                                              :*::*:***:  :*** **:
```

FIGURA 22 (Continuação)

```
Cry8Ba1          LFTNTKDGLQPGVTDYEVNQAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP 736
50c_b_           LFTNTKDGLQPGVTDYEVNQAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP 736
Cry8Bb1          LFTNTKDGLRPGVTDYEVNQAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP 741
Cry8Bc1          LFTNTKDGLRPGVTDYEVNQAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP 745
Cry8Aa1          LFTNTKDGLRPGVTDYEVNQAANLVECLSDDLYPNEKRLLFDAVREAKRLSGARNLLQDP 740
Cry8AB001.1      LFTNTKDGLRPGVTDYEVNQAANLV---------------------------------- 719
Cry8Da1          ----------------------NLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT 721
Cry8Da3          LFTSKKDALQTSVTDYQVNQAANLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT 744
Cry8Da2          LFTSKKDALQTSVTDYQVNQAANLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT 744
Cry8Ca1          LFTNEKDALQTSVTDYQVNQAANLIECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT 737
Cry8Ca2          LFTNEKDALQTSVTDYQVNQAANLIECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT 737
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          DFQEINGENGWTASTGIEVIEGDAVFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY 796
50c_b_           DFQEINGENGWTASTGIEVIEGDAVFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY 796
Cry8Bb1          DFQEINGENGWTASTGIEVIEGDALFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY 801
Cry8Bc1          DFQEINGENGWTASTGIEVIEGDALFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY 805
Cry8Aa1          DFQEINGENGWAASTGIEIVEGDAVFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY 800
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY 781
Cry8Da3          GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY 804
Cry8Da2          GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY 804
Cry8Ca1          GFNRINGENGWTGSTGIEVVEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY 797
Cry8Ca2          GFNRINGENGWTGSTGIEVVEGDVLFKDRSLRLTNAREIDTETYPTYLYQQIDESLLKPY 797
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDDLLPDVPPVNNDGRINRCSEQKYVNSR 856
50c_b_           TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDDLLPDVPPVNNDGRINRCSEQKYVNSR 856
Cry8Bb1          TRYRLRGFVGSSQGLEIFTIRHQTNRIVKNVPDDLLPDVSPVNSDGSINRCSEQKYVNSR 861
Cry8Bc1          TRYRLRGFVGSSQGLEIFTIRHQTNRIVKNVPDDLLPDVSPVNSDGSINRCSEQKYVNSR 865
Cry8Aa1          TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDDLLPDVSPVNSDGSINRCSEQKYVNSR 860
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDNLLPDVLPVNSCGGIDRCSEQQYVDAN 841
Cry8Da3          TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDNLLPDVLPVNSCGGIDRCSEQQYVDAN 864
Cry8Da2          TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDNLLPDVLPVNSCGGIDRCSEQQYVDAN 864
Cry8Ca1          TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDNLLPDVRPVNSCGGVDRCSEQQYVDAN 857
Cry8Ca2          TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDNLLPDVRPVNSCGGVDRCSEQQYVDAN 857
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          LEVENR------SGEAHEFSIPIDTGELDYNENAGIWVGFKITDPEGYATLGNLELVEEG 910
50c_b_           LEVENR------SGEAHEFSIPIDTGELDYNENAGIWVGFKITDPEGYATLGNLELVEEG 910
Cry8Bb1          LEVENR------SGEAHEFSIPIDTGEIDYNENAGIWVGFKITDPEGYATLGNLELVEEG 915
Cry8Bc1          LEVENR------SGEAHEFSIPIDTGEIDYNENAGIWVGFKITDPEGYATLGNLELVEEG 919
Cry8Aa1          LEGENR------SGDAHEFSLPIDIGELDYNENAGIWVGFKITDPEGYATLGNLELVEEG 914
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNLELVEEG 901
Cry8Da3          LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNLELVEEG 924
Cry8Da2          LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNLELVEEG 924
Cry8Ca1          LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWIVFKIPTTNGNATLGNLEFVEEG 917
Cry8Ca2          LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWIVFKIPTTNGNATLGNLEFVEEG 917
Cry8Ka1          ------------------------------------------------------------
```

FIGURA 22 (Continuação)

```
Cry8Ba1          PLSGDALERLQKEEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPNVEITDL 970
50c_b_           PLSGDALERLQKEEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPNVEITDL 970
Cry8Bb1          PLSGDALERLQREEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL 975
Cry8Bc1          PLSGDALERLQREEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL 979
Cry8Aa1          PLSGDALERLQREEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL 974
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM 961
Cry8Da3          PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM 984
Cry8Da2          PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM 984
Cry8Ca1          PLSGETLEWAQQQEQQWQDKMARKRAASEKTYYAAKQAIDRLFADYQDQKLNSGVEMSDL 977
Cry8Ca2          PLSGETLEWAQQQEQQWQDKMARKRAASEKTYYAAKQAIDRLFADYQDQKLNSGVEMSDL 977
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWGLYDQRNAIPNGDYRNELSN 1030
50c_b_           TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWGLYDQRNAIPNGDYRNELSN 1030
Cry8Bb1          TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWSLYDQRNAIPNGDFRNGLSN 1035
Cry8Bc1          TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWSLYDQRNAIPNGDFRNGLSN 1039
Cry8Aa1          TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWNLYDQRNAIPNGDFRNGLSN 1034
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          LAAQNLVQSIPYVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSD 1021
Cry8Da3          LAAQNLVQSIPYVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSD 1044
Cry8Da2          LAAQNLVQSIPYVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSD 1044
Cry8Ca1          LAAQNLVQSIPYVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLQNAIPNGDFRNGLSN 1037
Cry8Ca2          LAAQNLVQSIPYVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLQNAIPNGDFRNGLSN 1037
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          WNTTSGVNVQQINHTSVLVIPNWNEQVSQKFTVQPNQRYVLRVTARKEGVGNGYVSIRDG 1090
50c_b_           WNTTSGVNVQQINHTSVLVIPNWNEQVSQKFTVQPNQRYVLRVTARKEGVGNGYVSIRDG 1090
Cry8Bb1          WNATPGVEVQQINHTSVLVIPNWDEQVSQQFTVQPNQRYVLRVTARKEGVGNGYVSIRDG 1095
Cry8Bc1          WNATPGVEVQQINHTSVLVIPNWDEQVSQQFTVQPNQRYVLRVTARKEGVGNGYVSIRDG 1099
Cry8Aa1          WNATPGVEVQQINHTSVLVIPNWDEQVSQQFTVQPNQRYVLRVTARKEGVGNGYVSIRDG 1094
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          WNATSDVNVQQLSDTSVLVIPNWNSQVSQQFTVQPNYRYVLRVTARKEGVGDGYVIIRDG 1081
Cry8Da3          WNATSDVNVQQLSDTSVLVIPNWNSQVSQQFTVQPNYRYVLRVTARKEGVGDGYVIIRDG 1104
Cry8Da2          WNATSDVNVQQLSDTSVLVIPNWNSQVSQQFTVQPNYRYVLRVTARKEGVGDGYVIIRDG 1104
Cry8Ca1          WNATSDVNVQQLSDTSVLVIPNWNSQVSQQFTVQPNYRYVLRVTARKEGVGDGYVIIRDG 1097
Cry8Ca2          WNATSDVNVQQLSDTSVLVIPNWNSQVSQQFTVQPNYRYVLRVTARKEGVGDGYVIIRDG 1097
Cry8Ka1          ------------------------------------------------------------

Cry8Ba1          GNQSETLTFSASDYDTNGMYDTQASNTNGYNTNSVYMIKPAISR---------------- 1134
50c_b_           GNQSETLTFSASDYDTNGMYDTQASNTNGYNTNSVYMIKPAISR---------------- 1134
Cry8Bb1          GNQTETLTFSASDYDTNGMYNTQVSNTNGYNTNNAYNTQASSTNGYNANNMYNTQASNTN 1155
Cry8Bc1          GNQTETLTFSASDYDTNGMYNTQVSNTNGYNTNNAYNTQASSTNGYNANNMYNTQASNTN 1159
Cry8Aa1          GNQSETLTFSASDYDTNGVYNDQTGYIT------------------------------- 1122
Cry8AB001.1      ------------------------------------------------------------
Cry8Da1          ANQTETLTFNICDDDTGVLSADQTSYIT------------------------------- 1109
Cry8Da3          ANQTETLTFNICDDDTGVLSADQTSYIT------------------------------- 1132
Cry8Da2          ANQTETLTFNICDDDTGVLSADQTSYIT------------------------------- 1132
Cry8Ca1          ANQTETLTFNICDDDTGVLSTDQTSYIT------------------------------- 1125
Cry8Ca2          ANQTETLTFNICDDDTGVLSTDQTSYIT------------------------------- 1125
Cry8Ka1          ------------------------------------------------------------
```

FIGURA 22 (Continuação)

```
Cry8Ba1          ----------------KTVDISSVYNQMWIEISETEGTFYIESVELIVDVE 1169
50c_b_           ----------------KTVDISSVYNQMWIEISETEGTFYIESVELIVDVE 1169
Cry8Bb1          GYNTNSVYNDQTGYITKTVTFIPYTDQMWIEMSETEGTFYIESVELIVDVE 1206
Cry8Bc1          GYNTNSVYNDQTGYITKTVTFIPYTDQMWIEMSETEGTFYIESVELIVDVE 1210
Cry8Aa1          ----------------KTVTFIPYTDQMWIEISETEGTFYIESVELIVDVE 1157
Cry8AB001.1      --------------------------------------------------
Cry8Da1          ----------------KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE 1144
Cry8Da3          ----------------KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE 1167
Cry8Da2          ----------------KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE 1167
Cry8Ca1          ----------------KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE 1160
Cry8Ca2          ----------------KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE 1160
Cry8Ka1          --------------------------------------------------
```