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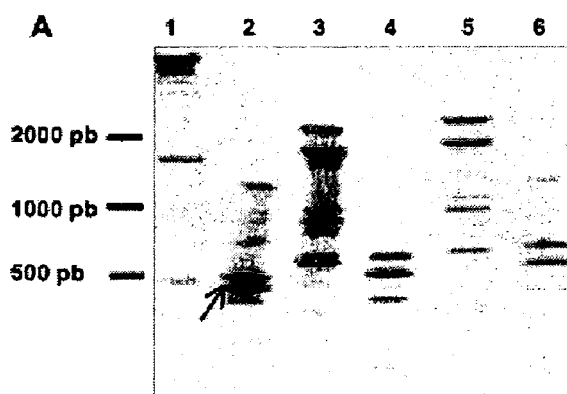
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(54) Título: **MOLÉCULA DE ÁCIDO NUCLÉICO ISOLADA, CONSTRUÇÃO GÊNICA, VETOR, CÉLULA TRANSGÊNICA, MÉTODO PARA OBTENÇÃO DE UMA CÉLULA E DE UMA PLANTA TRANSGÊNICA, POLIPEPTÍDEO ISOLADO E PURIFICADO, COMPOSIÇÃO PESTICIDA BIODEGRADÁVEL, MÉTODO PARA O CONTROLE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

(73) Titular(es): Embrapa - Empresa Brasileira de Pesquisa Agropecuária

(72) Inventor(es): Maria Fátima Grossi de Sa

(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 *Bacillus 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 sequência 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 endotoxina ativa contra o bicudo-do-algodoeiro.





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Relatório de Patente de Invenção: "MOLECULA 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".

CAMPO DA INVENÇÃO

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

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.

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).

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).

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).

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 disso, 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, conseqüentemente, o problema do uso abusivo de inseticidas químicos.

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).

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).

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.

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.

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).

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.

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

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 sequência 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 shuffling. *Nature*. London, Vol. 370, p. 389 – 391, 1994).

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 sequências 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).

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 acilase 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).

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-1). *J. Mol. Biol.*, Vol. 301, p. 1135 – 1147, 2000).

SUMÁRIO DA INVENÇÃO

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.

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.

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

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.

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BREVE DESCRIÇÃO DAS FIGURAS

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 *cry8b* **Linha 1.** Marcador de peso molecular 1 Kb ladder plus. **Linha 2 e 3.** Amplificação utilizando 1 μ L da reação 1 (Figura A) e amostra da linha 2 com a banda de aproximadamente 450 pb.

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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.

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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

5 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.

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

15 version 4.0. Molecular Biology and Evolution 24:1596-1599).

Figura 5: Mapa do vetor comercial pET101/D-TOPO para expressão heteróloga em *Escherichia coli*. Representação esquemática do vetor, incluindo o promotor pT7. **Promotor T7:** Induzido por IPTG permite a expressão em larga escala em algumas linhagens de *Escherichia coli*; **Operon lac (*lacO*):** Sítio de ligação do repressor *lac*, importante para a

20 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 ideal para 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-**

25 **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:** Sequência do bacteriófago T7 que permite a finalização da transcrição dos genes; **Promotor bla:** Promotor do gene de resistência a ampicilina; **Gene de resistência 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*.

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.

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.

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 160 µg/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*.

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 *SfiI*. Fragmentações, amplificações e reconstrução dos genes análogos mutantes.

Figura 10. Interação entre BBMV's 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 BBMV's do inseto *A. grandis*, ocorreu a partir do 5º ciclo da seleção.

5 **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.

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
15 concentração de 6 µg/mL de dieta um aumento de duas vezes na atividade inseticida da nova molécula.

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 análogo 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
20 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.
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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.

5 **Figura 15. Alinhamento da sequência de nucleotídeos de Cry8Ka1 com as sequências de Cry8AB00.1, 50C (b) e Cry8Bb1.** A primeira linha representa a sequência de Cry8Ka1; a segunda linha, Cry8AB00.1, sequência 3 da patente US 73297361; a terceira linha, Cry8AB00.1, sequência 5 da patente US 7339092; a quarta linha, a sequência de 50C (b) da patente US 5554534; a quinta linha, Cry8Bb1, sequência 15 da patente WO2005083095; a sexta linha, Cry8Bb1, sequência 17 da patente WO2005083095. Os números acima dos alinhamentos referem-se à posição de cada nucleotídeo na sequência. As sequências 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).

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Figura 16. Alinhamento da sequência de nucleotídeos de Cry8Ka1 com Cry8Bb1. A primeira linha representa a sequência de Cry8Ka1; da segunda linha à 32ª linha, Cry8Bb1, sequências 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 sequência. As sequências 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).

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Figura 17. Alinhamento da sequência de nucleotídeos de Cry8Ka1 com Cry8Bb1. A primeira linha representa a sequência de Cry8Ka1; da segunda linha à 31ª linha, Cry8Bb1, sequências 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

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referem-se à posição de cada nucleotídeo na sequência. As sequências 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).

Figura 18. Alinhamento da sequência de nucleotídeos de Cry8Ka1 com Cry8Bb1. A primeira linha representa a sequência de Cry8Ka1; da segunda linha à 31ª linha, Cry8Bb1, sequências 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 sequência. As sequências 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).

Figura 19. Alinhamento das sequências de aminoácidos da nova δ -endotoxina Cry8Ka1 com sequências de Cry8. As sequências 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

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 sequência 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.

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.

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 sequência completa do gene foi utilizada a técnica de TAIL-PCR (Reação da Polimerase em Cadeia por Entrelaçamento Termal Assimétrico), com oligonucleotídeos específicos derivados das sequências 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 sequências 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).

Resumidamente, são feitas sequencialmente três reações de PCR utilizando três oligonucleotídeos sequenciais específicos de um lado e um oligonucleotídeo de sequência 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 sequência desconhecida, seguido de alguns ciclos a alta estringência de modo a favorecer o anelamento do oligonucleotídeo específico e a amplificação linear da sequência alvo. Alternando-se ciclos de alta e de baixa estringência, são formadas moléculas dupla-fita e a amplificação da sequência alvo torna-se logarítmica. Num segundo e terceiro ciclo de ampliações produtos não específicos deixam de ser amplificados e são eliminados.

Fragmentos amplificados no TAIL-PCR e, potencialmente positivos, foram clonados e sequenciados em ambas as direções em um sequenciador automático. No total, foram realizadas duas reações sequenciais de TAIL-PCR e amplificados 2688 pb (SEQ ID N° 1) equivalentes a 896 aminoácidos (SEQ ID N° 2) de um novo gene de *B. thuringiensis* pertencente à família de δ -endotoxinas Cry8. A sequência protéica predita do novo gene, denominado *cry8Kal* (nomenclatura seguindo regras oficiais [http://www.lifesci.sussex.ac.uk/home/Neil Crickmore/Bt/](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 sequência original serviu como molde para a geração de análogos com atividade entomotóxica melhorada.

Para obtenção de genes *cry* análogos, com alta entomotoxicidade para o bicudo-do-algodoeiro, foi utilizado o gene *cry8Kal* 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).*

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. Natl. Acad. Sci. USA, Vol. 89, p. 4457 – 4461, 1992).

5 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 N° 5 a 12).

10 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
15 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
20 do caule de girassol, *Cylindrocapturus 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,
25 *Meligethes aeneus*.

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

30 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.

Em algumas concretizações a invenção provê um gene codificador para δ -endotoxinas da família Cry8, obtido de fontes naturais, denominado *cry8Ka1* (seguinte nomenclatura oficial destes genes; [www.http://epunix.biols.susx.ac.uk/Home/Neil_Crickmore/Bt.html](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.

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

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 N° 1-2) ou protéicas (SEQ ID N° 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. As Figuras 15-19 mostram o alinhamento da seqüência da presente invenção (Cry8Ka1) com as seqüências descritas no estado da técnica.

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.

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.

Conforme usado na presente invenção, os termos “codificador”, “codificando” ou “codificado” significam que uma seqüência 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 seqüência nucleotídica. Estes códons são explorados por cada organismo vivo de maneira diferenciada, podendo partes de seqüências nucleotídicas distintas serem traduzidas biologicamente em peptídeos idênticos.

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 seqüência original.

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*.

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 seqüência de interesse ao gene da proteína III, do bacteriófago filamentosso 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).

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.

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.

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.

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 sequência 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.

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 sequência 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 *Agrobacterium*; 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 C₄ 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-specific 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.

Uma “sequência líder” ou “sequência sinal” na presente invenção significa uma sequência de ácido nucleico que, quando operacionalmente ligada a uma molécula de ácido nucleico, permite a secreção do produto da molécula de ácido nucleico. A sequência líder está preferencialmente localizada na região 5' da molécula de ácido nucleico. Preferencialmente, a sequência 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 sequência sinal proveniente de uma cultivar de algodão brasileira.

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 tumefaciens* (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.

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.

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
5 combinação de procedimentos, tais como digestão utilizando protease e purificação.

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
10 é medida por meio de métodos apropriados para o componente de interesse (por exemplo, espectrometria de massa e similares).

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
15 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
20 estabilizadores, ou combinados dentro, por exemplo, em uma composição agriculturalmente aceitável.

O termo “veículo agriculturalmente aceitável” refere-se a soluções nas quais uma proteína pesticida ou uma sequência de ácido nucleico codificadora de uma proteína pesticida possa ser mantida sem a alteração das propriedades funcionais da molécula da proteína aqui
25 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,
30 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.

Os termos “análogo peptídico” ou “análogo mutante” significam um análogo natural ou mutante de uma proteína, compreendendo uma série de fragmentos lineares ou descontínuos 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.

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 biológicas, 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.

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.

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.

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.

5 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.

0 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.

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

20 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.

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

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.

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.

O termo “toxina” ou “endotoxina” está relacionado a um polipeptídeo, o qual apreensa 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.

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.

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 significativamente 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 sequência 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.

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 sequências de aminoácido e sequências 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 sequência 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.

O desenho do gene sintético foi realizado com base na sequência 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 códens pouco usados em plantas e no aumento do conteúdo de G-C de 35.6 para 43.8%. A sequência protéica final do gene sintético é idêntica a sequência original, ou seja, permaneceu inalterada.

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.

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.

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.

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.

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.

A invenção também compreende plantas transgênicas ou transformadas compreendendo pelo menos uma sequência 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.

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.

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 progênes 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*.

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 subsequente 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.

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).

Alternativamente, as construções gênicas podem ser combinadas com regiões flaqueadoras 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).

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 sequência 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, MacMillan 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)).

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.

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).

Microorganismos hospedeiros têm sido conhecidos por ocupar a “fitosfera” (filoplano, filosfera, rizosfera, e/ou rizoplano) de uma ou mais cultivares de interesse selecionada(s).

- 5 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.

Tais microorganismos incluem, mas não estão limitados a bactérias, algas e fungos.

- 10 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
- 15 existem as espécies bacterianas da fitosfera como *Pseudomonas syringae*, *Pseudomonas fluorescens*, *Serratia marcescens*, *Acetobacter xylinum*, *Agrobacteria*, *Rhodopseudomonas spheroides*, *Xanthomonas campestris*, *Rhizobium melioli*, *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*,
- 20 *Saccharomyces rosei*, *S. pretoriensis*, *S. cerevisiae*, *Sporobolomyces rosues*, *S. odorus*, *Kluyveromyces veronae*, e *Aureobasidium pollulans*.

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

25 contendo a sequência nucleotídica de interesse operacionalmente ligada a sinais regulatórios de transcrição e tradução para expressão da sequência de nucleotídeo. Quando uma sequência de nucleotídeo homóloga interna do organismo se encontra com a sequência 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.

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.

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.

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.

Na presente invenção, um microorganismo transformado (contendo a sequência 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.

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, nematocidas, 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.

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.

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.

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, Orthoptera, 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 obscurus*, *Solenopsis milesta*, *Tetranychus urticae*; Sorgo: *Chilo partellus*, *Spodoptera frugiperda*, *Helicoverpa zea*, *Elasmopalpus lignosellus*, *Feltia subterranea*, *Phyllophaga crinita*, *Eleodes*, *Conoderus*, e *Aeolus spp.*, *Oulema melanopus*,
5 *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*,
10 *Melanoplus femurrubrum*, *Melanoplus differentialis*, *Melanoplus sanguinipes*, *Mayetiola destructor*, *Sitodiplosis mosellana*, *Meromyza americana*, *Hylemya coarctata*, *Frankliniella fusca*, *Cephus cinctus*, *Aceria tulipae*; Girassol: *Cylindrocapturus adspersus*, *Smicronyx fulus*, *Smicronyx sordidus*, *Suleima helianthana*, *Homoeosoma electellum*, *Zygogramma exclamationis*, *Bothyrus gibbosus*, *Neolasioptera murtfeldtiana*; Algodão: *Heliothis virescens*,
15 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; *Frankliniella fusca*, tripes;
20 *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 gemmatilis*, *Plathypena scabra*, *Ostrinia nubilalis*, *Agrotis ipsilon*, *Spodoptera exigua*, *Heliothis virescens*,
25 *Helicoverpa zea*, *Epilachna varivestis*, *Myzus persicae*, *Empoasca fabae*, *Acrosternum hilare*, *Melanoplus femurrubrum*, *Melanoplus differentialis*, *Hylemya platura*, *Sericothrips variabilis*, *Thrips tabaci*, *Tetranychus turkestanii*, *Tetranychus urticae*; Cevada: *Ostrinia nubilalis*, *Agrotis ipsilon*, *Schizaphis graminum*, *Blissus leucopterus leucopterus*; *Acrosternum hilare*, *Euschistus servus*, *Jylemya platura*, *Mayetiola destructor*, *Petrobia latens*; Canola:
30 *Vrevicoryne brassicae*, *Phyllotreta cruciferae*, *Phyllotreta striolata*, *Phyllotreta nemorum*,

Meligethes aeneus, *Meligethes rufimanus*, *Meligethes nigrescens*, *Meligethes canadianus*, e *Meligethes viridescens*; Batata, *Leptinotarsa decemlineata*.

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.

5 **EXEMPLOS**

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).

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

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.

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.

Exemplo 2 – Identificação, isolamento e caracterização do gene *cry8* proveniente da estirpe de *Bacillus thuringiensis* S811.

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 μ L de água Milli-Q e, posteriormente, armazenado a -20°C.

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 *cryI* (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.; Ortiz, 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 *cryI* 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 μ L contendo 2,5 μ g 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/ μ L 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 separados 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).

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).

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.

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.

O produto final, obtido pela técnica de TAIL-PCR, contém 2688 pb amplificado (SEQ ID N° 1) e codifica uma nova δ -endotoxina de 896 aminoácidos (SEQ ID N° 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 18, 19, 20 e 21).

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).

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).

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.

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.

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%

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

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.

Para amplificar o gene *cry8* com as extremidades complementares, foram desenhados oligonucleotídeos com base no códon de iniciação (ATG) dos genes, com adição da sequência 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 oligonucleotídeo, 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.

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 subsequentemente 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.

Para expressão do novo gene, os plasmídeos 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 DO₆₀₀ 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 inoculadas 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 ressuspensão 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).

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 Na₂CO₃ e 2,93 g de NaHCO₃), 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%.

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

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 mm², 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.

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*.

Exemplo 5 – Geração de genes mutantes, análogos ao gene *cry8Ka1* nativo, altamente eficazes no controle de *Anthonomus grandis* pela técnica de embaralhamento de DNA.

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.

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 sequência gênica em questão, os quais contêm a sequência da enzima de restrição *SfiI* (5'GGCCNN NNGGCC3'). Estes oligonucleotídeos foram desenhados em nosso laboratório utilizando-se como molde a sequência gênica nativa *cry8Ka1* e introduzem às extremidade 5'e 3' do gene nativo a sequência da enzima em questão (oligonucleotídeo 5': *SfiI* F - 5'CCCGGCCAGGC 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 μ L, 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.

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*.

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 MgSO₄, 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.

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 *SfiI* F e *SfiI* R, 2mM de MgSO₄ 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.

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).

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 eletroporação, 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 10⁵ transformantes.

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 BBMV's 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).

O cultivo de células de *E. coli* XL1-Blue transformadas, em meio SB contendo 100µg mL⁻¹ carbenicilina, 5µg mL⁻¹ tetraciclina, foi incubado em 37 °C com agitação até atingir densidade óptica $A_{550} = 0.6-0.8$. Então, 1×10^{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 °C. Adicionou-se Canamicina 100µg mL⁻¹, e a incubação seguiu por 12 h a 37 °C. As células coletadas por centrifugação foram guardadas a -20 °C 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 ressuspensos 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.

No procedimento de seleção por afinidade de ligação, os fagos fusionados foram depositados em poços de uma placa de microtitulação previamente sensibilizados com BBMV's (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 Na₂HPO₄, 1.2 mM KH₂PO₄ 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 seriadas 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.

O gene *cry8Ka1* 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°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 centrifugação os fagos foram ressuspensos em solução salina TBS (5 mM Tris-HCl, 15 mM NaCl, pH 7.5), novamente centrifugados, coletados e armazenados a 4°C para utilização imediata em bioensaios.

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 sequenciamento 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 sequenciador automático modelo 3130 xL Genetic Analyzer (APPLIED BIOSYSTEMS).

Ao final, foram selecionadas quatro sequências análogas ao novo gene *cry8Ka1*, as quais estão discriminadas 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 sequências e classificação das mesmas como análogas do gene nativo *cry8Ka1*, estas moléculas foram agrupadas por similaridade de sequências 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 sequências foram classificadas na família das toxinas Cry8, sendo posteriormente nomeadas de Cry8Ka2, Cry8Ka3, Cry8Ka4 e Cry8Ka5 (Tabela 2) (SEQ ID N° 5-12).

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.

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

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).

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

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 2.5Å resolution. Nature, 353: 815-821, 1991) depositadas no Banco de Dados de estrutura de Proteínas (PDB), O alinhamento de seqüências 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).

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).

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).

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.

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.

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

O desenho do gene *cry8Ka1* sintético foi baseado na sequência 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 sequência protéica final do gene *cry8Ka1* sintético (SEQ ID N° 4) é idêntica a sequência original (SEQ ID N° 2). Um resumo das modificações introduzidas é apresentado na Tabela 3.

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 <i>Cry8Ka1</i>	<i>Cry8Ka1</i> 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

5 Para modificar a sequência 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).

10 A sequência 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.

Exemplo 9 – Construção do gene sintético *cry8Kal* otimizado para expressão em plantas de algodão.

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 subsequente; (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.

A Tabela 3 mostra as modificações introduzidas na seqüência nucleotídica do gene *cry8Kal* sintético. A Tabela também mostra os parâmetros levados em consideração para modificações da seqüência.

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.

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.

LISTAGEM DE SEQUÊNCIAS

INFORMAÇÃO GERAL:

NÚMERO DE SEQ ID N° 12

5

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 1

TAMANHO: 2710

TIPO: DNA

10 ORGANISMO: *Bacillus thuringiensis*

SEQUÊNCIA: 1

ATGAGTCCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGT
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15 CCTGAAGTGTTTGCTGCACCAGGTGGGATTACAACCTGGAATTACTATAGTTACTAAATT
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TAGGTCTATTATGGCCAACATCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAA
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ACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTTAAATCAATTAAA
25 AGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGAAATGACATTGA
CGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTACCCTATAAAA
ACAACCTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACACGAAAACGGG
TTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATATAGAAAGTG
TAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTATTTCGAAA
30 TCCGCAAGGGCTACACCGCAAAGTGCGGATTATTGGGCAGGACATACAATAACATATCA
CTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAATCCTGTAA
TTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATCTGTTGCT
TCAAGTACAACCTAGTGGTGTTAAATTATTAACCTACTAAGGCTATATTTGATGGCATAAG

TACAAACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAACTTTTTTAATGAA³C
 TAAAAGATACAATTACAGAGCTACCTGTTTCAGATATCCAGTCCTCCTACCTACGGGGAT
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 10 GAAGTATAACGATTTCCAATATGCAGAAGCTGACAAAACAGTGCATTTATACAATCCTC
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 20 AAGGATTAGAAATTTATACGATTCGTCACCAAACGAATCGAATTGTAAAAAATGTACCG
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 25

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 2

TAMANHO: 903

TIPO: PROTÉICA

30 ORGANISMO: *Bacillus thuringiensis*

SEQUÊNCIA: 2

MSPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFAN
 PEVFAAPGGITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSGNPWAELMILVE

ELINQKIEETVRNKALADLGNSGRALRSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS
 LRTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEF
 TKEYTEHCINIYNDGLNQLKGSNAKQWIAFNRFREMTLTVLDVVALFPNYDVRMYPIK
 TTTELTRTIYTDPLGYTKTGSSSTPPWYNYGSSFSYIESVAIPAPSLVKWLSQIEIYSK
 5 SARATPQSADYWAGHTITYHYSGDDGQAVPNYGDRTNPVIVNRYNFEQADIYRVSSVA
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 SVSSYVTVEKGTGFTGGDLVKFSTGFMSTGIQFNLKIEERKRYRIRIRYAADV NATLSA
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 10 IEFIPVDETYEAEQDLEN AKKAVNALFTNTKDGLRPGVTDYEVNQAANLVECLSDDLYP
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15

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 3

TAMANHO: 2001

TIPO: DNA

20 ORGANISMO: *Bacillus thuringiensis*

SEQUÊNCIA: 3

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 25 CCTGAGGTGTTGCTGCACCAGGTGGGATCACAACCTGGAATTACTATCGTTACTAAGTT
 GCTTGTTGTTGGGACTTCCATTGCTGGGGAGACCGGTATGGCTCTTAACCTCATTC
 TTGGTCTTTTGTGGCCAACATCAGGAAACCCTTGGGCTGAGCTTATGATCTTGTTGAA
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 30 CTAACATCTTCAGGAGTAAGGAGTTGGTTAAAGAAAGATTCTCAAACGCTGAACATTCC
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 5 TTCTAGTAGCACACCACCATGGTACAACCTATGGATCTAGTTTCTCCTACATCGAAAGTG
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 10 TCCAGTACAACCTAGTGGTGTTAAGTTGTTGACTACTAAGGCTATCTTCGATGGTATCAG
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 GCTGAGCAGTACAGCCATAGGCTTTCCTACGTTTCTAACGCTCCAACAGAGTACTCTTC
 TGGTGGACACTTGATTTTGGGACTTATCCCAGTTCTTGGTTGGACCCATACCAGTTTGA
 15 CTCAGACAAACCAGATCCATTCTGACTCAATTACTCAGATTCAGCTGTTAAGGCAAAC
 AGTGTTAGCTCTTACGTTACTGTTGAGAAGGGAACAGGCTTCACAGGTGGAGATTTGGT
 GAAGTTCTCCACCGGATTCATGTCTACCGGAATCCAGTTCAACTTGAAGATCGAAGAGA
 GAAAGCGTTACCGTATCCGTATTAGATATGCTGCTGATGTTAATGCTACTCTCTCTGCA
 CTTGGATTGAATGATGCATTCATTAACATTAAGTCCACAATGTCTCAGGACACCCCTTT
 20 GAAGTACAACGATTTCCAATATGCAGAGGCTGACAAGACAGTGCATTTGTACAACCCTC
 GTTTCTCTTTGTACTTGGAAGAACTCAGATCAATCCGGGAAGAGTATCTACATCGATAGA
 ATCGAGTTCATCCCAGTGGATGAGACCTACGAGGCAGAGCAAGATCTTGAATGA

CARACTERÍSTICAS DA SEQUÊNCIA:

25 SEQ ID N° 4

TAMANHO: 666

TIPO: PROTÉICA

ORGANISMO: *Bacillus thuringiensis*

SEQUÊNCIA: 4

30 MSPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFAN
 PEVFAAPGGITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSGNPWAELMILVE
 ELINQKIEETVRNKALADLGNSGRALRSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS
 LRTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEF

TKEYTEHCINIYNDGLNQLKGSNAKQWIAFNRFREMTLTVLDVVALFPNYDVRMYPTK
TTTELTRTIYTDPLGYTKTGSSSTPPWYNYGSSFSYIESVAIPAPSLVKWLSQIEIYSK
SARATPQSADYWAGHTITYHYSGDDGQAVPNYGDRTNPVIVNRYNFEQADIYRVSSVA
SSTTSGVKLLTTKAIFDGISTNNGLVSYMYEKL SNFFNELKDTITELPVQISSPPTYGD
5 AEQYSHRLSYVSNAPTEYSSGGHLILGLIPVLGWTHTSLTQTNQIHSDSITQIPAVKAN
SVSSYVTVEKGTGFTGGDLVKFSTGFMSTGIQFNLKIEERKRYRIRIRYAADV NATLSA
LGLNDAFINIKSTMSQDTPLKYNDFOYAEADKTVHLYNPRFSLYLENSDQSGKSIYIDR
IEFIPVDETYEAEQDLE

10 CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 5

TAMANHO: 1982

TIPO: DNA SINTÉTICO

ORGANISMO: Derivado de *Bacillus thuringiensis*

15 SEQUÊNCIA: 5

ATGAGACCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGT
ATCTAATGATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAGAATA
TGAATTATAAGGATTACTTAAGAATGTCTGAAGGTACGATAATAAATATTTTGCAAAT
20 CCTGAAGTGTGCTGCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAATT
ACTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTAATTTTCATTC
TAGGTCTATTATGGCCAACACCAGGAAACCCGTGGGCTGAAC TAATGATATTGGTAGAA
GAACTCATAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGG
CAATTCAGGTAGAGCCTTACAATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACC
25 CTAATATCTTTTCGGAGTAAAGAGTTAGTAAAGAAAGATTTTCAAACGCGGAACATTCA
TTACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAATTCCTCTTTTAGCAAC
ATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATATTCAAATTTATGGAA
AAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGAACAAGTAGAGTTT
ACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTTAAATCAATTAAA
30 AGGTTCGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGAAATGACATTGA
CGGTACTGGATGTAGTTGCATTATTTCCGAACTATGATGTACGTATGTACCTATAAAA
ACAACTACAGAGCTAACGAGAACAATTTATAACCGATCCACTTGGTTACACGAAAACGGG
TTCTAGTAGTACACCACCATGGTGTAATTATGGATCTAGTTTCTCATATATAGAAAGTG

TAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTATTCGAAA
 TCCGCAAGGGCTACACCGCAAAGTGCGGATTATTGGGCAGGACATACAATAACATATCA
 CTATAGTGGAGATGATGGTCGAGCAGTAGCTAATTATGGAGATAGAACGAATCCTGTAA
 TTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATCTGTTGCT
 5 TCAAGTACAACCTAGTGGTGTAAATTATTAACCTACTAAGGCTATATTTGATGGCATAAG
 TACAAACAATGGACTTGTGAGTTACATGTATGAGAAGTTGTCTAACTTCTTTAACGAAC
 TCAAGGATACAATTACAGAGCTTCCTGTTTCAGATCTCCAGTCCTCCTACCTACGGTGAT
 GCTGAGCAGTACAGCCATAGGCTTTCCTACGTTTCTAACGCTCCAACAGAGTACTCTTC
 TGGTGGACACTTGATTTTGGGACTTATCCCAGTTCTTGGTTGGACCCATACCAGTTTGA
 10 CTCAGACAAACCAGATCCATTCTGACTCAATTACTCAGATTCCAGCTGTTAAGGCAAAC
 AGTGTTAGCTCTTACGTTACTGTTGAGAAAGGGACAGGCTTTACAGGTGGAGATTGGA
 AATTTCCACTGGATTCATGTTACAGGAATACAGTTTAAATTTAAAGATAGAAGAAGGAA
 AGCGTTATCGTATCCGTATACGATATGCCGCTGATGTTAATGCTACTCTATCTGCACTT
 GGATTAAATGGTGCATTTATTAACATTGAATCGACAATGTCTCAAGACACACCATTGAA
 15 GTATAACGATTTCCAATATGCAGAAGCTGACAAAACAGTGCATTTATACAATCCTCGTT
 TTTCTTTATATTTAGAAAATTCAGATCAATCCGGGAAAAGTATTTATATAGATCGAATC
 GAATTCATCCCAGTAGATAACGGTTCCTTGAACGG

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CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 6

TAMANHO: 660

TIPO: PROTÉICA

25

ORGANISMO: Derivada de *Bacillus thuringiensis*

SEQUÊNCIA: 6

30

MRPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFAN
 PEVFAAPGGITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTPGNPWAEMLILVE
 ELINQKIEETVRNKALADLGNSGRALQSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS
 LRTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEF
 TKEYTEHCINIYNDGLNQLKGSNAKQWIAFNFRREMTLTVLVDVVALFPNYDVRMYPIK
 TTTELTRTIYTDPLGYTKTGSSSTPPWCNYGSSFSYIESVAIPAPSLVKWLSQIEIYSK

SARATPQSADYWAGHTITYHYSGDDGRAVANYGDRTNPVIVNRYNFEQADIYRVSSSYA
 SSTTSGVKLLTTKAIFDGISTNNGLVSYMYEKLNSFFNELKDTITELPVQISSPPTYGD
 AEQYSHRLSYVSNAPTEYSSGGHLILGLIPVLGWTHTSLTQTNQIHSDSITQIPAVKAN
 SVSSYVTVEKGTGFTGGDLEISTGFMFTGIQFNLKIEEGKRYRIRIRYAADV NATLSAL
 5 GLNGAFINIESTMSQDTPLKYNDFQYAEADKTVHLYNPRFSLYLENSDQSGKSIYIDRI
 EFIPVDNGSLN

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 7

10 TAMANHO: 1991

TIPO: DNA SINTÉTICO

ORGANISMO: Derivado de *Bacillus thuringiensis*

SEQUÊNCIA: 7

15 ATGAGACCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGT
 ATCTAATGATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATA
 TGAATTATAAGGATTACTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAAT
 CCTGAAGTGTTTGCTGCACCAGGTGGGATTACAACTGGAATTACTATAGTTACTAAGTT
 ACTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTTCATTC
 20 TAGGTCTATTATGGCCAACATCAGGAAACCCGTGGGCTGAAC TAATGATATTGGTAGAG
 GAACTCATAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGG
 CAATTCAGGTAGAGCCTTACAATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACC
 CTAATATCTTTTCGGAGTAAAGAGTTAGTAAAAGAAAGATTTTCAAACGCGGAACACTCA
 TTACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAATTCCTCTTTTAGCAAC
 25 ATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATATTCAAATTTATGGAA
 AAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGAACAAGTAGAGTTT
 ACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTTAAATCAATTAAA
 AGGTTCTGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGAAATGACATTGA
 CGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTACCCTATAAAA
 30 ACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACACGAAAACGGG
 TTCTAGTAGTACACCACCATGGTGTAATTATGGATCTAGTTTCTCATATATAGAAAGTG
 TAGCGATTCCAGCCCCCAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTATTTCGAAA
 TCCGCAAGGGCTACACCGCAAAGTGCGGATTATTGGGCAGGACATACAATAACATATCA

CTATAGTGGAGATGATGGTCAAGCAGTAGCTAATTATGGAGATAGAACGAATCCTGTAA
 TTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATCTGTTGCT
 TCAAGTACAACCTAGGGGTGTTAAATTATTAACCTACTAAGGCTATCTTCGATGGTATCAG
 TACCAACAATGGACTTGTGAGTTACATGTATGAGAAGTTGTCTAACTTCTTTAACGAAC
 5 TCAAGGATACAATTACAGAGCTTCCTGTTCAGATCTCCAGTCCTCCTACCTACGGTGAT
 GCTGAGCAGTACAGCCATAGGCTTTCCTACGTTTCTAACGCTCCAACAGAGTACTCTTC
 TGGTGGACACTTGATTTTGGGACTTATCCCAGTTCTTGGTTGGACCCATACCAGTTTGA
 CTCAGACAAACCAGATCCATTCTGACTCAATTACTCAAATTCAGCTGTAAAGCAAAT
 AGTTTAGTGTTAGTTCTTATGTTACTGTTAGAAAAGGGAACAGGCTTTACAGGTGGAGA
 10 TTTAGTGAAATTCTCCACTGGATTTCATGTCTACAGGAATACAGTTTAATTTAAAGATAG
 AAGAAGGAAAGCGTTATCGTATCCGTATACGATATGCCGCTGATGTTAATGCTACTCTA
 TCTGCACTTGGATTAAATGATGCATTTATTAACATTGAATCGACAATGTCTCAAGACAC
 ACCATTGAAGTATAACGATTTCCAATATGCAGAAGCTGACAAAACAGTGCATTTATACA
 ATCCTCGTTTTTCTTTATATTTAGAAAATTCAGATCAATCCGGGAAAAGTATTTATATA
 15 GATCGAATCGAATTCATCCCAGTAGATAACGGTTCCTTGAACGG

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 8

20 TAMANHO: 663

TIPO: PROTÉICA

ORGANISMO: Derivada de *Bacillus thuringiensis*

SEQUÊNCIA: 8

25 MRPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFAN
 PEVFAAPGGITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSGNPWAELMILVE
 ELINQKIEETVRNKALADLGNSGRALQSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS
 LRTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEF
 TKEYTEHCINIYNDGLNQLKGSNAKQWIAFNFRREMTLTVLVDVVALFPNYDVRMYPIK
 30 TTTELTRTIYTDPLGYTKTGSSSTPPWCNYGSSFSYIESVAIPAPSLVKWLSQIEIYSK
 SARATPQSADYWAGHTITYHYSGDDGQAVANYGDRTPVIVNRYNFEQADIYRVSSVA
 SSTTRGVKLLTTKAIFDGISTNNGLVSYMYEKL SNFFNELKDTITELPVQISSPTYGD
 AEQYSHRLSYVSNAPTEYSSGGHLILGLIPVLGWTHTSLTQTNQIHSDSITQIPAVKAN

SLVLVLMMLLLEKGTGFTGGDLVKFSTGFMSTGIQFNLKIEEGKRYRIRIRYAADVNL
SALGLNDAFINIESTMSQDTPLKYNDFQYAEADKTVHLYNPRFSLYLENSDQSGKSIYI
DRIEFIPVDNGSLN

5 CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 9

TAMANHO: 1989

TIPO: DNA SINTÉTICO

ORGANISMO: Derivado de *Bacillus thuringiensis*

10 SEQUÊNCIA: 9

ATGAGACCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGT
ATCTAATGATTCTACCAGATACCCTTATGCGAATGAGCCCACAAATGCGTTACAAAATA
TGAATTATAAGGATTACTTAAGAATGTCTGAAGGTACGATAATAAATATTTTGCAAAT
15 CCTGAAGTGTTTGCTGCACCAGGTGGGATTACAACCTGGAATTACTATAGTTACTAAATT
ACTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTTCATTC
TAGGTCTATTATGGCCAACATCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAA
GAACTCATAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGG
CAATTCAGGTAGAGCCTTACAATCCTATTTAAACGCATTTGAAGATTGGCAAAAAAACC
20 CTAATATCTTTTCGGAGTAAAGAGTTAGTAAAAGAAAGATTTTCAAACGCGGAACATTCA
TTACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAATTCCTCTTTTAGCAAC
ATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAAGATATTCAAATTTATGGAA
AAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGAACAAGTAGAGTTT
ACGAAAGAATACACCGAACACTGTATTAATATTTATAATGATGGTTTAAATCAATTAAA
25 AGGTTCTGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGAAATGACATTGA
CGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTACCTATAAAA
ACAACCTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACACGAAAACGGG
TTCTAGTAGTACACCACCATGGTGTAATTATGGATCTAGTTTCTCATATATAGAAAGTG
TAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTATTGAAA
30 TCCGCAAGGGCTACACCGCAAAGTGCGGATTATTGGGCAGGACATACAATAACATATCA
CTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAATCCTGTAA
TTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATCTGTTGCT
TCAAGTACAACCTAGTGGTGTTAAATTATTAACCTACTAAGGCTATATTTGATGGCATAAG

TACAAACAATGGACTAGTGAGTTACATGTATGAGAAGTTGTCTAACTTCTTTAACGAAC
TCAAGGATACAATTACAGAGCTTCCTGTTCAGATCTCCAGTCCTCCTACCTACGGTGAT
GCTGAGCAGTACAGCCATAGGCTTTCCTACGTTTCTAACGCTCCAACAGAGTATTTTTC
GGGCGGACATTTTAATTTTGGGACTAATCCCCAGTACTTGGTTGGACGCATACTAGTT
5 TAACTCCAAACCAAATCAGATACCATTCTGACTCAATTACTCAAATTCAGCTGTTAAA
GCAAATAGTGTTAGTTCTTATGTTACTGTTGAAAAGGGAACAGGCTTTACAGGTGGAGA
TTTAGTGAAATTCTCCACTGGATTCATGTCTACAGGAATACAGTTTAATTTAAAGATAG
AAGAAGGAAAGCGTTATCGTATCCGTATACGATATGCCGCTGATGTTAATGCTACTCTA
TCTGCACTTGGATTAAATGATGCATTTATTAACATTGAATCGACAATGTCTCAAGACAC
10 ACCATTGAAGTATAACGATTTCCAATATGCAGAAGCTGACAAAACAGTGCATTTATACA
ATCCTCGTTTTTCTTTATATTTAGAAAATTCAGATCAATCCGGGAAAAGTATTTATATA
GATCGAATCGAATTCATCCCAGTAGATAACGGTTCCTTGAAC

15 CARACTERÍSTICAS DA SEQÜÊNCIA:

SEQ ID N° 10

TAMANHO: 663

TIPO: PROTÉICA

ORGANISMO: Derivada de *Bacillus thuringiensis*

20 SEQÜÊNCIA: 10

MRPNNLNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLRMSEGYDNKYFAN
PEVFAAPGGITTGITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSGNPWAELMILVE
ELINQKIEETVRNKALADLGNSGRALQSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS
25 LRTEMSSFAIRGFEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEF
TKEYTEHCINIYNDGLNQLKGSNAKQWIAFNFRREMTLTVLDVVALFPNYDVRMYPK
TTTELTRTIYTDPLGYTKTGSSSTPPWCNYGSSFSYIESVAIPAPSLVKWLSQIEIYSK
SARATPQSADYWAGHTITYHYSGDDGQAVPNYGDRTNPVIVNRYNFEQADIYRVSSSVA
SSTTSGVKLLTTKAIFDGISTNNGLVSYMYEKLNSFFNELKDTITELPVQISSPPTYGD
30 AEQYSHRLSYVSNAPTEYFSGGHFNFGTNSPVLGWTHTSLTPNQIRYHSDSITQIPAVK
ANSVSSYVTVEKGTGFTGGDLVKFSTGFMSTGIQFNLKIEEGKRYRIRIRYAADVNL
SALGLNDAFINIESTMSQDTPLKYNDFQYAEADKTVHLYNPRFSLYLENSDQSGKSIYI
DRIEFIPVDNGSLN

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N°. 11

5 TAMANHO: 1947

TIPO: DNA SINTÉTICO

ORGANISMO: Derivado de *Bacillus thuringiensis*

SEQUÊNCIA: 11

10 ATGCGACACCTTCTACATCTGTATCTAATGATTCTACCAGATACCCTTATGCGAATGAG
ACCAAATAATGCGTTACAAAATATGAATTATAAGGATTACTTAAGAATGTCTGAAGGTT
ACGATAATAAATATTTTGCAAATCCTGAAGTGTTTGCTGCACCAGGTGGGATTACAAC
GGAATTACTATAGTTACTAAATTACTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAAC
AGGGATGGCTCTTAATTTCAATTCTAGGTCTATTATGGCCAACATCAGGAAACCCGTGGG
15 CTGAACTAATGATATTGGTAGAAGAACTCATAAATCAAAAAATAGAAGAGACTGTAAGA
AACAAAGCACTAGCGGATTTGGGCAATTCAGGTAGAGCCTTACAATCCTATTTAAACGC
ATTTGAAGATTGGCAAAAAACCCTAATATCTTTCGGAGTAAAGAGTTAGTAAAAGAAA
GATTTTCAAACGCGGAACATTCATTACGTACCGAAATGAGTTCTTTTGCCATAAGAGGA
TTTGAAATTCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAAT
20 TAAAGATATTCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTAT
TCTATAGAGAACAAGTAGAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTAT
AATGATGGTTTAAATCAATTAAAAGGTTCTGAATGCTAAGCAATGGATTGCATTTAATCG
CTTCCGTAGAGAAATGACATTGACGGTACTGGATGTAGTTGCATTATTTCCGAACTATG
ATGTACGTATGTACCCTATAAAAACAACTACAGAGCTAACGAGAACAATTTATACCGAT
25 CCACTTGGTTACACGAAAACGGGTTCTAGTAGTACACCACCATGGTGTAATTATGGATC
TAGTTTCTCATATATAGAAAGTGTAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAA
GTCAGATTGAAATTTATTTCGAAATCCGCAAGGGCTACACCGCAAAGTGCGGATTATTGG
GCAGGACATACAATAACATATCACTATAGTGAGATGATGGTCAAGCAGTAGCTAATTA
TGGAGATAGAACGAATCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTT
30 ATAGAGTTTCATCATCTGTTGCTTCAAGTACAAC TAGTGGTGTTAAATTATTA ACTACT
AAGGCTATATTTGATGGCATAAGTACAAACAATGGACTAGTGAGTTACATGTATGAAAA
ATTATCGAACTTTTTTAATGAACTAAAAGATACAATTACAGAGCTACCTGTT CAGATAT
CCAGTCCTCCTACCTACGGGGATGCTGAACAGTACAGTCATCGGCTATCCTATGTTTCT

AATGCTCCAACAGAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCCAGTACT
 GGGTTGGACGCATACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCAATTACTC
 AAATTCCAGCTGTTAAAGCAAATAGTGTTAGTTCTTATGTTACTGTTGAAAAGGGAACA
 GGCTTTACAGGTGGAGATTTAGTGAAATTCTCCACTGGATTCATGTCTACAGGAATACA
 5 GTTTAATTTAAAGATAGAAGAAGGAAGCGTTATCGTATCCGTATACGATATGCCGCTG
 ATGTTAATGCTACTCTATCTGCACTTGGATTAAATGATGCATTTATTAACATTGAATCG
 ACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGCTGACAA
 AACAGTGCATTTATACAATCCTCGTTTTTCTTTATATTAGAAAATTCAGATCAATCCG
 GGAAAAGTATTTATATAGATCGAATCGAATTCATCCCAGTAGATAACGGTTCCTTGAAC

10

CARACTERÍSTICAS DA SEQUÊNCIA:

SEQ ID N° 12

TAMANHO: 649

TIPO: PROTÉICA

15 ORGANISMO: Derivada de *Bacillus thuringiensis*

SEQUÊNCIA: 12

MRHLLHLYLMILPDTLMRMRPNNALQNMNYKDYLRMSEGYDNKYFANPEVFAAPGGITT
 GITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSGNPWAEMLILVEELINQKIEETVR
 20 NKALADLGNSGRALQSYLNAFEDWQKNPNIFRSKELVKERFSNAEHSRTEMSSFAIRG
 FEIPLLATYAQAANLHLFLIKDIQIYGKEWGYTQADIDLFYREQVEFTKEYTEHCINIY
 NDGLNQLKGSNAKQWIAFNRFREMTLTVLVDVVALFPNYDVVMYPIKTTTELTRTIYTD
 PLGYTKTGSSSTPPWCNYGSSFSYIESVAIPAPSLVKWLSQIEIYSKSARATPQSADYW
 AGHTITYHYSGDDGQAVANYGDRTPVIVNRYNFEQADIYRVSSSVASSTTSGVKLLTT
 25 KAIFDGISTNNGLVSYMYEKL SNFFNELKDTITELPVQISSPPTYGDAEQYSHRLSYVS
 NAPTEYSSGGHLILGLIPVLGWTHTSLTQTNQIHSDSITQIPAVKANSVSSYVTVEKGT
 GFTGGDLVKFSTGFMSTGIQFNLKIEEGKRYRIRIRYAADV NATLSALGLNDAFINIES
 TMSQDTPLKYNDFQYAEADKTVHLYNPRFSLYLENSDQSGKSIYIDRIEFIPVDNGSLN

30

REIVINDICAÇÕES

1. Molécula de ácido nucléico isolada caracterizada por codificar uma proteína com atividade sobre insetos-praga onde a referida molécula compreende uma seqüência nucleotídica capaz de codificar uma proteína tendo ao menos 95% de identidade com a seqüência de aminoácidos da seqüência SEQ ID N°. 2.
5
2. Molécula de ácido nucléico isolada de acordo com a reivindicação 1, caracterizada pelo fato de o inseto praga ser preferencialmente o bicudo-do-algodoeiro.
3. Molécula de ácido nucléico isolada caracterizada por apresentar os domínios I, II e III, original e/ou otimizada para expressão em plantas, onde a seqüência nucleotídica compreende a seqüência descrita na SEQ ID N°. 3.
10
4. Construção gênica caracterizada por compreender:
 - a) um polinucleotídeo compreendendo a seqüência descrita em SEQ ID N°. 3; e
 - b) um promotor ativo, operacionalmente ligado ao polinucleotídeo definido em (a).
- 15 5. Vetor caracterizado por compreender a molécula de ácido nucléico isolada de acordo com a reivindicação 1, ou um fragmento desta.
6. Vetor de acordo com a reivindicação 5, caracterizado pelo fato de o referido vetor ser capaz de promover a expressão da molécula de interesse ou um fragmento desta.
7. Célula transgênica caracterizada por conter uma seqüência polinucleotídica otimizada para expressão em plantas, onde o polinucleotídeo compreende a seqüência descrita na SEQ ID N°. 3.
20
8. Célula transgênica de acordo com a reivindicação 7, caracterizada pelo fato de a célula consistir de uma célula vegetal.
9. Célula transgênica de acordo com a reivindicação 7, caracterizada pelo fato de a célula consistir de uma célula microbiana.
25

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

a) transformar uma célula com uma construção gênica de acordo com a reivindicação 4; e

5 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.

10 11. Método de acordo com a reivindicação 10, caracterizado pelo fato de a célula ser de um microorganismo.

12. Método de acordo com a reivindicação 11, caracterizado pelo fato de o microorganismo ser uma bactéria colonizadora de raiz.

13. Método de acordo com a reivindicação 10, caracterizado pelo fato de a célula ser uma célula vegetal.

15 14. 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;

20 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.

25 15. Método de acordo com a reivindicação 14 caracterizado pelo fato de a planta ser monocotiledônea ou dicotiledônea.

16. Método de acordo com a reivindicação 15 caracterizado pelo fato de a dicotiledônea ser uma planta de algodão.
17. Polipeptídeo isolado e purificado, caracterizado por compreender a sequência de aminoácidos como descrito na SEQ ID N°. 2.
- 5 18. Polipeptídeo de acordo com a reivindicação 17, caracterizado por exibir atividade inseticida, quando administrado oralmente, a larvas de insetos susceptíveis.
19. Polipeptídeo de acordo com a reivindicação 17, caracterizado por exibir atividade inseticida, quando fornecido em uma dieta administrada oralmente a uma larva de inseto coleóptero.
- 10 20. Polipeptídeo de acordo com a reivindicação 19, caracterizado pelo fato de a larva de inseto ser uma larva de bicudo-do-algodoeiro.
21. Polipeptídeo isolado, caracterizado pelo fato deste ser codificado por um segmento de ácido desoxirribonucleico nucleico compreendendo a fase aberta de leitura descrita na SEQ ID N°. 3, do nucleotídeo 001 ao nucleotídeo 2001.
- 15 22 Polipeptídeo isolado de acordo com as reivindicações 17 e 21, caracterizado por ser uma δ -endotoxina.
23. Composição pesticida biodegradável caracterizada por compreender uma concentração eficaz do polipeptídeo isolado de acordo com a reivindicação 22 ou análogo mutante, em um veículo carreador agronomicamente aceitável.
- 20 24. Composição pesticida biodegradável de acordo com a reivindicação 23, caracterizada pelo fato de o veículo carreador aceitável ser um microorganismo transformado.
- 25 25. Composição pesticida biodegradável de acordo com a reivindicação 23, caracterizada pelo fato de que um veículo carreador aceitável pode ser um 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 (ultra-violeta), um tampão, um agente de fluxo ou fertilizante, doadores de micronutriente, ou outras preparações que influenciam o crescimento da planta.

5 26. Composição pesticida biodegradável de acordo com a reivindicação 23, caracterizada pelo fato de o polipeptídeo de acordo com a reivindicação 22 ser usado em combinação com δ -endotoxinas Bt ou outras proteínas inseticidas.

27. Método para o controle de uma praga caracterizado por compreender:

a) detectar a ocorrência da praga em um ambiente;

10 b) promover o contato da praga com uma proteína pesticida isolada ou com uma composição da invenção, em que a referida proteína consiste da sequência de aminoácidos descrita em SEQ ID N°. 4.

28. Método de obtenção de linhagens transgênicas resistentes a um inseto praga, caracterizado por compreender as seguintes etapas:

15 a) transformar uma cultivar de interesse com uma construção gênica de acordo com a reivindicação 4;

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.

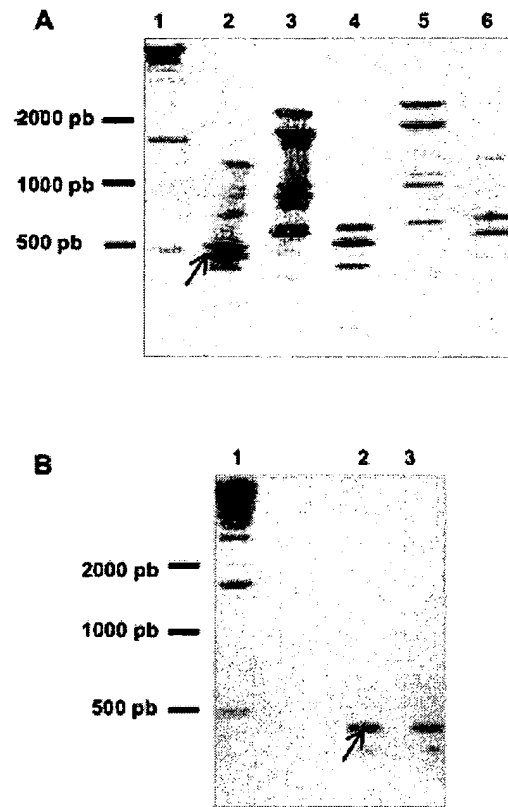


Fig. 1

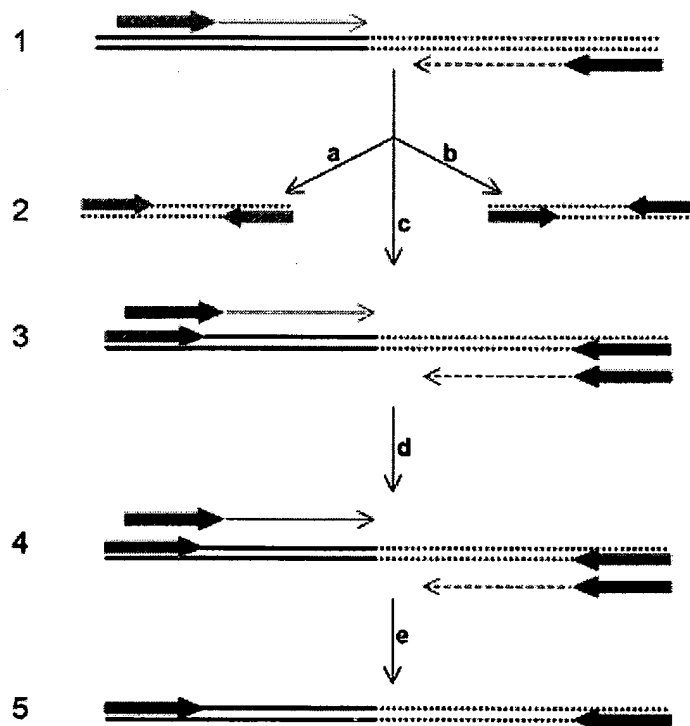


Fig. 2

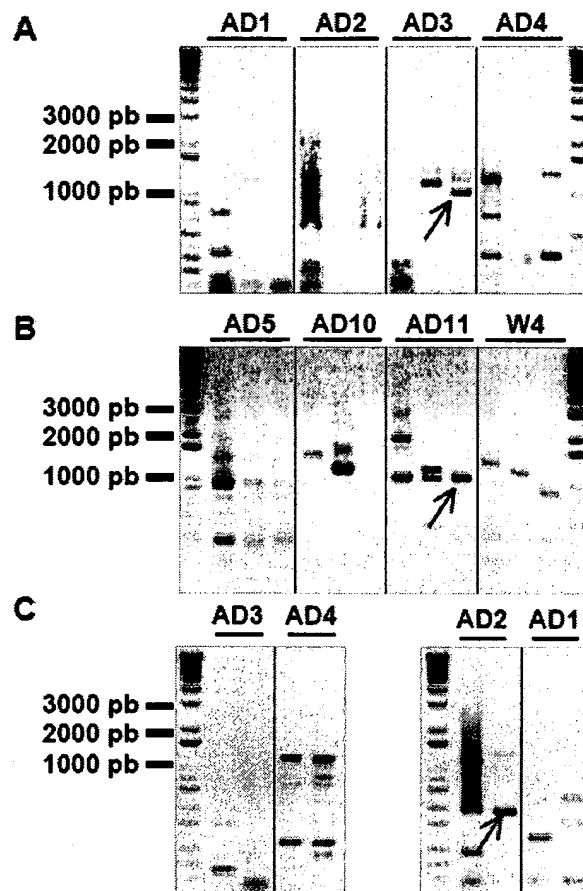


Fig. 3



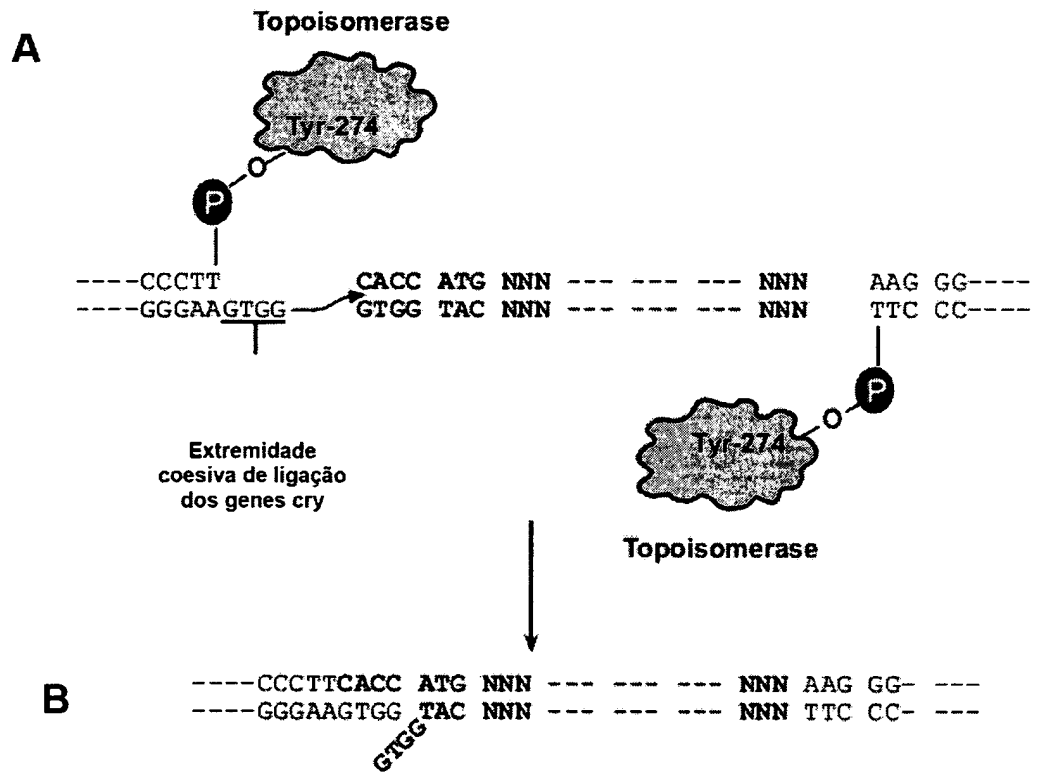


Fig. 6

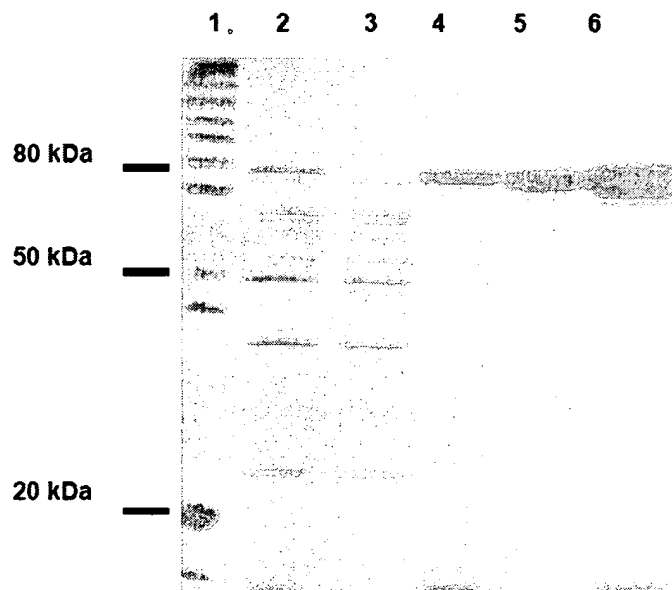


Fig. 7

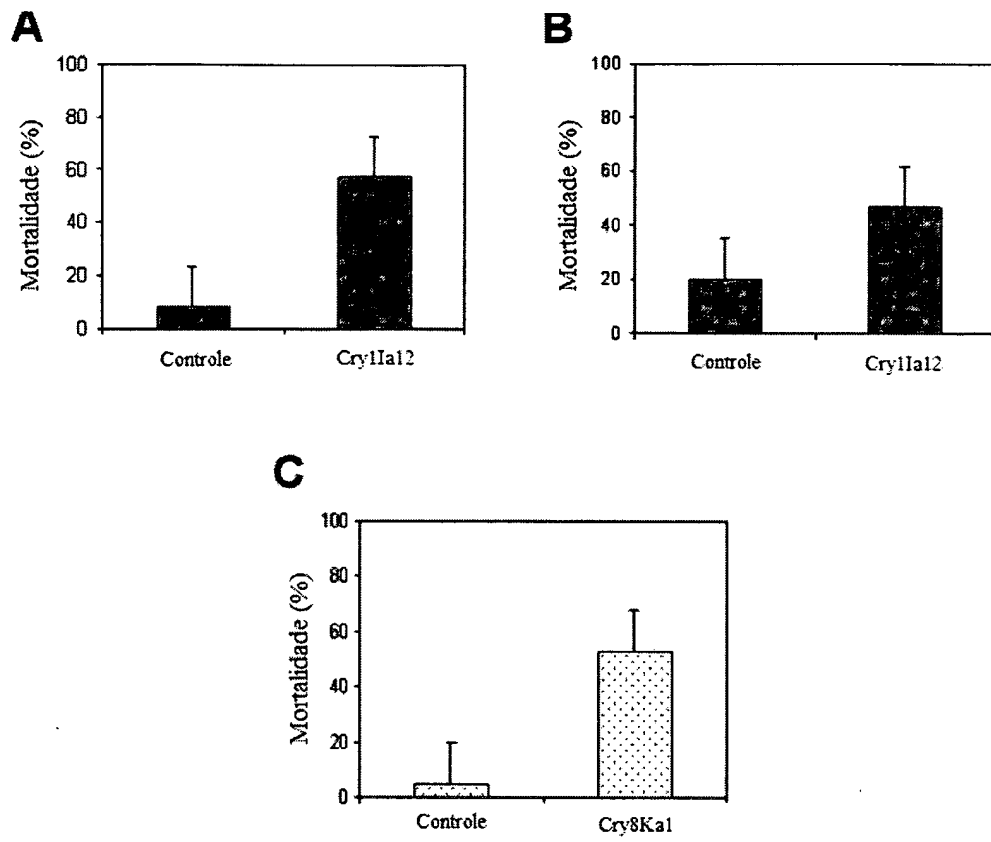


Fig. 8

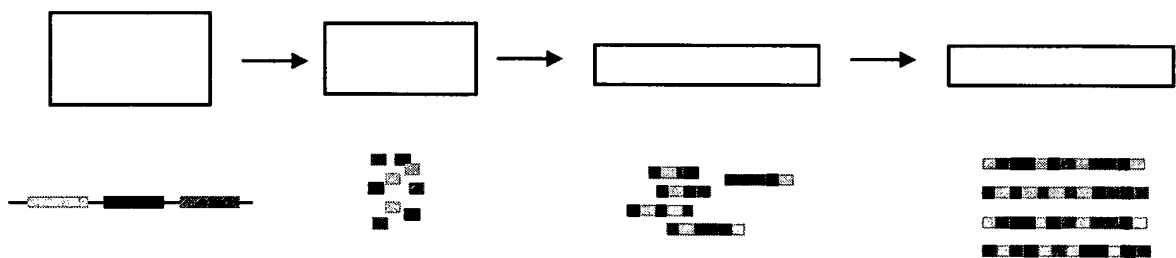
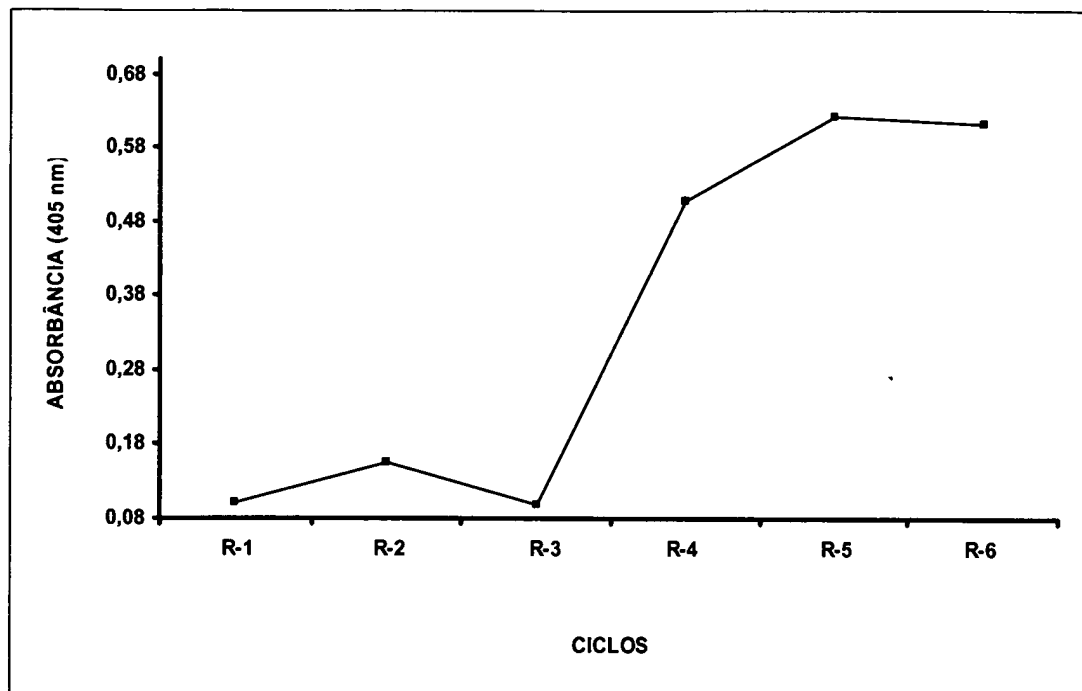
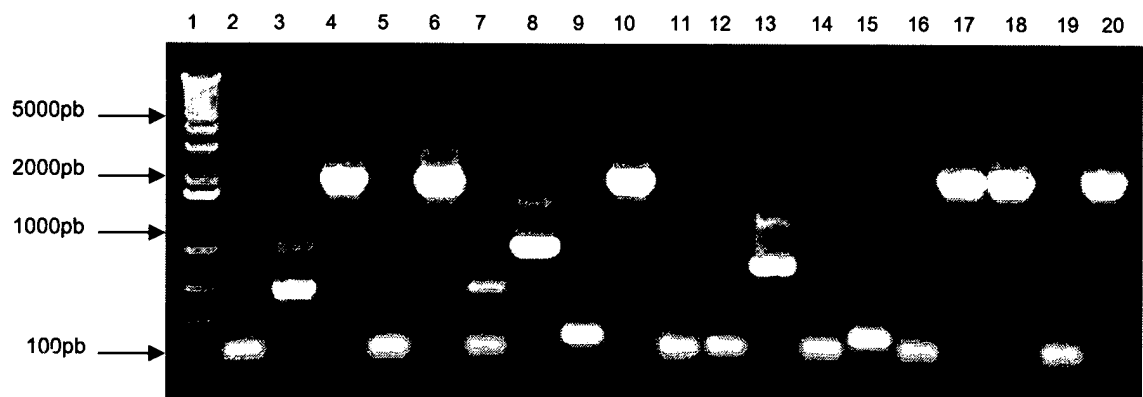


Fig. 9

**Fig. 10****Fig. 11**

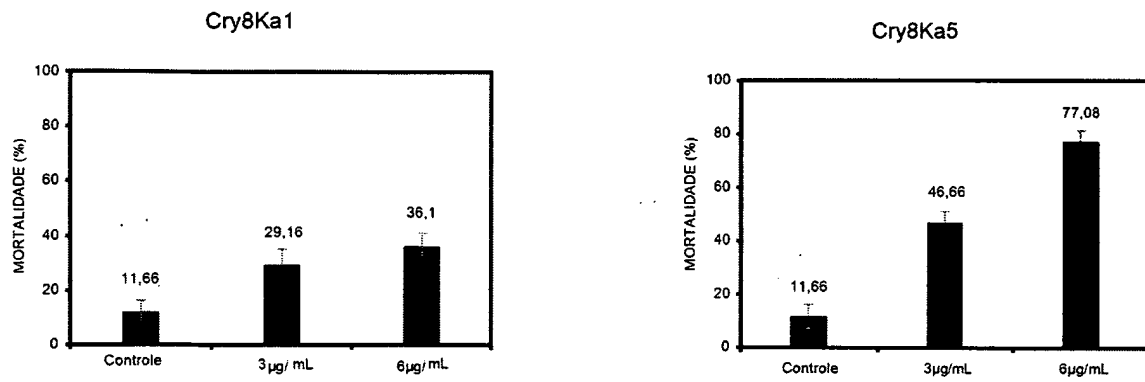


Fig. 12

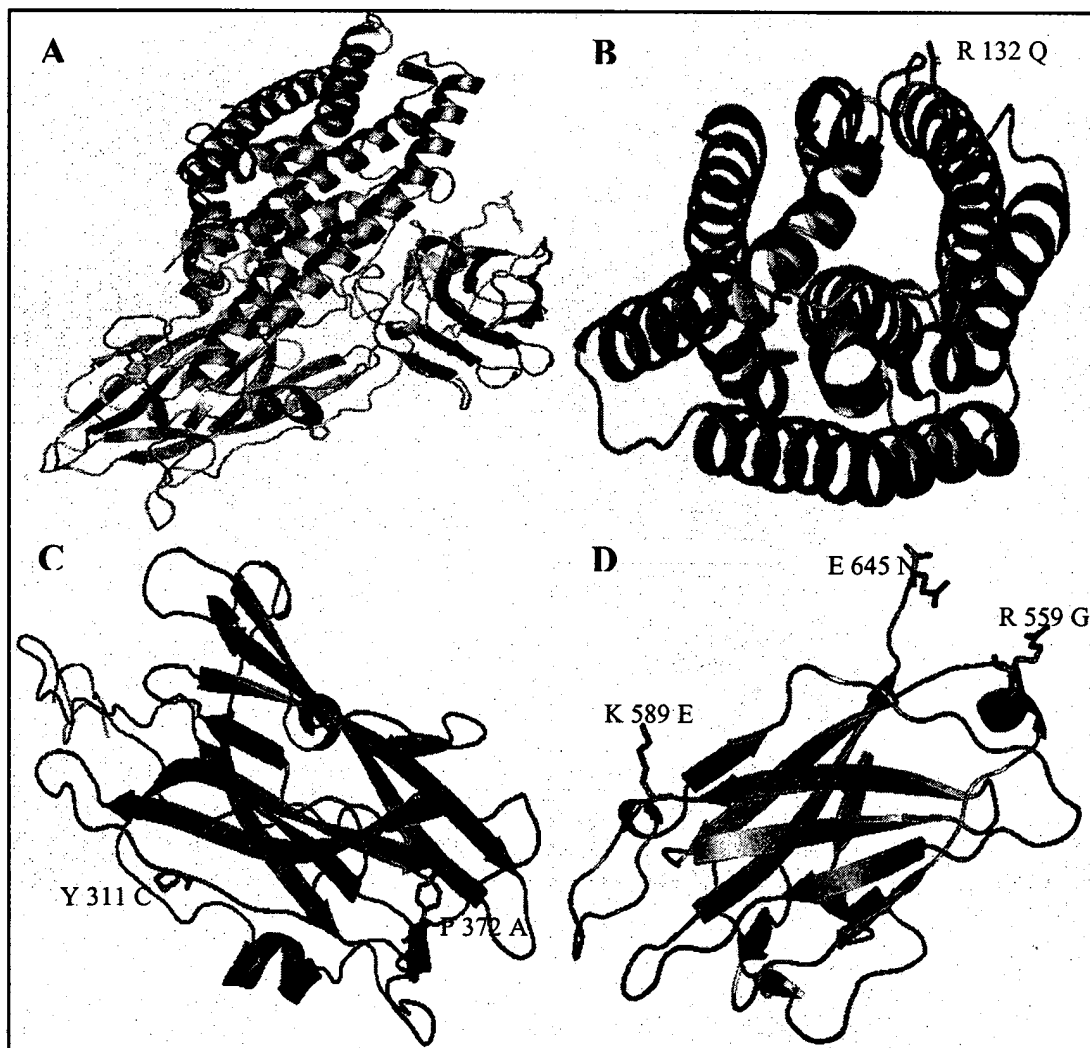


Fig. 13

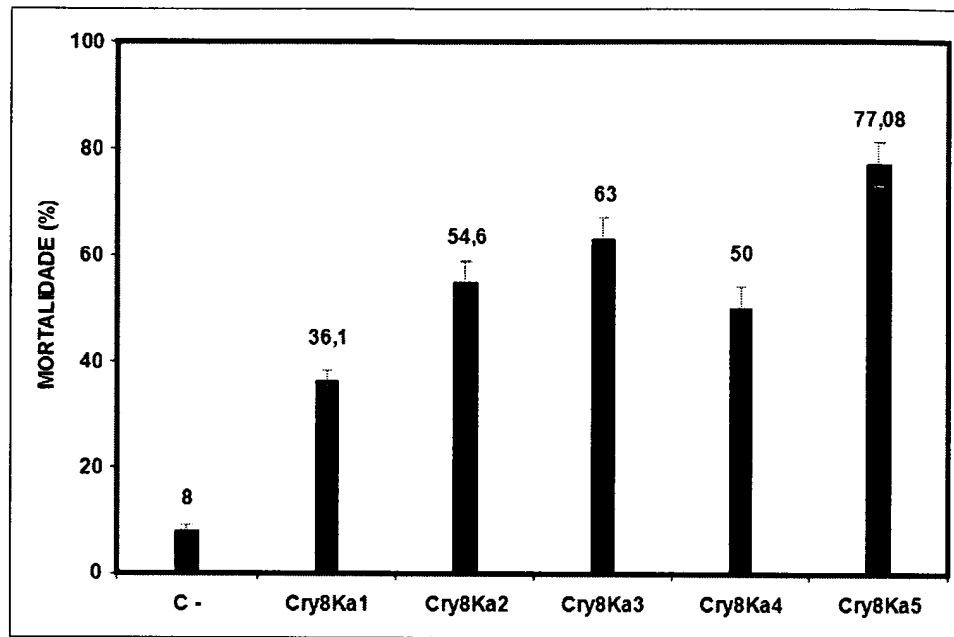
**Fig. 14**

Fig. 15 (ABAIXO)

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	Cry8AB00.1_Seq_5	60	ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
10	50C__b_	60	ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
	Cry8AB00.1_Seq_3	60	ATGAGTCCAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
	Cry8Ka1	60	ATGAGTCCAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTA
15			*****
	Cry8Bb1_Seq_15	120	TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
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	Cry8AB00.1_Seq_5	120	TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
	50C__b_	120	TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATG
25	Cry8AB00.1_Seq_3	120	TCCAATGATTCTAACAGATACCCTTTTGCGAATGAGCCAACAAATGCATTACAAAATATG
	Cry8Ka1	120	TCTAATGATTCTACCAGATACCCTTTTGCGAATGAGCCCAACAAATGCGTTACAAAATATG
30			** *****
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35	Cry8AB00.1_Seq_5	180	GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCT
	50C__b_	180	GATTATAAAGATTATTTAAAAATGTCTGCGGGAAATGTTAGTGAATACCCTGGTTCACCT
40	Cry8AB00.1_Seq_3	180	AATTATAAGGATTATTTAAGAATGTCTGAGGGGTATGATAGTGAATATTCTGGTTCACCT
	Cry8Ka1	180	AATTATAAGGATTATTTAAGAATGTCTGAAGGTACGATAATAAATATTTTGCAATCCT

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	Cry8Bb1_Seq_17	240	GAAGTACTTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTA
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	50C__b_	240	GAGGTATTTCTAAGCGAGCAAGATGCAGTTAAGGCCGCAATTGATATAGTAGGTAAATTA
	Cry8AB00.1_Seq_3	240	GGAGCACTTGTTAGTGGAAAACAAGCAATTAAGGTGGAATCGATATTGTCGGCAACATA
55	Cry8Ka1	237	GAAGTGTTTGCT--GCACCAGGTGGGATTACAACCTGGAATTACTATAGTTACTAAATTA
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	Cry8AB00.1_Seq_5	300	CTATCAGGTTTAGGGGTCCCATTTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATT
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	Cry8AB00.1_Seq_3	300	TTAGGTAAGTTAGGAGTTCCGTTTGCTAGTCAGATAGTAAGTTTATAATTTTATTCTC

Fig. 15 (CONTINUAÇÃO)

5	Cry8Ka1 297	CTGGGGTGGTTAGGACTTCCATTTGCTGGGGAAACAGGGATGGCTCTTAATTTTCATTCTA * ***** * ** ***** * * * * * * * * * * * * * *
	Cry8Bb1_Seq_15 360	GATATTCTGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTTATGGAACAAGTAGAA
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	Cry8Ka1 354	GGTCTATTATGGCCAACA--TCAGGAAACCCGTGGGCTGAACTAATGATATTGGTAGAA * * * ***** ** * **** * *** ** ***
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25	Cry8AB00.1_Seq_5 420	GAACTCATTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAA
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	Cry8Ka1 414	GAACTCATAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTTGGGC ***** * ***** *** ** *** * ***** * * * *
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	Cry8AB00.1_Seq_3 480	GGATTAGGAGATGCTTTGGGTGTATATCAGCAATCACTTGAAGCTTGGTTGGAAAATCGC
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55	50C__b_ 528	AAT-----GGTTC-----AAGAGCCTTACGAGATGTTCGAAATCGATTTGAAATCCTG
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Fig. 15 (CONTINUAÇÃO)

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Fig. 15 (CONTINUAÇÃO)

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10	Cry8AB00.1_Seq_3 888	TTCATGGTATTAGATTTGGTTGCATTATTTCCAAACTACGATACACACACGTATCCACTT
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20	Cry8AB00.1_Seq_5 939	GAAACGAAAGCACAACCTAACAAAGGGAAGTATATACAGATCCACTGGGCG-----CG
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	Cry8AB00.1_Seq_3 948	GAAACAAAGGCTCAACTTACACGAGAAGTATATACGGATCCGATCGCCTTTAATCTTTCT
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35	50C_b_ 996	GTAGATGTGCCTAATATTGGCTCCTGGT---ATGACAAAGCACCTTCTTTCTCAGAAATA
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	Cry8AB00.1_Seq_5 1110	ACACAATCAAGAAGCATTTT-----TTCCGCTCGCTATATAAGACATTGGGCTGGTCAT
	50C_b_ 1110	ACAAAAAACGTAGCTTTCAC-----TTCTGATCGTTATATGAGATATTGGGCTGGTCAT
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	Cry8Ka1 1107	TCGAAATCCGCAAGGGCTAC-----ACCGCAAAGTGC--GGATTATTGGGCAGGACAT
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Fig. 15 (CONTINUAÇÃO)

5	Cry8Bb1_Seq_15 1181	CAAATAAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAA-ATGTATGGAACATA
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	Cry8AB00.1_Seq_5 1169	CAAATAAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAA-ATGTATGGAACATA
10	50C_b_ 1169	CAAATAAGCTATAAGCATATCGGTACGAGTAGTACCTTTACACAG-ATGTATGGAACATA
	Cry8AB00.1_Seq_3 1184	TCTCTACAATATAATTTTATAGGTAAGA-CAATAGTCAGGGAAAGTAATTATGGAT---A
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25	Cry8AB00.1_Seq_3 1241	TCTTACTTCAGAAAAAAGTAGGA---TTGAATTAGACACTAGAGATATTTTGAATTA
	Cry8Ka1 1226	AACGAATCCTGTAATGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTC
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35	Cry8AB00.1_Seq_5 1289	ATCAAAGGATGCAGTACTCCTTGATATTGTTTACCCTGGTTATACGTATATATTTTGG
	50C_b_ 1289	ATCAAATGGTGCAGTACTCCTTGATATAGTTTACCCTGGTTATACGTATACATTTTGG
40	Cry8AB00.1_Seq_3 1286	TTCAACTGCCGCAA-----GCTTAGCG-AATTACTATCAAGAGACTTATGG
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50	Cry8AB00.1_Seq_5 1347	AATGCCAGAAGTCGAGTTTTTCATGGTAA-ACCAAT-TGAATAATACCAGAAAGACGTTA
	50C_b_ 1347	AATGCCAGAAACCGAGTTTTTTATGGTAA-ATCAAT-TGAATAATACCAGAAAGACGTTA
	Cry8AB00.1_Seq_3 1345	TGTGCCAGAATCTAGGCTCCATTTGGTGAGATGGGC-TAGCCCATATTATACATCATCTC
55	Cry8Ka1 1323	C-TACTA-----AGGCTATATTTGATGGCATAAGTACAAACAATGGACTAGTGAGTTAC
		* * * * *
60	Cry8Bb1_Seq_15 1413	AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
	Cry8Bb1_Seq_17 1413	AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
	Cry8AB00.1_Seq_5 1401	AAGTATAATCCAGTTTCCAAAGA--TATTATAGCGAGTACAAGAGATT-CGGAATTA---
65	50C_b_ 1401	ACGTATAAACCAGCTTCCAAAGA--TATTATAGATCGGACAAGAGATT-CGGAATTA---
	Cry8AB00.1_Seq_3 1404	ATCTTTATTCTAAAAACATACAAGTGGAGAAGGTTGTACACAAGTTT-ATGAATCAAGT

Fig. 15 (CONTINUAÇÃO)

5	Cry8Ka1 1383	ATGTATGAAAAATTATCGAACTTTTTTAATGAACATAAAGATACAATTACAGAGCTACCT * * * * *
	Cry8Bb1_Seq_15 1473	GAATTACCTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
10	Cry8Bb1_Seq_17 1473	GAATTACCTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
	Cry8AB00.1_Seq_5 1461	GAATTACCTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGT
	50C_b_ 1461	GAATTGCCTCCAGAACTTCAGGTCAACCAAATTACGAGTCATATAGCCATAGATTAGGT
15	Cry8AB00.1_Seq_3 1464	GAGGAAATACCTGTAGACAGAACCGTACCGATAAATGAAGGTTATAGTCACAGACTATCG
	Cry8Ka1 1443	GTTCAGATATCCAGTCTCTACCTACCGGGATGCTGAACAGTACAGTCATCGGCTATCC * * ** ** * *
20	Cry8Bb1_Seq_15 1518	CATATCACAAGTATTCCCGCG-----ACGGGTAACACT-----ACCGGATTAGTA
	Cry8Bb1_Seq_17 1518	CATATCACAAGTATTCCCGCG-----ACGGGTAACACT-----ACCGGATTAGTA
25	Cry8AB00.1_Seq_5 1506	CATATCACAAGTATTCCCGCG-----ACGGGTAACACT-----ACCGGATTAGTA
	50C_b_ 1503	CATATTACATTTATTTACTCC-----A---GTTCAACT-----AGCACGTATGTA
30	Cry8AB00.1_Seq_3 1524	TATGTACACCGCTCTCTTTTCCAGAAAATTATTAATACTTTTTATAGAAATGGAACCTA
	Cry8Ka1 1503	TATGTTTCTAATGCTCCAACAGAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATC ** * * *
35	Cry8Bb1_Seq_15 1578	CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
	Cry8Bb1_Seq_17 1578	CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
40	Cry8AB00.1_Seq_5 1566	CCTGTATTTTCTTGGACACATCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAA
	50C_b_ 1563	CCTGTATTTTCTTGGACACATCGGAGTGCAGATCTAACAAATACAGTTAAAGTGCGGAA
	Cry8AB00.1_Seq_3 1584	CCTGTCTTTGTTTGGACACATCGAAGTGCAGATCTTACAAATACAATTTATCCAGATGTA
45	Cry8Ka1 1563	CCAGTACTGGGTGGACGCATACTAGTTTAACTCAAACAAATCAGATACATTCTGACTCA ** * * ***** ** * * * * *
50	Cry8Bb1_Seq_15 1625	ATCACTCAAATTCGGCCCGTTAAATGTTGGGA-----TAATTTACCGTT-TGT
	Cry8Bb1_Seq_17 1625	ATCACTCAAATTCGGCCCGTTAAATGTTGGGA-----TAATTTACCGTT-TGT
	Cry8AB00.1_Seq_5 1613	ATCACTCAAATTCGGCCCGTTAAATGTTGGGA-----TAATTTACCGTT-TGT
55	50C_b_ 1610	ATCACCCAAATACCAGGGGGCAAGT-CTAGCA-----CCATAGGCAGAAATAC
	Cry8AB00.1_Seq_3 1644	ATTACTCAAATACCAGTGGTAAAGGCCTATGAATTGGGTAGCTCCATCTTACCAGATAGT
60	Cry8Ka1 1610	ATTACTCAAATTCAGCTGTTAAAGCAAATAG-----TGTTAGTTCTTATGT ** ** ***** * * *
	Cry8Bb1_Seq_15 1670	TC-----CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTATT-----ACA
65	Cry8Bb1_Seq_17 1670	TC-----CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTATT-----ACA
	Cry8AB00.1_Seq_5 1658	TC-----CAGTGGTAAAAGGACCAGGACATACAGGAGGGGATTATT-----ACA

Fig. 15 (CONTINUAÇÃO)

[illegible]

Fig. 15(CONTINUAÇÃO)

	Cry8Bb1_Seq_17 1960	CAGATAGTTTCGGTAGCAGTGAAACATAATGTAGGTGAAGACCCTAATTCAACATTATCTG
5	Cry8AB00.1_Seq_5 1948	CAGATAGTTTCGGTAGCATTGAAACATAATTTAGGTGAAGACCCTAATTCAACATTATCTG
	50C_b_ 1942	ATGCTTCTTCAAACATACAGAGGTTATCTATAGGTATACAAACGAATACAAATTTATTTA
10	Cry8AB00.1_Seq_3 1990	CTAAAATTTTCGATAATGTTAACAGCAAGATTGGCTGCTTTTGCAAGCACA---TTATTGG
	Cry8Ka1 1937	CCTCGTTTTTCTTTATATTTAGA--AAATTGAGATCAATCCGGGAAAAG-----TATTTA
		** * * * * ***
15	Cry8Bb1_Seq_15 2020	GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAT
	Cry8Bb1_Seq_17 2020	GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAT
20	Cry8AB00.1_Seq_5 2008	GTATAGTTTACGTTGACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAC
	50C_b_ 1993	TTTTAG-----ACCGAATCGAATTCATCCCAGTAGATGAGACATATGAAGCGGAAA
	Cry8AB00.1_Seq_3 2047	A---AACCTATATAGATAGAATCGAATTCATCCCAGTAGATGAAACATACGAGGCGGAGA
25	Cry8Ka1 1987	T-----ATAGATCGAATCGAATTCATCCCAGTAGATGAGACCTATGAAGCAGAAC
		* ***** ***** ** ** ** ** **
30	Cry8Bb1_Seq_15 2022	AA-----
	Cry8Bb1_Seq_17 2022	AA-----
	Cry8AB00.1_Seq_5 2068	AAGATTTAGAAAGCAGCGAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGCT
35	50C_b_ 2053	CGGATTTAGAAAGCGGCAAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGAT
	Cry8AB00.1_Seq_3 2107	CAGATTTAGAAACGGCGAAGAAAGCAGTGAATGCCTTGTTTACGAATACAAAAGATGGCT
40	Cry8Ka1 1992	AAGAT-----
45	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
	Cry8AB00.1_Seq_5 2128	TACGACCAGGCGTAACGGATTATGAAGTGAATCAAGCGGCAAACCTAGTGGAATGCCTAT
	50C_b_ 2113	TACAGCCAGGTGTAACGGATTATGAAGTAAATCAAGCGGCCAACTAGTGGAATGCCTAT
50	Cry8AB00.1_Seq_3 2166	TACGACCAGGCGTAACGGATTATGAAGTGAATCAAGCGGCAAACCTAGTGAGCTCGAG-
	Cry8Ka1	-----
55	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
	Cry8AB00.1_Seq_5 2188	CGGATGATTTGTATCCAAATGAAAAACGATTGTTATTTGATGCAGTGAGAGAGGCAAAAC
	50C_b_ 2173	CGGATGATTTGTATCCAAATGAAAAACGATTGTTATTTGATGCAGTGAGAGAGGCAAAAC
60	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
65	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
	Cry8AB00.1_Seq_5 2248	GCCTCAGTGAGGCACGTAATTTGCTTCAAGATCCAGATTTCCAAGAGATAAATGGAGAAA
	50C_b_ 2233	GACTTAGCGAGGCACGGAACCTACTACAAGATCCAGATTTCCAAGAGATAAATGGAGAAA

Fig. 15(CONTINUAÇÃO)

5	Cry8AB00.1_Seq_3 Cry8Ka1	----- -----
10	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2308 50C_b_ 2293 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- ATGGCTGGACGGCAAGTACGGGAATTGAGGTTATAGAAGGGGATGCTTTATTCAAAGGGC ----- ATGGATGGACGGCAAGTACGGGAATTGAGGTTATAGAAGGGGATGCTGTATTCAAAGGGC ----- -----
15	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2368 50C_b_ 2353 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- GTTATCTACGCCTACCAGGTGCGAGAGAAATAGATACGGAAACGTATCCAACGTATCTGT ----- GTTATCTACGCCTACCAGGTGCGAGAGAAATAGATACGGAAACGTATCCAACGTATCTGT ----- -----
25	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2428 50C_b_ 2413 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- ATCAAAAAGTAGAGGAAGGTGTATTAAAACCATACACAAGATATAGATTGAGAGGGTTTG ----- ATCAAAAAGTAGAGGAAGGTGTATTAAAACCATACACAAGGTATAGACTGAGAGGATTTG ----- -----
35	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2488 50C_b_ 2473 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- TCGGAAGCAGTCAAGGATTGGAAATTTTACAATTCGTATCAAACGAACCGAATTGTAA ----- TGGGAAGTAGTCAAGGATTAGAAATTTATACGATTTCGTACCAAACGAATCGAATTGTAA ----- -----
45	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2548 50C_b_ 2533 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- AAAATGTACCGGATGATTTGCTGCCAGATGTATCTCCTGTAACTCGGATGGTAGTATCA ----- AAAATGTACCGATGATTTACTGCCAGATGTACCTCCTGTAAACAATGATGGTAGAATCA ----- -----
55	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17 Cry8AB00.1_Seq_5 2608 50C_b_ 2593 Cry8AB00.1_Seq_3 Cry8Ka1	----- ----- ATCGATGCAGCGAACAAAAGTATGTGAATAGCCGTTTAGAAGTAGAAAACCGTTCTGGTG ----- ATCGATGCAGCGAACAAAAGTATGTGAATAGTCGTTTAGAAGTAGAAAACCGTTCTGGTG ----- -----
65	Cry8Bb1_Seq_15 Cry8Bb1_Seq_17	----- -----

	Cry8AB00.1_Seq_5	AAGCGCATGAGTTCTCTATTCCCTATTGATACAGGTGAAATCGATTACAATGAAAATGCAG
	2668	
	50C__b_	AAGCGCATGAGTTCTCAATCCCTATCGATACAGGAGAGCTGGATTACAATGAAAATGCAG
	2653	
5	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
10	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
	Cry8AB00.1_Seq_5	GAATATGGGTTGGATTTAAGATTACGGACCCAGAGGGATATGCAACACTCGGAAACCTAG
	2728	
	50C__b_	GAATATGGGTTGGATTTAAGATTACGGACCCAGAGGGATACGCAACACTTGGAAAATCTTG
	2713	
15	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
20	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
	Cry8AB00.1_Seq_5	AATTGGTCGAAGAGGGACCTTTATCAGGAGACGCATTAGAACGCTTGCAAAGAGAAGAAC
	2788	
	50C__b_	AATTGGTCGAAGAGGGACCTTTGT CAGGAGACGCATTAGAACGCTTGCAAAAAGAAGAAC
	2773	
25	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----

FIG. 15 (Continuação)

	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
5	Cry8AB00.1_Seq_5	AACAGTGAAGATTCAAATGACAAGAAGACGTGAAGAAACAGATAGAAGGTATATGGCAT
	2848	
	50C_b_	AACAGTGAAGATTCAAATGACAAGAAGACGTGAAGAGACAGATAGAAGATACATGGCAT
	2833	
10	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
15	Cry8AB00.1_Seq_5	CGAAACAAGCGGTAGATCGTTTATATGCCGATTATCAGGATCAGCAACTGAATCCTGATG
	2908	
	50C_b_	CGAAACAAGCGGTAGATCGTTTATATGCCGATTATCAGGATCAGCAACTGAATCCGAATG
	2893	
20	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
25	Cry8AB00.1_Seq_5	TAGAGATTACAGATCTTACTGCGGCCCAAGATCTGATACAGTCCATTCCTTACGTATATA
	2968	
	50C_b_	TAGAGATTACAGATCTTACTGCGGCTCAAGATCTAATACAGTCCATTCCTTACGTGTATA
	2953	
30	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
35	Cry8AB00.1_Seq_5	ACGAAATGTTCCCAGAAATACCAGGGATGAACTATACGAAGTTTACAGAATTAACAGATC
	3028	
	50C_b_	ACGAAATGTTCCCAGAAATACCAGGAATGAACTATACGAAGTTTACAGAGTTAACAGATC
	3013	
40	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
45	Cry8AB00.1_Seq_5	GACTCCAACAAGCGTGGAGTTTGTATGATCAGCGAAATGCCATACCAAATGGTGATTTC
	3088	
	50C_b_	GACTCCAACAAGCCTGGGGATTGTATGATCAACGAAACGCTATACCAAATGGAGATTACC
	3073	
50	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
55	Cry8AB00.1_Seq_5	GAAATGGGTAAAGTAATTGGAATGCAACGCCTGGCGTAGAAGTACAACAAATCAATCATA
	3148	
	50C_b_	GAAATGAATTAAGTAATTGGAATACAACATCTGGTGTGAATGTACAACAAATCAATCATA
	3133	
60	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
65	Cry8AB00.1_Seq_5	CATCTGTCCTTGTGATTCCAACTGGGATGAGCAAGTTTCGCAACAGTTTACAGTTCAAC
	3208	
	50C_b_	CATCTGTCCTTGTGATTCCAACTGGAATGAACAAGTTTCACAAAAGTTTACAGTTCAAC
	3193	
	Cry8AB00.1_Seq_3	-----

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

FIG. 15 (Continuação)

	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
5	Cry8AB00.1_Seq_5	TAAGTATCCGTGATGGTGGAAATCAAACAGAAACGCTTACTTTTAGTGCAAGCGATTATG
	3328	
	50C_b_	TAAGTATTCGTGATGGTGGAAATCAATCAGAAACGCTTACTTTTAGTGCAAGCGATTATG
	3313	
10	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
15	Cry8AB00.1_Seq_5	ATACAAATGGAATGTATAATACGCAAGTGTCCAATACAAATGGATATAACACAAATAATG
	3388	
	50C_b_	ATACAAATGGTATGTATGATACACAAGCGTCGAATACAAACGGATATAACACAAATAGTG
	3373	
20	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
25	Cry8AB00.1_Seq_5	CGTATAATACACAAGCATCGAGTACAAACGGATATAACGCAAATAATATGTATAATACGC
	3448	
	50C_b_	TGTACATGATCAAACCGCTATATCACGAAAAACAGTGGACATTTTCATCCGTATACAATC
	3433	
30	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
35	Cry8AB00.1_Seq_5	AAGCATCGAATACAAACGGATATAACACAAATAGTGTGTACAATGATCAAACCGGCTATA
	3508	
	50C_b_	AAATGTGGATTGAGATAAGTGAGACAGAAGGTACGTTCTATATAGAAAGTGTAGAATTGA
	3493	
40	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
45	Cry8AB00.1_Seq_5	TCACAAAAACAGTGACATTCATCCCGTATACAGATCAAATGTGGATTGAGATGAGTGAGA
	3568	
	50C_b_	TTGTAGACGTAGAG-----
	3507	
50	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
	Cry8Bb1_Seq_15	-----
	Cry8Bb1_Seq_17	-----
55	Cry8AB00.1_Seq_5	CAGAAGGTACATTCTATATAGAAAGTGTAGAATTGATTGTAGACGTAGAGTAA 3621
	50C_b_	-----
	Cry8AB00.1_Seq_3	-----
	Cry8Ka1	-----
60		

FIGURA 16

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
35	Sequence_18	TTTTAGGTATTCTTTTAAGTTCTTTATAGAGACAGATTAACGAAAACTAAATAAGAAAT	60
	Cry8Hal	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_5	-----	
	Sequence_1	-----	

FIGURA 16 (Continuação)

5	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT	120
	Cry8Ha1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
40	Sequence_13	-----	
	Sequence_18	TGTACGAGGTCTGAATTGACGTAACAGGGCACCTTTTGGTCAAATTGACCAAAGAATCCA	180
	Cry8Ha1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65			

FIGURA 16 (Continuação)

5	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
10	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
15	Sequence_13	-----	
	Sequence_18	TCCTTTGCATGAGCACTTCTCGAAACCACTTCCCATAGTGCACTTCTTATCTTTGTATA	240
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TATTTCTAAGGATATCGTAATCCCTATTTCTGATAAGAGGATTTTGTTCAGTGTAGGAAG	300
	Cry8Ha1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	
	Sequence_81	-----	

FIGURA 16 (Continuação)

5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
20	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AGCGAATGTCCTTTTCGTATTTCAAACAAAAATAAAGGATGTTTATGCACGGAAATAATC	360
25	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
30	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
35	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
40	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
45	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
50	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATCATATTAATAATGCCCAGTACATAAAGATAGATGGGGGTCATTTTTTGAAATGATTTC	420
	Cry8Ha1	-----	
60			

FIGURA 16 (Continuação)

5	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
10	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
15	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
20	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
25	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
30	Sequence_11	-----
	Sequence_5	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
35	Sequence_13	-----
	Sequence_18	AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC 480
	Cry8Ha1	-----
40	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
45	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
50	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
55	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
60	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
65	Sequence_11	-----

FIGURA 16 (Continuação)

5	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----GGTTTCCATTCCCACCG	17
	Sequence_3	-----	
	Sequence_13	-----	
10	Sequence_18	AAGATCAGTCGGATGTAGAAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCT	540
	Cry8Ha1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTTATCT	77
	Sequence_3	-----	
45	Sequence_13	-----	
	Sequence_18	TTCAATGTATGGTTTCCATTCCAACAGGTTTCAAATTCAAAAACCCCAATACACCGAAAC	600
	Cry8Ha1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	

FIGURA 16 (Continuação)

	Sequence_51	-----	
	Sequence_83	-----	
5	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
10	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT	137
	Sequence_3	-----	
15	Sequence_13	-----	
	Sequence_18	TTGTCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG	660
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	AGATTTACATGTCTTAAAAATTAAAGGTGTTTTACCGTTTATCGTGAACGTATCCATTGA	197
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TAGAGGATTGTGGGCAAATTGAGATAGATTTACATGTCTTAAAAATTAAAGGTGTTTTAC	720
	Cry8Ha1	-----	
55			

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTAAAG	257
	Sequence_3	-----	
	Sequence_13	-----	
35	Sequence_18	CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG	780
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
50	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
55	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
60	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_5	-----	

FIGURA 16 (Continuação)

5	Sequence_1	-----	
	Sequence_17	TTGTCAAGAAACGGTATATGTGGATCATATTTTAAATATAGTGTGATCATGTCCCATA	317
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAGAGACACATCCTTATTTTAAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAA	840
	Cry8Ha1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
15	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
20	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
25	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
30	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
40	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
45	Sequence_17	TTATGTAATTGATGGCCATCATATTCAAGTGC GTGATGTATCGATTAAATTGATGGAAGA	377
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATATAGTGTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGC GTGA	900
50	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
55	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
60	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
65	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	

FIGURA 16 (Continuação)

	Sequence_83	-----	
	Sequence_7	-----	
5	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
10	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	AAACCCACAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA	437
	Sequence_3	-----	
15	Sequence_13	-----	
	Sequence_18	TGTATCGATTAAATTGATGGAAGAAAACCCACAACTGCTCAAATATCGGGTGTTTTTTA	960
	Cry8Ha1	-----	
	Sequence_71	-----	
20	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	AATCAAAAAATATTTTGTGAAGAATCCCTAAAATTATCACAACATTGTTTATTATAAAAT	497
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TTTTGATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA	1020
	Cry8Ha1	-----	
	Sequence_71	-----	
55	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
5	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
10	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
15	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
20	Sequence_17	AACTCATTTC AAGAAAAATCGTAATATTTTTTATCTAACAGGAATTTTATCATCTACAG	557
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCACAACATTGTTTATTATAAAATAACTCATTTC AAGAAAAATCGTAATATTTTTTATC	1080
25	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
55	Sequence_17	AAGAATATTCTTATCATGGTAATGAGGAGGGAGAGTGACAGAGAGGGGATAGACAATCAA	617
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAACAGGAATTTTATCATCTACAGAAGAATATTCTTATCATGGTAATGAGGAGGGAGAGT	1140
60	Cry8Ha1	-----	

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	AAGAGTATCTAGAAGAGTTTGTTCATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC	677
	Sequence_3	-----	
	Sequence_13	-----	
35	Sequence_18	GACAGTCAAAAGAGTACCTGGTTTGTCTGTAAAGAAAAAGAATCGATCGTACAGGAAAG	1200
	Cry8Hal	-----	
	Sequence_71	-----ATGAGTC	7
	Sequence_73	-----ATGAGTC	7
40	Sequence_21	-----ATGAGTC	7
	Sequence_67	-----ATGAGTC	7
	Sequence_61	-----ATGAGTC	7
	Sequence_93	-----ATGAGTC	7
	Sequence_59	-----ATGAGTC	7
45	Sequence_91	-----ATGAGTC	7
	Sequence_39	-----ATGAGTC	7
	Sequence_41	-----ATGAGTC	7
	Sequence_49	-----ATGAGTC	7
	Sequence_81	-----ATGAGTC	7
50	Sequence_45	-----ATGAGTC	7
	Sequence_77	-----ATGAGTC	7
	Sequence_75	-----ATGAGTC	7
	Sequence_43	-----ATGAGTC	7
	Sequence_47	-----ATGAGTC	7
55	Sequence_79	-----ATGAGTC	7
	Sequence_51	-----ATGAGTC	7
	Sequence_83	-----ATGAGTC	7
	Sequence_7	-----ATGAGTC	7
	Sequence_25	-----ATGAGTC	7
60	Sequence_29	-----ATGAGTC	7
	Sequence_33	-----ATGAGTC	7
	Sequence_69	-----ATGAGTC	7
	Sequence_11	-----ATGAGTC	7
65	Sequence_5	-----ATGAGTC	7

FIGURA 16 (Continuação)

5	Sequence_1	-----ATGAGTC	7
	Sequence_17	AAAAGAAAGTGTAAGAAATTTTATATCTTTGTATGTATAGGAGGAAATAGATGAGTC	737
	Sequence_3	-----ATGAGTC	7
	Sequence_13	-----ATGAGTC	7
	Sequence_18	TTAAAAAAGTGTAAGAAATTTTATATCTTTGTATGTATAGGAGGAAATAGATGAGTC	1260
	Cry8Hal	-----ATGAGTC	7

10	Sequence_71	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_73	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_21	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_67	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_61	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
15	Sequence_93	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_59	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_91	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_39	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_41	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
20	Sequence_49	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_81	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_45	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_77	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_75	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
25	Sequence_43	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_47	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_79	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_51	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_83	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
30	Sequence_7	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_25	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_29	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_33	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_69	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
35	Sequence_11	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_5	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_1	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_17	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	797
	Sequence_3	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
40	Sequence_13	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_18	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	1320
	Cry8Hal	CAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTATCTAATG	67

45	Sequence_71	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_73	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_21	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_67	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_61	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
50	Sequence_93	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_59	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_91	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_39	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_41	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
55	Sequence_49	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_81	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_45	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_77	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_75	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
60	Sequence_43	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_47	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_79	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_51	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_51	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
65			

FIGURA 16 (Continuação)

5	Sequence_83	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_7	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_25	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_29	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_33	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_69	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
10	Sequence_11	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_5	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_1	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_17	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	857
	Sequence_3	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
	Sequence_13	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
15	Sequence_18	ATTCTAACAGATACCCTTTTGC GAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	1380
	Cry8Hal	ATTCTACCAGATACCCTTATGCGAATGAGCCCAACAAATGCGTTACAAAATATGAATTATA	127

20	Sequence_71	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_73	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_21	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_67	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_61	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
25	Sequence_93	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_59	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_91	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_39	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_41	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_49	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
30	Sequence_81	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_45	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_77	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_75	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_43	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
35	Sequence_47	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_79	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_51	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_83	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_7	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
40	Sequence_25	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_29	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_33	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_69	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_11	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
45	Sequence_5	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_1	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_17	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	917
	Sequence_3	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
	Sequence_13	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	187
50	Sequence_18	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCTGGTTCACCTGAAGTAC	1440
	Cry8Hal	AGGATTATTTAAGAATGTCTGAAGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT	187
		* *****	
55	Sequence_71	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_73	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_21	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_67	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_61	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
60	Sequence_93	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_59	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_91	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_39	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_41	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
65	Sequence_49	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247

FIGURA 16 (Continuação)

	Sequence_81	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
5	Sequence_45	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_77	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_75	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_43	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_47	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
10	Sequence_79	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_51	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_83	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_7	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_25	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_29	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
15	Sequence_33	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_69	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_11	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_5	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
20	Sequence_1	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_17	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	977
	Sequence_3	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_13	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	247
	Sequence_18	TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTAAATTACTATCAG	1500
25	Cry8Hal	TTGCT--GCACCAAGTGGGATTACAACCTGGAATTACTATAGTTACTTAAATTACTGGGGT	244
		*** * * * * *	
	Sequence_71	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_73	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
30	Sequence_21	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_67	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_61	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_93	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_59	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
35	Sequence_91	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_39	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_41	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_49	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_81	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
40	Sequence_45	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_77	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_75	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_43	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_47	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
45	Sequence_79	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_51	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_83	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_7	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_25	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
50	Sequence_29	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_33	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_69	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_11	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_5	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
55	Sequence_1	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_17	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	1037
	Sequence_3	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_13	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
	Sequence_18	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	1560
60	Cry8Hal	GTTTAGGACTTCCCATTTGCTGGGGAAAACAGGGATGGCTCTTAATTTTCATCTAGGTCAT	304
		* * * * *	

FIGURA 16 (Continuação)

[illegible]

FIGURA 16 (Continuação)

5	Sequence_1	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_17	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	1157
	Sequence_3	TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_13	TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_18	TAAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	1680
	Cry8Hal	TAAATCAAAAAATAGAGAGACTGTAGAAAACAAAGCAATGCGGATTGGGCAATTTCAG	421
		* * * * *	
10	Sequence_71	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_73	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_21	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
	Sequence_67	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
15	Sequence_61	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
	Sequence_93	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
	Sequence_59	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
	Sequence_91	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	486
	Sequence_39	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGA	487
20	Sequence_41	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_49	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
	Sequence_81	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
	Sequence_45	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
	Sequence_77	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
25	Sequence_75	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
	Sequence_43	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
	Sequence_47	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_79	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_51	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGTT	487
30	Sequence_83	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTGCGAA	487
	Sequence_7	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_25	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_29	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_33	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
35	Sequence_69	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_11	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_5	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_1	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_17	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	1216
40	Sequence_3	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_13	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	486
	Sequence_18	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT	1739
	Cry8Hal	GTAGAGCCTTACGATCCTATTAAACGCATTGGAAGATTGGCAAAAAACCTAATATCT	481
		* * * * *	
45	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
50	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
55	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
60	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
65	Sequence_51	GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA	546

FIGURA 16 (Continuação)

Sequence_83	GTGCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTGAA	546
Sequence_7	-TCAA-----GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTGAA	534
5 Sequence_25	-TCAA-----GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTGAA	534
Sequence_29	-TCAA-----GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTGAA	534
Sequence_33	-TCAA-----GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTGAA	534
Sequence_69	-TCAA-----GAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTGAA	534
10 Sequence_11	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
Sequence_5	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
Sequence_1	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
Sequence_17	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	1252
Sequence_3	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
Sequence_13	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
15 Sequence_18	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	1775
Cry8Hal	TTTCG-----GAGTAAAGAGTTAGTAAAGAAAGATTTTCA	516
	* * * * *	
Sequence_71	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	602
20 Sequence_73	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_21	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_67	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_61	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_93	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
25 Sequence_59	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_91	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_39	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	602
Sequence_41	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_49	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	596
30 Sequence_81	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	596
Sequence_45	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_77	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_75	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	596
Sequence_43	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	596
35 Sequence_47	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_79	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	599
Sequence_51	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	605
Sequence_83	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	605
Sequence_7	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
40 Sequence_25	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_29	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_33	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_69	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	593
Sequence_11	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	581
45 Sequence_5	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	581
Sequence_1	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	581
Sequence_17	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTGAAGT	1311
Sequence_3	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTGAAGT	581
Sequence_13	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTGAAGT	581
50 Sequence_18	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTGAAGT	1834
Cry8Hal	AACGCGAACATTCAAT-ACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAAT	575
	* * * * *	
Sequence_71	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	662
55 Sequence_73	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_21	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_67	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_61	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_93	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
60 Sequence_59	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_91	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_39	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	662
Sequence_41	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_49	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	656

FIGURA 16 (Continuação)

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	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
Sequence_73	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_21	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_67	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_61	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_93	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_59	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_91	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_39	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
Sequence_41	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_49	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
Sequence_81	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
Sequence_45	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_77	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_75	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
Sequence_43	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
Sequence_47	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_79	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
Sequence_51	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	725
Sequence_83	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	725
Sequence_7	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_25	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_29	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_33	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_69	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
Sequence_11	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	701
Sequence_5	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	701
Sequence_1	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	701
Sequence_17	GTCAATTTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	1431
Sequence_3	TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	701
Sequence_13	TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	701
Sequence_18	TTCAATTTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	1954
Cry8Ha1	TCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGCACTTATTTTATAGAGA	695
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FIGURA 16 (Continuação)

Sequence_1	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	821
Sequence_17	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	1551
Sequence_3	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
Sequence_13	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
Sequence_18	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	2074
Cry8Ha1	AAATCAATTAAAAGGTTCTGAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGA	815
	* ***** **	
Sequence_71	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	902
Sequence_73	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_21	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_67	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_61	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_93	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_59	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_91	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	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	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
Sequence_13	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
Sequence_18	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	2134
Cry8Ha1	AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCCGAACTATGATGTACGTATGTA	875
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Sequence_71	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
Sequence_73	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_21	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_67	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_61	CCCAATAGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_93	CCCAATAGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_59	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_91	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_39	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
Sequence_41	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_49	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_81	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_45	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_77	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_75	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_43	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_47	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_79	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_51	CCCAATGGAAACGAAAGCACAACCTAACAAGGGAAGTATATACAGATCCACTGGGCGCGGT	965

	Sequence_83	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	965
	Sequence_7	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	953
5	Sequence_25	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_29	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_33	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_69	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	953
10	Sequence_11	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_5	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_1	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_17	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	1671
	Sequence_3	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	941
15	Sequence_13	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_18	CCCAATGGAACCGAAAGCACAACCTAACAGGGGAAGTATATACAGATCCACTGGGCGCGGT	2194
	Cry8Ha1	CCCTATAAAAACTACAGAGCTAACGAGAACAAATTTATACCGATCCACTTGGTTACAC	935
		*** ** ***** * ** * ***** ** * * ***** ***** **	
20	Sequence_71	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1016
	Sequence_73	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
	Sequence_21	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_67	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_61	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_93	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_59	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_91	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_39	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1016
	Sequence_41	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
30	Sequence_49	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1010
	Sequence_81	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1010
	Sequence_45	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
	Sequence_77	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
	Sequence_75	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1010
35	Sequence_43	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1010
	Sequence_47	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
	Sequence_79	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1013
	Sequence_51	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1019
	Sequence_83	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1019
40	Sequence_7	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_25	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_29	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_33	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
	Sequence_69	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1007
45	Sequence_11	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	995
	Sequence_5	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	995
	Sequence_1	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	995
	Sequence_17	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	1725
	Sequence_3	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	995
50	Sequence_13	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	995
	Sequence_18	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGTAT	2248
	Cry8Ha1	GAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATAT	995
		** * **** * ** * ***** * * * * ** ***** * **	
55	Sequence_71	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1076
	Sequence_73	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_21	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_67	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_61	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
60	Sequence_93	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_59	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_91	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_39	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1076
	Sequence_41	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1073
65	Sequence_49	AGAATCATCCGTTATTTCGACCACCCCATGTATTGATTATATAACGGGACTCACAGTGTA	1070

FIGURA 16 (Continuação)

	Sequence_81	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1070
5	Sequence_45	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1073
	Sequence_77	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1073
	Sequence_75	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1070
	Sequence_43	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1070
	Sequence_47	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1073
10	Sequence_79	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1073
	Sequence_51	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1079
	Sequence_83	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1079
	Sequence_7	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1067
	Sequence_25	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1067
15	Sequence_29	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1067
	Sequence_33	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1067
	Sequence_69	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1067
	Sequence_11	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1055
	Sequence_5	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1055
20	Sequence_1	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1055
	Sequence_17	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1785
	Sequence_3	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1055
	Sequence_13	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	1055
	Sequence_18	AGAATCATCCGTTATTTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGT	2308
	Cry8Ha1	AGAAAGTG TAGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA	1055
		**** * **** * * * * * * * * * * *	
	Sequence_71	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
	Sequence_73	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
30	Sequence_21	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_67	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_61	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_93	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_59	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
35	Sequence_91	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_39	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
	Sequence_41	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_49	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
	Sequence_81	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
40	Sequence_45	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_77	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_75	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
	Sequence_43	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
	Sequence_47	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
45	Sequence_79	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_51	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
	Sequence_83	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
	Sequence_7	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_25	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
50	Sequence_29	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_33	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_69	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_11	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_5	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
55	Sequence_1	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_17	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1845
	Sequence_3	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_13	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_18	TACACAATCAAGAAGCATTTCCTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	2368
60	Cry8Ha1	TTCGAAATCCGCAAGGGCTACACC - - - GCAAAGTGCGGATTATTGGGCAGGACATACAAT	1112
		* * * * * * * * * * * * * * * * * *	

FIGURA 16 (Continuação)

5	Sequence_71	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1196
	Sequence_73	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_21	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_67	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_61	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_93	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
10	Sequence_59	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_91	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_39	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1196
	Sequence_41	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_49	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
	Sequence_81	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
15	Sequence_45	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_77	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_75	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
	Sequence_43	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
20	Sequence_47	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_79	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
	Sequence_51	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1199
	Sequence_83	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1199
	Sequence_7	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_25	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_29	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_33	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_69	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
	Sequence_11	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1175
30	Sequence_5	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1175
	Sequence_1	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1175
	Sequence_17	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1905
	Sequence_3	AAGCTATCATCGGATTTTGTAGTGATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	1175
	Sequence_13	AAGCTATCATCGGATTTTGTAGTGATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	1175
35	Sequence_18	AAGCTATCATCGGATTTTGTAGTGATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	2428
	Cry8Ha1	AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATGAGACGAA	1172
		** * * * * * * * * * * *	
40	Sequence_71	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
	Sequence_73	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_21	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_67	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_61	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_93	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
45	Sequence_59	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_91	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_39	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
	Sequence_41	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_49	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
50	Sequence_81	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
	Sequence_45	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_77	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_75	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
	Sequence_43	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
55	Sequence_47	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_79	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_51	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1259
	Sequence_83	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1259
	Sequence_7	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
60	Sequence_25	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_29	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_33	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_69	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_11	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
65	Sequence_5	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235

FIGURA 16 (Continuação)

5	Sequence_1	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
	Sequence_17	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1965
	Sequence_3	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
	Sequence_13	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
	Sequence_18	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	2488
	Cry8Hal	TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC	1232
		** * * * * * * * * * * *	
10	Sequence_71	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1315
	Sequence_73	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
	Sequence_21	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
15	Sequence_67	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_61	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_93	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_59	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_91	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
20	Sequence_39	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1315
	Sequence_41	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
	Sequence_49	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1309
	Sequence_81	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1309
	Sequence_45	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
	Sequence_77	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
	Sequence_75	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1309
	Sequence_43	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1309
	Sequence_47	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
	Sequence_79	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1312
30	Sequence_51	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1318
	Sequence_83	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1318
	Sequence_7	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_25	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_29	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
35	Sequence_33	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_69	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1306
	Sequence_11	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1294
	Sequence_5	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1294
	Sequence_1	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	1294
40	Sequence_17	GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGGAAATGC	2024
	Sequence_3	AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAAATGC	1294
	Sequence_13	AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAAATGC	1294
	Sequence_18	AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGGAAATGC	2547
	Cry8Hal	TGTTGCTTCAAGTACAACCTAGTGGTGTAAATTATTAACCTACTAAGGCTATATTTGATGG	1292
		* * * * * * * * * * * *	
45	Sequence_71	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1373
	Sequence_73	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1370
	Sequence_21	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1364
50	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
55	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
60	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
65	Sequence_51	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1376

FIGURA 16 (Continuação)

5	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
10	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
15	Sequence_3	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
	Sequence_13	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
	Sequence_18	CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	2605
	Cry8Ha1	CATAAGTACAA-----ACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAACTT	1346
		** **** * * * * * * * * * * * * * * *	
20	Sequence_71	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1429
	Sequence_73	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
	Sequence_21	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_67	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_61	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
30	Sequence_93	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_59	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_91	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_39	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1429
	Sequence_41	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
35	Sequence_49	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1423
	Sequence_81	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1423
	Sequence_45	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
	Sequence_77	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
	Sequence_75	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1423
40	Sequence_43	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1423
	Sequence_47	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
	Sequence_79	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1426
	Sequence_51	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1432
	Sequence_83	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1432
45	Sequence_7	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_25	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_29	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_33	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
	Sequence_69	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1420
50	Sequence_11	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1408
	Sequence_5	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1408
	Sequence_1	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	1408
	Sequence_17	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCCGAATTAGAAT----	2138
	Sequence_3	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCCGAATTAGAAT----	1408
55	Sequence_13	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCCGAATTAGAAT----	1408
	Sequence_18	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCCGAATTAGAAT----	2661
	Cry8Ha1	TTTTAATGAATAAAAGATACAATTACAGAGCTACCTGTTTCAGATATCCAGTCCTCTAC	1406
		* * * * * * * * * * * * * * * * * * *	
60	Sequence_71	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
	Sequence_73	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
	Sequence_21	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_67	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_61	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
65	Sequence_93	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_59	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_91	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_39	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
	Sequence_41	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
65	Sequence_49	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483

FIGURA 16 (Continuação)

Sequence_81	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_45	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
5 Sequence_77	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_75	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_43	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_47	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_79	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
10 Sequence_51	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_83	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_7	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_25	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_29	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
15 Sequence_33	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_69	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_11	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_5	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_1	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
20 Sequence_17	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2198
Sequence_3	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_13	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_18	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2721
Cry8Ha1	CTACGGGA-TGCTGAACAGTACAGTCATCGGCTATCCTAT-GTTTCTAATGCTCCAACA	1464

Sequence_71	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1547
Sequence_73	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
Sequence_21	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
30 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
35 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
40 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
45 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
50 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
55 Sequence_17	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2256
Sequence_3	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
Sequence_13	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
Sequence_18	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2779
Cry8Ha1	-GAGTACTCTTCGGGCGACATTTAATTTTGGGACTAATCCAGTACTGGGTTGGACGCA	1523
60	*****	

FIGURA 16 (Continuação)

5	Sequence_71	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_73	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_21	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_67	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_61	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
10	Sequence_93	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_59	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_91	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_39	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_41	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
15	Sequence_49	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_81	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_45	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_77	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_75	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
20	Sequence_43	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_47	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_79	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_51	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610
	Sequence_83	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610
25	Sequence_7	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_25	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_29	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_33	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_69	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
30	Sequence_11	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1586
	Sequence_5	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1586
	Sequence_1	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1586
	Sequence_17	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	2316
	Sequence_3	TCGGAGTCCGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	1586
35	Sequence_13	TCGGAGTCCGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	1586
	Sequence_18	TCGGAGTCCGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	2839
	Cry8Ha1	TACTAGTTTAACTCAACCAATCAGATACATTCTGACTCAATTACTCAAATTCAGTCTGT	1583
		* *** * * *** * ***** *** ***** ***** * **	
40	Sequence_71	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1663
	Sequence_73	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
	Sequence_21	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_67	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_61	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
45	Sequence_93	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_59	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_91	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_39	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1663
	Sequence_41	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
50	Sequence_49	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1657
	Sequence_81	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1657
	Sequence_45	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
	Sequence_77	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
	Sequence_75	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1657
55	Sequence_43	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1657
	Sequence_47	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
	Sequence_79	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1660
	Sequence_51	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1666
	Sequence_83	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1666
60	Sequence_7	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_25	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_29	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_33	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
	Sequence_69	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1654
65	Sequence_11	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1642
	Sequence_5	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----AAAAGGACCAGGACATACAG	1642

FIGURA 16 (Continuação)

Sequence_1	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1642
Sequence_17	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	2372
Sequence_3	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		1646
Sequence_13	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		1646
Sequence_18	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		2899
Cry8Hal	TAAAGCAAATAGTGTTAGTCTTATGT-----	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	TCCTGGATTTACAGGGGGGGGGATAATAAAGTAATAAGAAATGGAGTAATTATATCACA		1706
Sequence_13	TCCTGGATTTACAGGGGGGGGGATAATAAAGTAATAAGAAATGGAGTAATTATATCACA		1706
Sequence_18	TCCTGGATTTACAGGGGGGGGGATAATAAAGTAATAAGAAATGGAGTAATTATATCACA		2959
Cry8Hal	AACAGGCTTTACAGGTGGAGATTTAGTGAATTCCTCC--	ACTGGATTTCATGTCTACAGG	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 16 (Continuação)

5	Sequence_83	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1781
	Sequence_7	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
	Sequence_25	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
	Sequence_29	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
	Sequence_33	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
10	Sequence_69	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
	Sequence_11	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
	Sequence_5	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
	Sequence_1	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
	Sequence_17	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	2487
15	Sequence_3	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCCGGTATGC	1763
	Sequence_13	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCCGGTATGC	1763
	Sequence_18	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCCGGTATGC	3016
	Cry8Hal	AATACAGTTTAATTTAAAGATAGAAGAAAGCGTTATCGTATCCGTATACGATATGC	1742
		* * * * *	
20	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
30	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
40	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
45	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
50	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
55	Sequence_11	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
	Sequence_5	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
	Sequence_1	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
	Sequence_17	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	2535
	Sequence_3	TTCCGCTAATAACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
60	Sequence_13	TTCCGCTAATAACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
	Sequence_18	TTCCGCTAATAACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	3076
	Cry8Hal	CGCTGATGTTAATGCT--ACTCTATCTGCACTTGGATTAA-ATGATGCATTATTAACAT	1799
		* * * * *	
65	Sequence_71	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1886
	Sequence_73	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_21	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_67	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_61	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
65	Sequence_93	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_59	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_91	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_39	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1886
	Sequence_41	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1883
65	Sequence_49	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1880

FIGURA 16 (Continuação)

	Sequence_81	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
	Sequence_45	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
5	Sequence_77	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_75	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
	Sequence_43	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
	Sequence_47	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
10	Sequence_79	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_51	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1889
	Sequence_83	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1889
	Sequence_7	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_25	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
15	Sequence_29	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_33	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_69	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_11	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1865
	Sequence_5	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1865
20	Sequence_1	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1865
	Sequence_17	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	2595
	Sequence_3	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC - GACTT	1882
	Sequence_13	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC - GACTT	1882
	Sequence_18	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC - GACTT	3135
	Cry8Ha1	TAAATCGACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGC	1859
		* ** *** ** * * *** ** * *** **	
	Sequence_71	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1942
	Sequence_73	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
30	Sequence_21	TATCACAACAGTAAATTTA--GCAACAGATAGTTTCGGTAGCAGTGAAA--CATAATGTAG	1933
	Sequence_67	TATCACAACAGTAAATTTA--GCAACAGATAGTTTCGGTAGCAGTGAAA--CATAATTTAG	1933
	Sequence_61	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1933
	Sequence_93	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
	Sequence_59	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1933
35	Sequence_91	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
	Sequence_39	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1942
	Sequence_41	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1939
	Sequence_49	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1936
	Sequence_81	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
40	Sequence_45	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1939
	Sequence_77	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
	Sequence_75	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
	Sequence_43	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1936
	Sequence_47	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1939
45	Sequence_79	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
	Sequence_51	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATGTAG	1945
	Sequence_83	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1945
	Sequence_7	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATTTAG	1933
	Sequence_25	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATGTAG	1933
50	Sequence_29	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATGTAG	1933
	Sequence_33	TATCACAACAGTAAATTTA--GCAACAGATAGTTTCGGTAGCAGTGAAA--CATAATGTAG	1933
	Sequence_69	TATCACAACAGTAAATTTA--GCAACAGATAGTTTCGGTAGCAGTGAAA--CATAATTTAG	1933
	Sequence_11	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATTTAG	1921
	Sequence_5	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATTTAG	1921
55	Sequence_1	TATCACAACATTAAATTTA--GCAACAGATAGTTTCGCTAGCATTGAAA--CATAATTTAG	2651
	Sequence_17	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCATTACTCTAGGGGCTATATTTGAA	1941
	Sequence_3	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCATTACTCTAGGGGCTATATTTGAA	1941
	Sequence_13	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCATTACTCTAGGGGCTATATTTGAA	3194
	Sequence_18	TGAAAAACAGTGCATTTA----TACAATCCTCGTTTTTCTTTA----TATTAGAAA	1909
60	Cry8Ha1		

FIGURA 16 (Continuação)

5	Sequence_71	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2002
	Sequence_73	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
	Sequence_21	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
	Sequence_67	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
	Sequence_61	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
	Sequence_93	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
10	Sequence_59	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
	Sequence_91	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
	Sequence_39	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2002
	Sequence_41	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
	Sequence_49	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
15	Sequence_81	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
	Sequence_45	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
	Sequence_77	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
	Sequence_75	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
	Sequence_43	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
20	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
30	Sequence_5	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1981
	Sequence_1	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1981
	Sequence_17	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2711
	Sequence_3	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	1993
	Sequence_13	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	1993
35	Sequence_18	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	3246
	Cry8Ha1	ATTCAGATCAATCCGGGAAAAGT-----ATTTATATAGATCGAATCGAATTCATCC	1960
		* * *	*** * ** ***** *
40	Sequence_71	CAGTAGATGAGACATATGAAGCGGAA-----	2028
	Sequence_73	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_21	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_67	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_61	CAGTAGATGAGACATATGAAGCGGAA-----	2019
	Sequence_93	CAGTAGATGAGACATATGAAGCGGAA-----	2019
45	Sequence_59	CAGTAGATGAGACATATGAAGCGGAA-----	2019
	Sequence_91	CAGTAGATGAGACATATGAAGCGGAA-----	2019
	Sequence_39	CAGTAGATGAGACATATGAAGCGGAA-----	2028
	Sequence_41	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_49	CAGTAGATGAGACATATGAAGCGGAA-----	2022
50	Sequence_81	CAGTAGATGAGACATATGAAGCGGAA-----	2022
	Sequence_45	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_77	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_75	CAGTAGATGAGACATATGAAGCGGAA-----	2022
	Sequence_43	CAGTAGATGAGACATATGAAGCGGAA-----	2022
55	Sequence_47	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_79	CAGTAGATGAGACATATGAAGCGGAA-----	2025
	Sequence_51	CAGTAGATGAGACATATGAAGCGGAA-----	2031
	Sequence_83	CAGTAGATGAGACATATGAAGCGGAA-----	2031
	Sequence_7	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
60	Sequence_25	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_29	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_33	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_69	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_11	CAGTAGATGAGACATATGAAGCGGAATAA-----	2010
65	Sequence_5	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2041

FIGURA 16 (Continuação)

5	Sequence_1	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2041
	Sequence_17	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2771
	Sequence_3	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2053
	Sequence_13	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
	Sequence_18	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	3306
	Cry8Ha1	CAGTAGATGAGACCTATGAAGCAGAACAAGAT-----	1992
10		*****	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
15	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
20	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
30	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
35	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2101
	Sequence_1	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2101
	Sequence_17	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2831
40	Sequence_3	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2113
	Sequence_13	-----	
	Sequence_18	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	3366
	Cry8Ha1	-----	
45		-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
50	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
55	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
60	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
65	Sequence_51	-----	

FIGURA 16 (Continuação)

	Sequence_83	-----	
	Sequence_7	-----	
5	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
10	Sequence_5	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2161
	Sequence_1	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2161
	Sequence_17	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2891
	Sequence_3	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2173
	Sequence_13	-----	
15	Sequence_18	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	3426
	Cry8Ha1	-----	
	Sequence_71	-----	
20	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
30	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
35	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
40	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
45	Sequence_5	TATTTGATGCAGTGAGAGAGGGCAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2221
	Sequence_1	TATTTGATGCAGTGAGAGAGGGCAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2221
	Sequence_17	TATTTGATGCAGTGAGAGAGGGCAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2951
	Sequence_3	TATTTGATGCAGTGAGAGAGGGCAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2233
	Sequence_13	-----	
50	Sequence_18	TATTTGATGCAGTGAGAGAGGGCAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	3486
	Cry8Ha1	-----	
	Sequence_71	-----	
55	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
60	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
5	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
10	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
15	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	2281
	Sequence_1	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	2281
20	Sequence_17	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	3011
	Sequence_3	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	2293
	Sequence_13	-----	
	Sequence_18	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	3546
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	2341
	Sequence_1	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	2341
55	Sequence_17	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	3071
	Sequence_3	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	2353
	Sequence_13	-----	
	Sequence_18	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	3606
	Cry8Ha1	-----	
60			

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	2401
	Sequence_1	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	2401
	Sequence_17	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	3131
	Sequence_3	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	2413
	Sequence_13	-----	
35	Sequence_18	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	3666
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	

FIGURA 16 (Continuação)

5	Sequence_5	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	2461
	Sequence_1	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	2461
	Sequence_17	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	3191
	Sequence_3	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	2473
	Sequence_13	-----	
10	Sequence_18	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	3726
	Cry8Ha1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_5	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTGCTGCCAGATGTAT	2521
	Sequence_1	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTGCTGCCAGATGTAT	2521
	Sequence_17	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTGCTGCCAGATGTAT	3251
	Sequence_3	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTGCTGCCAGATGTAT	2533
45	Sequence_13	-----	
	Sequence_18	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTGCTGCCAGATGTAT	3786
	Cry8Ha1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	

FIGURA 16 (Continuação)

5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
10	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2581
	Sequence_1	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2581
15	Sequence_17	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3311
	Sequence_3	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2593
	Sequence_13	-----	
	Sequence_18	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3846
	Cry8Hal	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	GTTTAGAAGTAGAAAACCGTTCCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	2641
	Sequence_1	GTTTAGAAGTAGAAAACCGTTCCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	2641
	Sequence_17	GTTTAGAAGTAGAAAACCGTTCCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	3371
	Sequence_3	GTTTAGAAGTAGAAAACCGTTCCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	2653
50	Sequence_13	-----	
	Sequence_18	GTTTAGAAGTAGAAAACCGTTCCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	3906
	Cry8Hal	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65			

FIGURA 16 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_5	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2701
	Sequence_1	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2701
	Sequence_17	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3431
	Sequence_3	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2713
	Sequence_13		
	Sequence_18	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3966
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
35	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
40	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
45	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
55	Sequence_5	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG	2761
	Sequence_1	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG	2761
	Sequence_17	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG	3491
	Sequence_3	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG	2773
	Sequence_13		
60	Sequence_18	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCGAAGAGGGACCTTTATCAGGAGACG	4026
	Cry8Ha1	-----	

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2821
	Sequence_1	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2821
	Sequence_17	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	3551
	Sequence_3	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2833
	Sequence_13		
35	Sequence_18	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	4086
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	

FIGURA 16 (Continuação)

5	Sequence_5	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2881
	Sequence_1	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2881
	Sequence_17	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	3611
	Sequence_3	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2893
	Sequence_13	-----	
10	Sequence_18	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	4146
	Cry8Ha1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2941
	Sequence_1	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2941
	Sequence_17	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	3671
	Sequence_3	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2953
50	Sequence_13	-----	
	Sequence_18	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	4206
	Cry8Ha1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_79	-----	

FIGURA 16 (Continuação)

5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
10	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT	3001
	Sequence_1	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT	3001
15	Sequence_17	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT	3731
	Sequence_3	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT	3013
	Sequence_13	-----	
	Sequence_18	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCCAGAAATACCAGGGATGAACT	4266
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
30	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
35	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
40	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
45	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
50	Sequence_11	-----	
	Sequence_5	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3061
	Sequence_1	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3061
	Sequence_17	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3791
	Sequence_3	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3073
55	Sequence_13	-----	
	Sequence_18	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	4326
	Cry8Ha1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
65	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	

FIGURA 16 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
10	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
15	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_5	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3121
	Sequence_1	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3121
	Sequence_17	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3851
	Sequence_3	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3133
	Sequence_13	-----	
	Sequence_18	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	4386
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
35	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
40	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
45	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3181
55	Sequence_1	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3181
	Sequence_17	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3911
	Sequence_3	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3193
	Sequence_13	-----	
	Sequence_18	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	4446
60	Cry8Ha1	-----	

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCCA	3241
	Sequence_1	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCCA	3241
	Sequence_17	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCCA	3971
	Sequence_3	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCCA	3253
	Sequence_13		
35	Sequence_18	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCCA	4506
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	

FIGURA 16 (Continuação)

Sequence_5	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	3301
Sequence_1	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	3301
5 Sequence_17	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	4031
Sequence_3	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	3313
Sequence_13	-----	
Sequence_18	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	4566
10 Cry8Ha1	-----	
Sequence_71	-----	
Sequence_73	-----	
Sequence_21	-----	
15 Sequence_67	-----	
Sequence_61	-----	
Sequence_93	-----	
Sequence_59	-----	
Sequence_91	-----	
20 Sequence_39	-----	
Sequence_41	-----	
Sequence_49	-----	
Sequence_81	-----	
Sequence_45	-----	
Sequence_77	-----	
Sequence_75	-----	
Sequence_43	-----	
Sequence_47	-----	
Sequence_79	-----	
30 Sequence_51	-----	
Sequence_83	-----	
Sequence_7	-----	
Sequence_25	-----	
Sequence_29	-----	
35 Sequence_33	-----	
Sequence_69	-----	
Sequence_11	-----	
Sequence_5	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3361
Sequence_1	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3361
40 Sequence_17	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4091
Sequence_3	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3373
Sequence_13	-----	
Sequence_18	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4626
45 Cry8Ha1	-----	
Sequence_71	-----	
Sequence_73	-----	
Sequence_21	-----	
50 Sequence_67	-----	
Sequence_61	-----	
Sequence_93	-----	
Sequence_59	-----	
Sequence_91	-----	
55 Sequence_39	-----	
Sequence_41	-----	
Sequence_49	-----	
Sequence_81	-----	
Sequence_45	-----	
60 Sequence_77	-----	
Sequence_75	-----	
Sequence_43	-----	
Sequence_47	-----	
65 Sequence_79	-----	

FIGURA 16 (Continuação)

5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
10	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3421
	Sequence_1	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3421
15	Sequence_17	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4151
	Sequence_3	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3433
	Sequence_13	-----	
	Sequence_18	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4686
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3481
	Sequence_1	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3481
	Sequence_17	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4211
	Sequence_3	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3493
50	Sequence_13	-----	
	Sequence_18	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4746
	Cry8Ha1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65			

FIGURA 16 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	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	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
35	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
40	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
45	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	3601
55	Sequence_1	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	3601
	Sequence_17	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	4331
	Sequence_3	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	3613
	Sequence_13		
60	Sequence_18	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	4866
	Cry8Ha1	-----	

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	TGATTGTAGACGTAGAGTAA-----	3621
	Sequence_1	TGATTGTAGACGTAGAGTAA-----	3621
	Sequence_17	TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT	4391
	Sequence_3	TGATTGTAGACGTAGAGTAA-----	3633
	Sequence_13	-----	
35	Sequence_18	TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT	4926
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_5	-----	

FIGURA 16 (Continuação)

5	Sequence_1	-----	
	Sequence_17	TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTACCCGGATTACATATTT	4451
	Sequence_3	-----	
	Sequence_13	-----	
10	Sequence_18	TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTACCCGGATTACATATTT	4986
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
15	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
20	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
30	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
35	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
40	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
45	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTATATCCACCGGCATTGGAA	4511
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTATATCCACCGGCATTGGAA	5046
	Cry8Ha1	-----	
	Sequence_71	-----	
55	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
70	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
75	Sequence_79	-----	
	Sequence_51	-----	

FIGURA 16 (Continuação)

	Sequence_83	-----	
	Sequence_7	-----	
5	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
10	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA	4571
	Sequence_3	-----	
15	Sequence_13	-----	
	Sequence_18	AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA	5106
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTTCAGGTCTTGTAAGAAAG	4631
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTTCAGGTCTTGTAAGAAAG	5166
	Cry8Ha1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
5	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
10	Sequence_51	-----	
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	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
15	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
20	Sequence_17	GAATGGTATTACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	4691
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GAATGGTATTACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	5226
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
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	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
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40	Sequence_77	-----	
	Sequence_75	-----	
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45	Sequence_51	-----	
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	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
55	Sequence_17	TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	4751
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	5286
	Cry8Ha1	-----	
60			

FIGURA 16 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
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	Sequence_61	-----	
	Sequence_93	-----	
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	Sequence_45	-----	
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	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	4811
	Sequence_3	-----	
	Sequence_13	-----	
35	Sequence_18	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	5346
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
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	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_5	-----	

FIGURA 16 (Continuação)

5	Sequence_1	-----	
	Sequence_17	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTAAAG	4871
	Sequence_3	-----	
	Sequence_13	-----	
10	Sequence_18	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTAAAG	5406
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
15	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
20	Sequence_59	-----	
	Sequence_91	-----	
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	Sequence_81	-----	
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	Sequence_77	-----	
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	Sequence_47	-----	
	Sequence_79	-----	
35	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
40	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
45	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	CTT-----	4874
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	CTTGTAATAAGTTTGTCCAATGTATGATTAAAAATATATAATGTTTCCGTAAAAACATGCT	5466
	Cry8Ha1	-----	
	Sequence_71	-----	
55	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
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65	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
70	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
75	Sequence_79	-----	
	Sequence_51	-----	

FIGURA 16 (Continuação)

5	Sequence_83	-----	
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	Sequence_25	-----	
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	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
15	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CGTCCCATTTGAACTGTTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAAGCAAGA	5526
	Cry8Ha1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
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30	Sequence_49	-----	
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	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAAACGTCTTTTATCATGTAAAA	5586
	Cry8Ha1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
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	Sequence_75	-----	
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	Sequence_47	-----	
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	Sequence_51	-----	
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15	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
20	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAAATGATTTTTTGT	5646
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
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45	Sequence_51	-----	
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	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
55	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TATTTTGGAGAGGCACATGTAGTTTGTTCGGATAGTCTATGCAATAAGTTTAGAATTTTCAG	5706
60	Cry8Ha1	-----	

FIGURA 16 (Continuação)

5	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
10	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
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	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
20	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
25	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
30	Sequence_11	-----
	Sequence_5	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
35	Sequence_13	-----
	Sequence_18	GAACAATTTCCATGCGTCATTTGATTTTGTGTACCATAGTTTCTAATTGCTCATACG 5766
	Cry8Ha1	-----
40	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
45	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
50	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
55	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
60	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
65	Sequence_11	-----
	Sequence_5	-----

FIGURA 16 (Continuação)

5	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAAATGCATAATGATGATTAAAAAAACAGAGAAGAGTTGGTAAACAGTCTCATGATTAA	5826
	Cry8Ha1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
45	Sequence_13	-----	
	Sequence_18	AATCAAGAGAAAAGGTATCCCGGAACAATTGACAAAATGAGCTGTTCTCAAAAATACTTA	5886
	Cry8Ha1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	

FIGURA 16 (Continuação)

5	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
10	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
15	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTTCATATGCTGGTGTGTAAACGAA	5946
	Cry8Ha1	-----	

20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
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	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TCACATTCAACATTGTCCAATACCGAATCCGTATGAGGTCTGGAAAATTTAGTTGTATCT	6006
	Cry8Ha1	-----	

55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
5	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
10	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
15	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
20	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GATTTTTTTGGGTGACATATAGAAAGAGTTGATCCAATGCCTGTAGTTGGTTGTCTGGGA	6066
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
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	Sequence_75	-----	
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	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
55	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAGGAGTATGAGTCACACCATATTTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT	6126
	Cry8Ha1	-----	
60			

FIGURA 16 (Continuação)

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
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25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_5	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
35	Sequence_18	GTTGTTTCATTTCTATGATTTTACAAGGATTGTTTGAATGTGTATCTCATATTGTTCTGA 6186
	Cry8Ha1	-----
	Sequence_71	-----
40	Sequence_73	-----
	Sequence_21	-----
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	Sequence_61	-----
	Sequence_93	-----
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	Sequence_91	-----
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	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
60	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
65	Sequence_5	-----

FIGURA 16 (Continuação)

5	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGAAGTACTAAGAAATAATTCCT	6246
	Cry8Ha1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
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	Sequence_41	-----	
20	Sequence_49	-----	
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	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
40	Sequence_13	-----	
	Sequence_18	CCGCGATTGTCTCTATGTCTCTTTTCATCAAAAAATATCCGTTTCGATAAAGGAAAACT	6306
	Cry8Ha1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
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55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_51	-----	
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FIGURA 16 (Continuação)

5	Sequence_83	-----	
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	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
10	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
15	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CAGGACTTACAGATAAGACCTTTTGATATATAAAATCAATAGAATACTGAGAAGGATAGG	6366
	Cry8Ha1	-----	

20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
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30	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
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	Sequence_69	-----	
50	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
55	Sequence_13	-----	
	Sequence_18	TTAACATAATCCCTTTTATAGATGTCTCAATCTGAAAAGGTTGAAATTCTTGATTAATAA	6426
	Cry8Ha1	-----	

60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
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65	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	

FIGURA 16 (Continuação)

	Sequence_81	-----	
	Sequence_45	-----	
5	Sequence_77	-----	
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	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
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	Sequence_69	-----	
	Sequence_11	-----	
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	Sequence_1	-----	
20	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATTTAATGTCATCTCTCAAAATTCTTTCGGAACAATTTAGTGTTTGTGCACTCACTCCTA	6486
	Cry8Ha1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_5	-----	
	Sequence_1	-----	
55	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ACGTATGCCATCCATCTTGTTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT	6546
60	Cry8Ha1	-----	

FIGURA 16 (Continuação)

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_5	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
35	Sequence_18	TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTTATAAAATATCACTGAT 6606
	Cry8Hal	-----
	Sequence_71	-----
	Sequence_73	-----
40	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
45	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
50	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
55	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
60	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
65	Sequence_5	-----

FIGURA 16 (Continuação)

5 Sequence_1 -----
Sequence_17 -----
Sequence_3 -----
Sequence_13 -----
Sequence_18 GGAATTC 6613
Cry8Ha1 -----
10

FIGURA 17

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	TTTTAGGTATTCTTTTAAGTTCTTTATAGAGACAGATTAACGAAAACTAAATAAGAAAT 60
35	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
40	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
45	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
50	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
55	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
60	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
65	Sequence_17	-----

FIGURA 17 (Continuação)

5	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT	120
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
40	Sequence_18	TGTACGAGGTCTGAATTGACGTAACAGGGCACCTTTTGGTCAAATTGACCAAAGAATCCA	180
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 17 (Continuação)

5	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
10	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCCTTTGCATGAGCACTTCTCGAAACCACTTCCCATAGTGCACTTCTTATCTTTGTATA	240
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
45	Sequence_18	TATTTCTTAAGGATATCGTAATCCCTATTCTGATAAGAGGATTTTGTCAGTGTAGGAAG	300
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

5	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
10	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
15	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AGCGAATGTCTTTTCGTATTTCAAACAAAAATAAAGGATGTTTATGCACGAAATAATC	360
Cry8Ka1		-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
30	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
35	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
40	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
45	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
50	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
55	Sequence_18	ATCATATTAATAATGCCCAGTACATAAAGATAGATGGGGGCATTTTTTGAAATGATTTCG	420
	Cry8Ka1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
65	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
20	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC	480
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----GGTTTCCATTCCCACCG	17
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAGATCAGTCGGATGTAGAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCT	540
60	Cry8Ka1	-----	

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_1	-----	
	Sequence_17	GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTATCT	77
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TTCAATGTATGGTTTCCATTCCAACAGGTTTCAAATTCAAAAACCCCAATACACCGAAAC	600
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
65	Sequence_17	TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT	137

FIGURA 17 (Continuação)

5	Sequence_3 Sequence_13 Sequence_18 Cry8Ka1	----- ----- TTGTCCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG 660 -----
10	Sequence_71 Sequence_73 Sequence_21 Sequence_67 Sequence_61	----- ----- ----- ----- -----
15	Sequence_93 Sequence_59 Sequence_91 Sequence_39 Sequence_41 Sequence_49	----- ----- ----- ----- ----- -----
20	Sequence_81 Sequence_45 Sequence_77 Sequence_75 Sequence_43 Sequence_47 Sequence_79 Sequence_51 Sequence_83 Sequence_7	----- ----- ----- ----- ----- ----- ----- ----- ----- -----
30	Sequence_25 Sequence_29 Sequence_33 Sequence_69 Sequence_11	----- ----- ----- ----- -----
35	Sequence_1 Sequence_17 Sequence_3 Sequence_13 Sequence_18 Cry8Ka1	----- AGATTTACATGTCTTAAAAATTAAAGGTGTTTTACCGTTTATCGTGAACGTATCCATTGA 197 ----- TAGAGGATTGTGGGCAAATTGAGATAGATTACATGTCCTAAAAATTAAAGGTGTTTTAC 720 -----
45	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	----- -----
50		
55		
60		
65		

FIGURA 17 (Continuação)

	Sequence_29	-----	
	Sequence_33	-----	
5	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTAAAG	257
	Sequence_3	-----	
10	Sequence_13	-----	
	Sequence_18	CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG	780
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	TTGTCAAGAAACGGTATATGTGGATCATATTTTAAATATAGTGTTGATCATGTCCCATA	317
	Sequence_3	-----	
	Sequence_13	-----	
45	Sequence_18	TAGAGACACATCCTTATTTTAAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAA	840
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
55	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
60	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
15	Sequence_17	TTATGTAATTGATGGCCATCATATTCAAGTGCCTGATGTATCGATTAAATTGATGGAAGA	377
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATATAGTGTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGCCTGA	900
	Cry8Ka1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
30	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
35	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
40	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
45	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	AAACCCACAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA	437
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	TGTATCGATTAAATTGATGGAAGAAAACCCACAACTGCTCAAATATCGGGTGTTTTTTA	960
	Cry8Ka1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
20	Sequence_17	AATCAAAAAATATTTTGTGAAGAATCCCTAAAAATTATCACAACATTGTTTATTATAAAAT	497
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TTTGTATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA	1020
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	AACTCATTTCAAGAAAAATCGTAATATTTTTTATCTAACAGGAATTTTATCATCTACAG	557
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCACAACATTGTTTATTATAAAATAACTCATTTCAAGAAAAATCGTAATATTTTTTTATC	1080
60	Cry8Ka1	-----	

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_1	-----	
	Sequence_17	AAGAATATTCTTATCATGGTAATGAGGAGGGAGAGTGACAGAGAGGGGATAGACAATCAA	617
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAACAGGAATTTTATCATCTACAGAAGAATATTCTTATCATGGTAATGAGGAGGGAGAGT	1140
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	

FIGURA 17 (Continuação)

5	Sequence_17	AAGAGTATCTAGAAGAGTTTGTTCATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC	677
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GACAGTCAAAAAGAGTACCTGGTTTGTTCGTGTAAGAAAAAAGAATCGATCGTACAGGAAAG	1200
	Cry8Ka1	-----	
10	Sequence_71	-----ATGAGTC	7
	Sequence_73	-----ATGAGTC	7
	Sequence_21	-----ATGAGTC	7
	Sequence_67	-----ATGAGTC	7
15	Sequence_61	-----ATGAGTC	7
	Sequence_93	-----ATGAGTC	7
	Sequence_59	-----ATGAGTC	7
	Sequence_91	-----ATGAGTC	7
20	Sequence_39	-----ATGAGTC	7
	Sequence_41	-----ATGAGTC	7
	Sequence_49	-----ATGAGTC	7
	Sequence_81	-----ATGAGTC	7
25	Sequence_45	-----ATGAGTC	7
	Sequence_77	-----ATGAGTC	7
	Sequence_75	-----ATGAGTC	7
	Sequence_43	-----ATGAGTC	7
30	Sequence_47	-----ATGAGTC	7
	Sequence_79	-----ATGAGTC	7
	Sequence_51	-----ATGAGTC	7
	Sequence_83	-----ATGAGTC	7
35	Sequence_7	-----ATGAGTC	7
	Sequence_25	-----ATGAGTC	7
	Sequence_29	-----ATGAGTC	7
	Sequence_33	-----ATGAGTC	7
40	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	TTAAAAAAGTGTAAGAAATTTTATATCTTTGTATGTATAGGAGGAAAATAGATGAGTC	1260
	Cry8Ka1	-----ATGAGTC	7

45	Sequence_71	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_73	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_21	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_67	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
50	Sequence_61	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_93	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_59	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_91	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
55	Sequence_39	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_41	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_49	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_81	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
60	Sequence_45	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_77	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_75	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_43	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
65	Sequence_47	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_79	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_51	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_83	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67
	Sequence_7	CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG	67

FIGURA 17 (Continuação)

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

15 Sequence_71	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_73	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_21	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_67	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
20 Sequence_61	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_93	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_59	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_91	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_39	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_41	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_49	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_81	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_45	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_77	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
30 Sequence_75	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_43	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_47	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_79	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_51	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
35 Sequence_83	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_7	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_25	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_29	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_33	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
40 Sequence_69	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_11	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_1	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_17	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	857
Sequence_3	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
45 Sequence_13	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	127
Sequence_18	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGCTACAAAATATGGATTATA	1380
Cry8Ka1	ATTCTAACAGATACCCCTTTTGCGAATGAGCCAACAAATGCGTTACAAAATATGAATTATA	127

50 Sequence_71	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_73	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_21	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_67	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_61	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
55 Sequence_93	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_59	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_91	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_39	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_41	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
60 Sequence_49	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_81	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_45	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_77	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
Sequence_75	AAGATTATTTAAAAATGTCTGCGGGAAATGCTAGTGAATACCCCTGGTTCACCTGAAGTAC	187
65		

FIGURA 17 (Continuação)

Sequence_43 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_47 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
5 Sequence_79 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_51 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_83 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_7 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
10 Sequence_25 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_29 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_33 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_69 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_11 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
15 Sequence_1 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_17 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 917
Sequence_3 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_13 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 187
Sequence_18 AAGATTATTTTAAAAAATGCTCTGCCGGGAAATGCTAGTGAATACCCCTGGTTTCACCTGAAGTAC 1440
20 Cry8Ka1 AGGATTATTTAAGAATGTCTGAAGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT 187
* * * * *

Sequence_71 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_73 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
5 Sequence_21 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_67 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_61 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_93 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_59 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_91 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
30 Sequence_39 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_41 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_49 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_81 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_45 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
35 Sequence_77 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_75 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_43 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_47 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_79 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
40 Sequence_51 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_83 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_7 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_25 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_29 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
45 Sequence_33 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_69 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_11 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_1 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_17 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 977
50 Sequence_3 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_13 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 247
Sequence_18 TTGTTAGCGGACAAGATGCAGCTAAGGCCGCAATTGATATAGTAGGTA AATTACTATCAG 1500
Cry8Ka1 TTGCT - - GCACCAGGTGGGATTACA ACTGGAATTACTATAGTTACTAAATTACTGGGGT 244
*** * * * * *

Sequence_71 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_73 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
5 Sequence_21 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_67 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_61 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_93 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_59 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
Sequence_91 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307
65 Sequence_39 GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTTACTCAACTTATTGATATTC 307

FIGURA 17 (Continuação)

Sequence_41	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_49	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
5 Sequence_81	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_45	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_77	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_75	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_43	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
10 Sequence_47	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_79	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_51	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_83	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_7	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
15 Sequence_25	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_29	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_33	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_69	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_11	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
20 Sequence_1	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_17	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	1037
Sequence_3	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_13	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	307
Sequence_18	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	1560
25 Cry8Ka1	GGTTAGGACTTCCATTGCTGGGGAAACAGGATGGCTCTTAATTTCTAGGCTAT	304
	* * * * *	
Sequence_71	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_73	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
30 Sequence_21	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_67	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_61	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_93	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_59	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
35 Sequence_91	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_39	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_41	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_49	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_81	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
40 Sequence_45	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_77	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_75	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_43	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_47	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
45 Sequence_79	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_51	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_83	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_7	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_25	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
50 Sequence_29	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_33	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_69	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_11	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_1	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
55 Sequence_17	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	1097
Sequence_3	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_13	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	367
Sequence_18	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAACTCA	1620
60 Cry8Ka1	TATGGCCAACA--TCAGGAAACCCGTGGGCTGAACATATGATATTGGTAGAAGAACTCA	361
	* * * * *	

FIGURA 17 (Continuação)

[illegible]

FIGURA 17 (Continuação)

5	Sequence_3	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT-	486
	Sequence_13	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT-	486
	Sequence_18	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGAAAGAAAATCCAAATGGT-	1739
	Cry8Ka1	GTAGAGCCTTACGATCCTATTTAAACGCATTTGAAGATTGGCAAAAAACCCTAATATCT	481
		*** * * * * * * * * * * * * * * * *	
10	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
15	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
20	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
25	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
30	Sequence_47	GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA	540
	Sequence_79	GTCGAGGT---CCAAATGGTTCCCGG---GCCTTACGAGAT-GTGCGAAATCGATTTGAA	540
	Sequence_51	GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA	546
	Sequence_83	GTCGAGGTAGTTTAAATGGTTCCCGGCCAGCCTTACGAGAT-GTGCGAAATCGATTTGAA	546
35	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
40	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
45	Sequence_3	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	522
	Sequence_13	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	522
	Sequence_18	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	1775
	Cry8Ka1	TTTCG-----GAGTAAAGAGTTAGTAAAGAAAGATTTTCA	516
		* * * * * * * * * * * * * * * *	
50	Sequence_71	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	602
	Sequence_73	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_21	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
	Sequence_67	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
55	Sequence_61	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
	Sequence_93	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
	Sequence_59	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
	Sequence_91	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
60	Sequence_39	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	602
	Sequence_41	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_49	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	596
	Sequence_81	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	596
65	Sequence_45	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_77	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_75	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	596
	Sequence_43	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	596
70	Sequence_47	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_79	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	599
	Sequence_51	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	605
	Sequence_83	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	605
75	Sequence_7	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593
	Sequence_25	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	593

FIGURA 17 (Continuação)

5	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
10	Sequence_17	ATCCTGGATAGTTTATTTACGCAAT-ATATGCCATCTTTTAGAGTGACAAATTTTGAAGT	1311
	Sequence_3	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT	581
	Sequence_13	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT	581
	Sequence_18	ATCCTGGATAGTTTATTTACGCAAT-ACATGCCATCTTTTCGAGTGACAAATTTTGAAGT	1834
	Cry8Ka1	AACGCGAACATTCAATT-ACGTACCGAAATGAGTTCTTTTGCCATAAGAGGATTTGAAT	575
* * * * *			
15	Sequence_71	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	662
	Sequence_73	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
	Sequence_21	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_67	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_61	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
20	Sequence_93	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_59	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_91	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_39	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	662
	Sequence_41	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
25	Sequence_49	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	656
	Sequence_81	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	656
	Sequence_45	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
	Sequence_77	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
	Sequence_75	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	656
30	Sequence_43	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	656
	Sequence_47	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
	Sequence_79	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	659
	Sequence_51	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	665
	Sequence_83	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	665
35	Sequence_7	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_25	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_29	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_33	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
	Sequence_69	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	653
40	Sequence_11	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
	Sequence_1	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
	Sequence_17	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	1371
	Sequence_3	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
	Sequence_13	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
45	Sequence_18	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	1894
	Cry8Ka1	TCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAGATAT	635
* * * * *			
50	Sequence_71	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
	Sequence_73	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_21	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_67	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_61	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
55	Sequence_93	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_59	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_91	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_39	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
	Sequence_41	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
60	Sequence_49	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
	Sequence_81	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
	Sequence_45	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_77	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_75	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
65	Sequence_43	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716

FIGURA 17 (Continuação)

Sequence_47 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 719
Sequence_79 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 719
5 Sequence_51 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 725
Sequence_83 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 725
Sequence_7 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 713
Sequence_25 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 713
10 Sequence_29 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 713
Sequence_33 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 713
Sequence_69 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 713
Sequence_11 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 701
Sequence_1 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 701
15 Sequence_17 GTCAATTTTTTGGAGAAGAATGGGGATGGTCAACCAACTACTATTAATAACTATTATGATCG 1431
Sequence_3 TTCAATTTTTTGGAGAAGAATGGGGATGGTCTACAACCACTACTATTAATAACTATTATGATCG 701
Sequence_13 TTCAATTTTTTGGAGAAGAATGGGGATGGTCTACAACCACTACTATTAATAACTATTATGATCG 701
Sequence_18 TTCAATTTTTTGGAGAAGAATGGGGATGGTCTACAACCACTACTATTAATAACTATTATGATCG 1954
Cry8Ka1 TCAAATTTATGAAAAAGAATGGGGATATACTCAAGCCGATATTGACTATTTTATAGAGA 695
***** * * * *

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

55 Sequence_71 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 842
Sequence_73 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 839
Sequence_21 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
Sequence_67 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
60 Sequence_61 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
Sequence_93 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
Sequence_59 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
Sequence_91 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 833
Sequence_39 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 842
Sequence_41 AGCAAAATTTAAAGGCACGAGCGCTAAACAAATGGGTTGACTATAACCAATTCGTTAGAGA 839

FIGURA 17 (Continuação)

	Sequence_49	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
5	Sequence_81	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
	Sequence_45	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
	Sequence_77	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
	Sequence_75	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
	Sequence_43	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
10	Sequence_47	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
	Sequence_79	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
	Sequence_51	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	845
	Sequence_83	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	845
	Sequence_7	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
15	Sequence_25	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
	Sequence_29	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
	Sequence_33	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
	Sequence_69	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
	Sequence_11	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	821
20	Sequence_1	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	821
	Sequence_17	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	1551
	Sequence_3	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
	Sequence_13	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
	Sequence_18	AGCAAAATTAAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	2074
25	Cry8Ka1	AAATCAATTAAAAGGTTTGAATGCTAAGCAATGGATTGCATTTAATCGTTCCGTAGAGA	815
		* ***** *** ***** * * * * *	
30	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
35	Sequence_91	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA	893
	Sequence_39	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	902
	Sequence_41	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
	Sequence_49	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
	Sequence_81	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
40	Sequence_45	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
	Sequence_77	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
	Sequence_75	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
	Sequence_43	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
	Sequence_47	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
45	Sequence_79	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
	Sequence_51	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	905
	Sequence_83	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	905
	Sequence_7	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
	Sequence_25	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
50	Sequence_29	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
	Sequence_33	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
	Sequence_69	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
	Sequence_11	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
	Sequence_1	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
55	Sequence_17	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	1611
	Sequence_3	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
	Sequence_13	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881
	Sequence_18	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	2134
60	Cry8Ka1	AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCCGAATTATGATGTACGTATGTA	875
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FIGURA 17 (Continuação)

	Sequence_71	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
5	Sequence_73	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_21	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_67	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_61	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_93	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
10	Sequence_59	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_91	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_39	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
	Sequence_41	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_49	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
15	Sequence_81	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
	Sequence_45	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_77	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_75	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
	Sequence_43	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
20	Sequence_47	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_79	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
	Sequence_51	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	965
	Sequence_83	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	965
	Sequence_7	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
25	Sequence_25	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_29	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_33	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_69	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
	Sequence_11	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
30	Sequence_1	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_17	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	1671
	Sequence_3	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_13	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
	Sequence_18	CCCAATGGAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	2194
35	Cry8Ka1	CCCTATAAAAACTACAGAGCTAACAGAGAACAATTTATACCATCCACTGGGTTACAC	935
		*** ** ***** ** * ***** ** * * ***** ***** **	
	Sequence_71	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1016
	Sequence_73	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
40	Sequence_21	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_67	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_61	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_93	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_59	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
45	Sequence_91	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_39	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1016
	Sequence_41	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
	Sequence_49	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
	Sequence_81	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
50	Sequence_45	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
	Sequence_77	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
	Sequence_75	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
	Sequence_43	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
	Sequence_47	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
55	Sequence_79	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
	Sequence_51	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1019
	Sequence_83	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1019
	Sequence_7	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_25	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
60	Sequence_29	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_33	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_69	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
	Sequence_11	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	995
	Sequence_1	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	995
65	Sequence_17	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1725

FIGURA 17 (Continuação)

5	Sequence_3	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	995
	Sequence_13	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	995
	Sequence_18	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	2248
	Cry8Ka1	GAAAACGGGTTCTAGTAGTACACCACCATGGTATAATTATGGATCTAGTTTCTCATATAT	995
		*** * *** * * * * * * * * * * * * * * * * *	
10	Sequence_71	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1076
	Sequence_73	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_21	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_67	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
15	Sequence_61	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_93	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_59	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_91	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
20	Sequence_39	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1076
	Sequence_41	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_49	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1070
	Sequence_81	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1070
25	Sequence_45	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_77	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_75	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1070
	Sequence_43	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1070
30	Sequence_47	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_79	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1073
	Sequence_51	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1079
	Sequence_83	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1079
35	Sequence_7	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_25	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_29	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_33	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
40	Sequence_69	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1067
	Sequence_11	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1055
	Sequence_1	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1055
	Sequence_17	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1785
45	Sequence_3	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1055
	Sequence_13	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	1055
	Sequence_18	AGAATCATCCGTTATTCGACCACCCCATGTATTTGATTATATAACGGGACTCACAGTGTA	2308
	Cry8Ka1	AGAAAGTGATGCGATTTCGACCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA	1055
		**** * * * * * * * * * * * * * * * * *	
50	Sequence_71	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
	Sequence_73	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_21	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_67	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
55	Sequence_61	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_93	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_59	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_91	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
60	Sequence_39	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
	Sequence_41	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_49	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
	Sequence_81	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
65	Sequence_45	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_77	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_75	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
	Sequence_43	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
70	Sequence_47	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_79	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
	Sequence_51	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
	Sequence_83	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
75	Sequence_7	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_25	TACACAATCAAGAAGCATTTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127

FIGURA 17 (Continuação)

5	Sequence_29	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_33	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_69	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
	Sequence_11	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_1	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
10	Sequence_17	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1845
	Sequence_3	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_13	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
	Sequence_18	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	2368
	Cry8Ka1	TTCGAAATCCGCAAGGGCTACACC--GCAAAGTGC GGATTATTGGGCAGGACATACAAT	1112
		* * * * *	
15	Sequence_71	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1196
	Sequence_73	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
	Sequence_21	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_67	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_61	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
20	Sequence_93	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_59	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_91	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_39	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1196
	Sequence_41	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
25	Sequence_49	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1190
	Sequence_81	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1190
	Sequence_45	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
	Sequence_77	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
	Sequence_75	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1190
30	Sequence_43	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1190
	Sequence_47	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
	Sequence_79	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1193
	Sequence_51	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1199
	Sequence_83	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1199
35	Sequence_7	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_25	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_29	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_33	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
	Sequence_69	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1187
40	Sequence_11	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1175
	Sequence_1	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1175
	Sequence_17	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAAC TAATCAAAA	1905
	Sequence_3	AAGCTATCATCGGATTTT TAGTGATAATATTATAAAACAGATGTATGGAAC TAATCAAAA	1175
	Sequence_13	AAGCTATCATCGGATTTT TAGTGATAATATTATAAAACAGATGTATGGAAC TAATCAAAA	1175
45	Sequence_18	AAGCTATCATCGGATTTT TAGTGATAATATTATAAAACAGATGTATGGAAC TAATCAAAA	2428
	Cry8Ka1	AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAA	1172
		** ** *	
50	Sequence_71	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
	Sequence_73	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_21	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_67	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_61	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
55	Sequence_93	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_59	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_91	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
	Sequence_39	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
	Sequence_41	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
60	Sequence_49	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
	Sequence_81	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
	Sequence_45	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_77	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
	Sequence_75	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
65	Sequence_43	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250

FIGURA 17 (Continuação)

Sequence_47	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
Sequence_79	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
5 Sequence_51	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1259
Sequence_83	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1259
Sequence_7	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_25	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_29	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
10 Sequence_33	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_69	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_11	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
Sequence_1	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
Sequence_17	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1965
15 Sequence_3	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
Sequence_13	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1235
Sequence_18	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	2488
Cry8Ka1	TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC	1232
20	** * * * * * * * * * * *	
Sequence_71	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1315
Sequence_73	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
Sequence_21	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
25 Sequence_67	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_61	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_93	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_59	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_91	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_39	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1315
30 Sequence_41	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
Sequence_49	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1309
Sequence_81	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1309
Sequence_45	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
Sequence_77	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
35 Sequence_75	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1309
Sequence_43	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1309
Sequence_47	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
Sequence_79	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1312
Sequence_51	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1318
40 Sequence_83	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1318
Sequence_7	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_25	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_29	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_33	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
45 Sequence_69	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1306
Sequence_11	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1294
Sequence_1	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	1294
Sequence_17	GGATGCAGTACTCCTTGATATTGTT-TACCTGGTTATACGTATATATTTTTTGAATGC	2024
Sequence_3	AGATGCGGTGCTCCTTGATATTGTT-TTCCTGGTTATACGTATATATTTTTTGAATGC	1294
50 Sequence_13	AGATGCGGTGCTCCTTGATATTGTT-TTCCTGGTTATACGTATATATTTTTTGAATGC	1294
Sequence_18	AGATGCGGTGCTCCTTGATATTGTT-TTCCTGGTTATACGTATATATTTTTTGAATGC	2547
Cry8Ka1	TGTTGCTTCAAGTACAACCTAGTGGTTAAATTATTAACCTACTAAGGCTATATTTGATGG	1292
55	* * * * * * * * * * * *	
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
60 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

FIGURA 17 (Continuação)

Sequence_71	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
Sequence_73	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
5 Sequence_21	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_67	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_61	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_93	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_59	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
10 Sequence_91	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_39	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
Sequence_41	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_49	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_81	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
15 Sequence_45	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_77	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_75	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_43	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_47	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
20 Sequence_79	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_51	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_83	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_7	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_25	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_29	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_33	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_69	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_11	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_1	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
30 Sequence_17	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2198
Sequence_3	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_13	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
Sequence_18	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2721
35 Cry8Ka1	CTACGGGA-TGCTGAACAGTACAGTCATCGGCTATCCTAT-GTTTCTAATGCTCCAACA	1464
	*** ** *	
Sequence_71	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1547
Sequence_73	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
Sequence_21	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
40 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
45 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
50 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
55 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
60 Sequence_33	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
Sequence_69	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
Sequence_11	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
Sequence_1	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
65 Sequence_17	CAAGTATTCCCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2256

FIGURA 17 (Continuação)

5	Sequence_3	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
	Sequence_13	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
	Sequence_18	CAAGTATTCCCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2779
	Cry8Ka1	-GAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCAGTACTGGGTTGGACGCA	1523
		**** * * * * *	
10	Sequence_71	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_73	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_21	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_67	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
15	Sequence_61	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_93	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_59	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_91	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
20	Sequence_39	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_41	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_49	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_81	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
25	Sequence_45	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_77	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_75	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_43	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
30	Sequence_47	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_79	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_51	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610
	Sequence_83	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610
35	Sequence_7	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_25	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_29	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_33	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
40	Sequence_69	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_11	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1586
	Sequence_1	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1586
	Sequence_17	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	2316
45	Sequence_3	TCGGAGTGCAGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	1586
	Sequence_13	TCGGAGTGCAGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	1586
	Sequence_18	TCGGAGTGCAGATCTTATAAATGCAGTTCATTTCAGATAAAATTAAGTTCAGATTCCGGTTCGT	2839
	Cry8Ka1	TACTAGTTTAACTCAACCAATCAGATACATTCTGACTCAATTAAGTTCAGATTCCGGTTCGT	1583
		* * * * *	
50	Sequence_71	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1663
	Sequence_73	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_21	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
	Sequence_67	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
55	Sequence_61	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
	Sequence_93	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
	Sequence_59	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
	Sequence_91	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
60	Sequence_39	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1663
	Sequence_41	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_49	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1657
	Sequence_81	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1657
65	Sequence_45	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_77	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_75	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1657
	Sequence_43	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1657
70	Sequence_47	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_79	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1660
	Sequence_51	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1666
	Sequence_83	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1666
75	Sequence_7	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654
	Sequence_25	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT---AAAAGGACCAGGACATACAG	1654

FIGURA 17 (Continuação)

5	Sequence_29	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1654
	Sequence_33	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1654
	Sequence_69	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1654
	Sequence_11	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1642
	Sequence_1	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	1642
10	Sequence_17	TAAATGTTGGGATAATTTACCGTTTGTTCAGTGGT----	AAAAGGACCAGGACATACAG	2372
	Sequence_3	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		1646
	Sequence_13	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		1646
	Sequence_18	AAAGGTTTCTGATTTGGCTCCCTCTATAACAGGAGGGCCAAATAATACCGTTGTATCGGG		2899
	Cry8Ka1	TAAAGCAAATAGTGTAGTTCCTATGT-----	TACTGTTGAAAAGGG	1625
		** * * * *	** *	
15	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
20	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
25	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
30	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
35	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
40	Sequence_11	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1697
	Sequence_1	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1697
	Sequence_17	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	2427
	Sequence_3	TCCTGGATTTACAGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA		1706
	Sequence_13	TCCTGGATTTACAGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA		1706
45	Sequence_18	TCCTGGATTTACAGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA		2959
	Cry8Ka1	AACAGGCTTTACAGGTGGAGATTTAGTGAATTCTCC--	ACTGGATTCTGTCTACAGG	1682
		** * * * *	** * *	
50	Sequence_71	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1778
	Sequence_73	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1775
	Sequence_21	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
	Sequence_67	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
	Sequence_61	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
55	Sequence_93	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
	Sequence_59	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
	Sequence_91	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1769
	Sequence_39	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1778
	Sequence_41	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1775
60	Sequence_49	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1772
	Sequence_81	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1772
	Sequence_45	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1775
	Sequence_77	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1775
	Sequence_75	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1772
65	Sequence_43	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC		1772

FIGURA 17 (Continuação)

Sequence_47	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
Sequence_79	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
5 Sequence_51	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1781
Sequence_83	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1781
Sequence_7	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_25	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_29	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
10 Sequence_33	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_69	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_11	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
Sequence_1	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
Sequence_17	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	2487
15 Sequence_3	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	1763
Sequence_13	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	1763
Sequence_18	TATGCG---TGTTAAATTTTCAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	3016
Cry8Ka1	AATACAGTTTAATTTAAGATAGAAGAAAGCGTTATCGTATCCGTATACGATATGC	1742
	* * * * *	
20 Sequence_71	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1826
Sequence_73	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1823
Sequence_21	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
Sequence_67	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
25 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
30 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
35 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
40 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
45 Sequence_69	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
Sequence_11	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
Sequence_1	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
Sequence_17	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	2535
Sequence_3	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
50 Sequence_13	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
Sequence_18	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	3076
Cry8Ka1	CGCTGATGTTAATGCT--ACTCTATCTGCACTTGGATTAA-ATGATGCATTTATTAACAT	1799
	* * * * *	
55 Sequence_71	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1886
Sequence_73	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1883
Sequence_21	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
Sequence_67	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
60 Sequence_61	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
Sequence_93	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
Sequence_59	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
Sequence_91	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1877
Sequence_39	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1886
Sequence_41	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAAACCTTTTAAAGTTGCAGATGC	1883

FIGURA 17 (Continuação)

	Sequence_49	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
5	Sequence_81	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
	Sequence_45	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_77	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_75	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
	Sequence_43	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1880
10	Sequence_47	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_79	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1883
	Sequence_51	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1889
	Sequence_83	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1889
	Sequence_7	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
15	Sequence_25	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_29	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_33	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_69	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1877
	Sequence_11	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1865
20	Sequence_1	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	1865
	Sequence_17	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACCTTTTAAAGTTGCAGATGC	2595
	Sequence_3	TCAAAAAACCTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT	1882
	Sequence_13	TCAAAAAACCTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT	1882
	Sequence_18	TCAAAAAACCTATGAATAGAGGTGAAGCTTTAACATATAATAAATTTAATTATGC-GACTT	3135
25	Cry8Ka1	TAAATCGACAATGTCTCAAGACACACCATTGAAGTATAACGATTTCCAATATGCAGAAGC	1859
		* * * * * * * * * * * *	
	Sequence_71	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1942
	Sequence_73	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1939
30	Sequence_21	TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG	1933
	Sequence_67	TATCACAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG	1933
	Sequence_61	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1933
	Sequence_93	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1933
	Sequence_59	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1933
35	Sequence_91	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1933
	Sequence_39	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1942
	Sequence_41	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1939
	Sequence_49	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1936
	Sequence_81	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1936
40	Sequence_45	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1939
	Sequence_77	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1939
	Sequence_75	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1936
	Sequence_43	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1936
	Sequence_47	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1939
45	Sequence_79	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1939
	Sequence_51	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATGTAG	1945
	Sequence_83	TATCACAACAGTTAATTTA--GCAACAGATAGTTCGGTTCAGTTAAA--CATAATTTAG	1945
	Sequence_7	TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG	1933
	Sequence_25	TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATGTAG	1933
50	Sequence_29	TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--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
55	Sequence_17	TATCACAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG	2651
	Sequence_3	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCACTACTAGGGGCTATATTTGAA	1941
	Sequence_13	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCACTACTAGGGGCTATATTTGAA	1941
	Sequence_18	TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTCACTACTAGGGGCTATATTTGAA	3194
60	Cry8Ka1	TGACAAAACAGTGCATTTA-----TACAATCCTCGTTTTTCTTTA-----TATTTAGAAA	1909
		* * * * * * * * * * * *	

FIGURA 17 (Continuação)

Sequence_71	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2002
Sequence_73	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
5 Sequence_21	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_67	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_61	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_93	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_59	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
10 Sequence_91	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_39	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2002
Sequence_41	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
Sequence_49	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
Sequence_81	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
15 Sequence_45	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
Sequence_77	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
Sequence_75	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
Sequence_43	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1996
Sequence_47	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
20 Sequence_79	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1999
Sequence_51	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2005
Sequence_83	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2005
Sequence_7	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
25 Sequence_25	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_29	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_33	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_69	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1993
Sequence_11	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1981
30 Sequence_1	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	1981
Sequence_17	GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC	2711
Sequence_3	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	1993
Sequence_13	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	1993
Sequence_18	GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC	3246
35 Cry8Ka1	ATTCAGATCAATCCGGAAAGT-----ATTTATATAGATCGAATCGAATTCATCC	1960
	* * *	*** * ** ***** *
Sequence_71	CAGTAGATGAGACATATGAAGCGGAA-----	2028
Sequence_73	CAGTAGATGAGACATATGAAGCGGAA-----	2025
Sequence_21	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
40 Sequence_67	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
Sequence_61	CAGTAGATGAGACATATGAAGCGGAA-----	2019
Sequence_93	CAGTAGATGAGACATATGAAGCGGAA-----	2019
Sequence_59	CAGTAGATGAGACATATGAAGCGGAA-----	2019
Sequence_91	CAGTAGATGAGACATATGAAGCGGAA-----	2019
45 Sequence_39	CAGTAGATGAGACATATGAAGCGGAA-----	2028
Sequence_41	CAGTAGATGAGACATATGAAGCGGAA-----	2025
Sequence_49	CAGTAGATGAGACATATGAAGCGGAA-----	2022
Sequence_81	CAGTAGATGAGACATATGAAGCGGAA-----	2022
Sequence_45	CAGTAGATGAGACATATGAAGCGGAA-----	2025
50 Sequence_77	CAGTAGATGAGACATATGAAGCGGAA-----	2025
Sequence_75	CAGTAGATGAGACATATGAAGCGGAA-----	2022
Sequence_43	CAGTAGATGAGACATATGAAGCGGAA-----	2022
Sequence_47	CAGTAGATGAGACATATGAAGCGGAA-----	2025
Sequence_79	CAGTAGATGAGACATATGAAGCGGAA-----	2025
55 Sequence_51	CAGTAGATGAGACATATGAAGCGGAA-----	2031
Sequence_83	CAGTAGATGAGACATATGAAGCGGAA-----	2031
Sequence_7	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
Sequence_25	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
Sequence_29	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
60 Sequence_33	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
Sequence_69	CAGTAGATGAGACATATGAAGCGGAATAA-----	2022
Sequence_11	CAGTAGATGAGACATATGAAGCGGAATAA-----	2010
Sequence_1	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2041
65 Sequence_17	CAGTAGATGAGACATATGAAGCGGAACAAGATTTAGAAGCAGCGAAGAAAGCAGTGAATG	2771

FIGURA 17 (Continuação)

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

10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2101
	Sequence_17	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2831
	Sequence_3	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	2113
	Sequence_13	-----	
40	Sequence_18	CCTTGTTTACGAATACAAAAGATGGCTTACGACCAGGCGTAACGGATTATGAAGTGAATC	3366
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 17 (Continuação)

		Sequence_29	-----	
		Sequence_33	-----	
5		Sequence_69	-----	
		Sequence_11	-----	
		Sequence_1	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2161
10		Sequence_17	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2891
		Sequence_3	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2173
		Sequence_13	-----	
		Sequence_18	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	3426
		Cry8Ka1	-----	
		Sequence_71	-----	
		Sequence_73	-----	
		Sequence_21	-----	
		Sequence_67	-----	
20		Sequence_61	-----	
		Sequence_93	-----	
		Sequence_59	-----	
		Sequence_91	-----	
		Sequence_39	-----	
25		Sequence_41	-----	
		Sequence_49	-----	
		Sequence_81	-----	
		Sequence_45	-----	
		Sequence_77	-----	
30		Sequence_75	-----	
		Sequence_43	-----	
		Sequence_47	-----	
		Sequence_79	-----	
		Sequence_51	-----	
35		Sequence_83	-----	
		Sequence_7	-----	
		Sequence_25	-----	
		Sequence_29	-----	
		Sequence_33	-----	
40		Sequence_69	-----	
		Sequence_11	-----	
		Sequence_1	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2221
		Sequence_17	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2951
		Sequence_3	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2233
45		Sequence_13	-----	
		Sequence_18	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	3486
		Cry8Ka1	-----	
		Sequence_71	-----	
50		Sequence_73	-----	
		Sequence_21	-----	
		Sequence_67	-----	
		Sequence_61	-----	
55		Sequence_93	-----	
		Sequence_59	-----	
		Sequence_91	-----	
		Sequence_39	-----	
60		Sequence_41	-----	
		Sequence_49	-----	
		Sequence_81	-----	
		Sequence_45	-----	
65		Sequence_77	-----	
		Sequence_75	-----	
		Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	2281
	Sequence_17	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	3011
15	Sequence_3	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	2293
	Sequence_13	-----	
	Sequence_18	CAGATTTCCAAGAGATAAATGGAGAAAATGGCTGGACGGCAAGTACGGGAATTGAGGTTA	3546
	Cry8Ka1	-----	
20			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
25	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
30	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
35	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
40	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
45	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	2341
	Sequence_17	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	3071
50	Sequence_3	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	2353
	Sequence_13	-----	
	Sequence_18	TAGAAGGGGATGCTTTATTCAAAGGGCGTTATCTACGCCTACCAGGTGCGAGAGAAATAG	3606
	Cry8Ka1	-----	
55			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
60	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_1	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	2401
	Sequence_17	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	3131
	Sequence_3	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	2413
	Sequence_13	-----	
	Sequence_18	ATACGGAAACGTATCCAACGTATCTGTATCAAAAAGTAGAGGAAGGTGTATTAAAACCAT	3666
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	ACACAAGATATAGATTGAGAGGGTTTGTTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA	2461
	Sequence_17	ACACAAGATATAGATTGAGAGGGTTTGTTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA	3191
55	Sequence_3	ACACAAGATATAGATTGAGAGGGTTTGTTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA	2473
	Sequence_13	-----	
	Sequence_18	ACACAAGATATAGATTGAGAGGGTTTGTTCGGAAGCAGTCAAGGATTGGAAATTTTCACAA	3726
	Cry8Ka1	-----	
60			

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_1	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	2521
	Sequence_17	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	3251
	Sequence_3	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	2533
	Sequence_13	-----	
	Sequence_18	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	3786
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_1	CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2581
	Sequence_17	CTCCTGTTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3311

FIGURA 17 (Continuação)

5	Sequence_3	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2593
	Sequence_13	-----	
	Sequence_18	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3846
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	2641
	Sequence_17	GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	3371
	Sequence_3	GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	2653
	Sequence_13	-----	
40	Sequence_18	GTTTAGAAGTAGAAAACCGTTCTGGTGAAGCGCATGAGTTCTCTATTCCCTATTGATACAG	3906
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 17 (Continuação)

5	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2701
10	Sequence_17	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3431
	Sequence_3	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2713
	Sequence_13	-----	
	Sequence_18	GTGAAATCGATTACAATGAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3966
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCTGAAGAGGGACCTTTATCAGGAGACG	2761
	Sequence_17	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCTGAAGAGGGACCTTTATCAGGAGACG	3491
	Sequence_3	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCTGAAGAGGGACCTTTATCAGGAGACG	2773
	Sequence_13	-----	
45	Sequence_18	AGGGATATGCAACACTCGGAAACCTAGAATTGGTCTGAAGAGGGACCTTTATCAGGAGACG	4026
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
10	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2821
	Sequence_17	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	3551
15	Sequence_3	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2833
	Sequence_13	-----	
	Sequence_18	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	4086
	Cry8Ka1	-----	
20			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
25	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
30	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
35	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
40	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
45	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2881
	Sequence_17	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	3611
	Sequence_3	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2893
50	Sequence_13	-----	
	Sequence_18	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	4146
	Cry8Ka1	-----	
55			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
10	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
15	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_1	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2941
	Sequence_17	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	3671
	Sequence_3	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2953
	Sequence_13	-----	
	Sequence_18	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	4206
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
35	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCAGAAATACCAGGGATGAACT	3001
55	Sequence_17	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCAGAAATACCAGGGATGAACT	3731
	Sequence_3	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCAGAAATACCAGGGATGAACT	3013
	Sequence_13	-----	
	Sequence_18	TGATACAGTCCATTTCCTTACGTATATAACGAAATGTTCCAGAAATACCAGGGATGAACT	4266
60	Cry8Ka1	-----	

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
10	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
15	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
20	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3061
30	Sequence_17	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3791
	Sequence_3	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	3073
	Sequence_13	-----	
	Sequence_18	ATACGAAGTTTACAGAATTAACAGATCGACTCCAACAAGCGTGGAGTTTGTATGATCAGC	4326
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
40	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
45	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
50	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
55	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
60	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3121
65	Sequence_17	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTAAAGTAATTGGAATGCAACGCCTG	3851

FIGURA 17 (Continuação)

5	Sequence_3	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG	3133
	Sequence_13	-----	
	Sequence_18	GAAATGCCATACCAAATGGTGATTTTCGAAATGGGTTAAGTAATTGGAATGCAACGCCTG	4386
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3181
	Sequence_17	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3911
	Sequence_3	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	3193
	Sequence_13	-----	
40	Sequence_18	GCGTAGAAGTACAACAAATCAATCATACATCTGTCCTTGTGATTCCAAACTGGGATGAGC	4446
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 17 (Continuação)

		Sequence_29	-----	
		Sequence_33	-----	
5		Sequence_69	-----	
		Sequence_11	-----	
		Sequence_1	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA	3241
10		Sequence_17	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA	3971
		Sequence_3	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA	3253
		Sequence_13	-----	
		Sequence_18	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA	4506
		Cry8Ka1	-----	
		Sequence_71	-----	
15		Sequence_73	-----	
		Sequence_21	-----	
		Sequence_67	-----	
20		Sequence_61	-----	
		Sequence_93	-----	
		Sequence_59	-----	
		Sequence_91	-----	
25		Sequence_39	-----	
		Sequence_41	-----	
		Sequence_49	-----	
		Sequence_81	-----	
30		Sequence_45	-----	
		Sequence_77	-----	
		Sequence_75	-----	
		Sequence_43	-----	
35		Sequence_47	-----	
		Sequence_79	-----	
		Sequence_51	-----	
		Sequence_83	-----	
40		Sequence_7	-----	
		Sequence_25	-----	
		Sequence_29	-----	
		Sequence_33	-----	
45		Sequence_69	-----	
		Sequence_11	-----	
		Sequence_1	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	3301
		Sequence_17	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	4031
50		Sequence_3	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	3313
		Sequence_13	-----	
		Sequence_18	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAAATCAAACAGAAA	4566
		Cry8Ka1	-----	
		Sequence_71	-----	
55		Sequence_73	-----	
		Sequence_21	-----	
		Sequence_67	-----	
60		Sequence_61	-----	
		Sequence_93	-----	
		Sequence_59	-----	
		Sequence_91	-----	
65		Sequence_39	-----	
		Sequence_41	-----	
		Sequence_49	-----	
		Sequence_81	-----	
		Sequence_45	-----	
		Sequence_77	-----	
		Sequence_75	-----	
		Sequence_43	-----	

FIGURA 17 (Continuação)

5	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
10	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
15	Sequence_1	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3361
	Sequence_17	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4091
	Sequence_3	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3373
	Sequence_13	-----	
	Sequence_18	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4626
Cry8Ka1		-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
25	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
30	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
35	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
40	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
45	Sequence_11	-----	
	Sequence_1	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3421
	Sequence_17	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4151
	Sequence_3	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3433
	Sequence_13	-----	
50	Sequence_18	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4686
Cry8Ka1		-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
60	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
65	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3481
20	Sequence_17	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4211
	Sequence_3	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3493
	Sequence_13	-----	
	Sequence_18	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4746
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GTGTGTACAATGATCAAACCGGCTATATCAGAAAAACAGTGACATTCATCCCGTATACAG	3541
	Sequence_17	GTGTGTACAATGATCAAACCGGCTATATCAGAAAAACAGTGACATTCATCCCGTATACAG	4271
55	Sequence_3	GTGTGTACAATGATCAAACCGGCTATATCAGAAAAACAGTGACATTCATCCCGTATACAG	3553
	Sequence_13	-----	
	Sequence_18	GTGTGTACAATGATCAAACCGGCTATATCAGAAAAACAGTGACATTCATCCCGTATACAG	4806
	Cry8Ka1	-----	
60			

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_1	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	3601
	Sequence_17	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	4331
	Sequence_3	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	3613
	Sequence_13	-----	
	Sequence_18	ATCAAATGTGGATTGAGATGAGTGAGACAGAAGGTACATTCTATATAGAAAGTGTAGAAT	4866
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_1	TGATTGTAGACGTAGAGTAA-----	3621
	Sequence_17	TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT	4391

FIGURA 17 (Continuação)

5	Sequence_3	TGATTGTAGACGTAGAGTAA-----	3633
	Sequence_13	-----	
	Sequence_18	TGATTGTAGACGTAGAGTAATAGTAGTACCCCTCCAGATGAAACCTGTATCTGGAGGGGT	4926
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT	4451
	Sequence_3	-----	
	Sequence_13	-----	
40	Sequence_18	TTTTTATGCAAAAGAGTCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT	4986
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 17 (Continuação)

5	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
10	Sequence_17	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTATATCCACCGGCATTGGAA	4511
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTATATCCACCGGCATTGGAA	5046
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA	4571
	Sequence_3	-----	
	Sequence_13	-----	
45	Sequence_18	AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA	5106
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----	
5	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
15	Sequence_17	GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTCAGGTCTTGAAGAAAG	4631
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTCAGGTCTTGAAGAAAG	5166
	Cry8Ka1	-----	
20			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
25	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
30	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
35	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
40	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
45	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	4691
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	5226
	Cry8Ka1	-----	
55			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
60	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
20	Sequence_17	TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	4751
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAATCAAGTCATAGTTTTTTGCAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	5286
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	4811
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	5346
	Cry8Ka1	-----	
60			

FIGURA 17 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
5	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
10	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
15	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
20	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
30	Sequence_1	-----	
	Sequence_17	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG	4871
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG	5406
35	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
40	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
45	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
50	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
55	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
60	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
65	Sequence_17	CTT-----	4874

FIGURA 17 (Continuação)

5	Sequence_3 Sequence_13 Sequence_18 Cry8Ka1	----- ----- CTTGTAAATAAGTTTGTCCAATGTATGATTAAAAATATATAATGTTTCCGTAAAAACATGCT 5466 -----
10	Sequence_71 Sequence_73 Sequence_21 Sequence_67 Sequence_61	----- ----- ----- ----- -----
15	Sequence_93 Sequence_59 Sequence_91 Sequence_39 Sequence_41	----- ----- ----- ----- -----
20	Sequence_49 Sequence_81 Sequence_45 Sequence_77 Sequence_75	----- ----- ----- ----- -----
25	Sequence_43 Sequence_47 Sequence_79 Sequence_51 Sequence_83	----- ----- ----- ----- -----
30	Sequence_7 Sequence_25 Sequence_29 Sequence_33 Sequence_69	----- ----- ----- ----- -----
35	Sequence_11 Sequence_1 Sequence_17 Sequence_3 Sequence_13	----- ----- ----- ----- -----
40	Sequence_18 Cry8Ka1	CGTCCCATTGAACTGTTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAAGCAAGA 5526 -----
45	Sequence_71 Sequence_73 Sequence_21 Sequence_67 Sequence_61	----- ----- ----- ----- -----
50	Sequence_93 Sequence_59 Sequence_91 Sequence_39 Sequence_41	----- ----- ----- ----- -----
55	Sequence_49 Sequence_81 Sequence_45 Sequence_77 Sequence_75	----- ----- ----- ----- -----
60	Sequence_43 Sequence_47 Sequence_79 Sequence_51 Sequence_83	----- ----- ----- ----- -----
65	Sequence_7 Sequence_25	----- -----

FIGURA 17 (Continuação)

5	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
10	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAAACGTCTTTTATCATGTAAAA	5586
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
45	Sequence_18	TAAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAAATGATTTTTTGT	5646
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----
	Sequence_79	-----
5	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
10	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
15	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	TATTTTGGAGAGGCACATGTAGTTTGTCTGATAGTCTATGCAATAAGTTTAGAATTTTCAG 5706
	Cry8Ka1	-----
20		
	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
25	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
30	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
35	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
40	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
45	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
50	Sequence_13	-----
	Sequence_18	GAACAATTTTCCATGCGTCATTTGATTTTGTGTACCATAGTTTCTAATTGCTCATACG 5766
	Cry8Ka1	-----
55		
	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
60	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
65	Sequence_41	-----

FIGURA 17 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
20	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
25	Sequence_18	TAAATGCATAATGATGATTAAAAAACAGAGAAGAGTTGGTAAACAGTCTCATGATTAA	5826
	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
35	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
40	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AATCAAGAGAAAAGGTATCCCGGAACAATTGACAAATGAGCTGTTCTCAAAAATACTTA	5886
	Cry8Ka1	-----	
60			

FIGURA 17 (Continuação)

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTTCATATGCTGGTGTGTGTAACGAA 5946
35	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
40	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
45	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
50	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
55	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
60	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
65	Sequence_17	-----

FIGURA 17 (Continuação)

5	Sequence_3 Sequence_13 Sequence_18 Cry8Ka1	----- ----- ----- TCACATTCAACCATGTCCAATACCGAATCCGTATGAGGTCTGGAAAATTTAGTTGTATCT 6006 -----
10	Sequence_71 Sequence_73 Sequence_21 Sequence_67 Sequence_61	----- ----- ----- ----- -----
15	Sequence_93 Sequence_59 Sequence_91 Sequence_39 Sequence_41	----- ----- ----- ----- -----
20	Sequence_49 Sequence_81 Sequence_45 Sequence_77 Sequence_75	----- ----- ----- ----- -----
25	Sequence_43 Sequence_47 Sequence_79 Sequence_51 Sequence_83	----- ----- ----- ----- -----
30	Sequence_7 Sequence_25 Sequence_29 Sequence_33 Sequence_69	----- ----- ----- ----- -----
35	Sequence_11 Sequence_1 Sequence_17 Sequence_3 Sequence_13	----- ----- ----- ----- -----
40	Sequence_18 Cry8Ka1	----- GATTTTTTTGGGTGACATATAGAAAGAGTTGATCCAATGCCTGTAGTTGGTTGTCTGGGA 6066 -----
45	Sequence_71 Sequence_73 Sequence_21 Sequence_67 Sequence_61	----- ----- ----- ----- -----
50	Sequence_93 Sequence_59 Sequence_91 Sequence_39 Sequence_41	----- ----- ----- ----- -----
55	Sequence_49 Sequence_81 Sequence_45 Sequence_77 Sequence_75	----- ----- ----- ----- -----
60	Sequence_43 Sequence_47 Sequence_79 Sequence_51 Sequence_83	----- ----- ----- ----- -----
65	Sequence_7 Sequence_25	----- -----

FIGURA 17 (Continuação)

5	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
10	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAGGAGTATGAGTCACACCATATTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT	6126
	Cry8Ka1	-----	
15	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
20	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
25	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
30	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
40	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
45	Sequence_18	GTTGTTTCATTTCTATGATTTTACAAGGATTGTTTGAATGTGTATCTCATATTGTTTGA	6186
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
55	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
60	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
65	Sequence_43	-----	

FIGURA 17 (Continuação)

	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
15	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGGAAGTACTAAGAAATAATTCCT	6246
	Cry8Ka1	-----	
20			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
25	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
30	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
35	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
40	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
45	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
50	Sequence_13	-----	
	Sequence_18	CCGCGATTGTCTCTATGTCATCTCTTTCATCAAAAAATATCCGTTTCGATAAAGGAAAAC	6306
	Cry8Ka1	-----	
55			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
60	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 17 (Continuação)

5	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
10	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
15	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
20	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
25	Sequence_18	CAGGACTTACAGATAAGACCTTTTGATATATAAAATCAATAGAATACTGAGAAGGATAGG	6366
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
35	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
40	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
45	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
50	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
55	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
60	Sequence_18	TTAACATAATCCCTTTTATAGATGTCTCAATCTGAAAAGGTTGAAATTCTTGATTAATAA	6426
	Cry8Ka1	-----	

FIGURA 17 (Continuação)

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
30	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	ATTTAATGTCATCTCTCAAAATTCTTTCGGAACAATTTAGTGTTTGTGCACTCACTCCTA 6486
35	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
40	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
45	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
50	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
55	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
60	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
65	Sequence_17	-----

FIGURA 17 (Continuação)

5	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ACGTATGCCATCCATCTTGTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT	6546
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
15	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
20	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
25	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
30	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
35	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
40	Sequence_18	TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTTATAAAATATCACTGAT	6606
	Cry8Ka1	-----	
45	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
50	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
55	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
60	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
65	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	

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

10

FIGURA 18

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	TTTTAGGTATTCTTTTAAGTTCTTTATAGAGACAGATTAACGAAAACTAAATAAGAAAT 60
35	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
40	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
45	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
50	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
55	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
60	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
65	Sequence_17	-----

FIGURA 18 (Continuação)

5	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TCAATCCCTTGATACATGATGCATCGGATGCCAAATTATTAGTACGTATCTTGCGTATAT	120
	Cry8Ka1	-----	
10	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
15	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
20	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
25	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
30	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
35	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
40	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
45	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TGTACGAGGTCTGAATTGACGTAACAGGGCACCTTTTTGGTCAAATTGACCAAAGAATCCA	180
	Cry8Ka1	-----	
50	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
55	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
60	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
65	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	

FIGURA 18 (Continuação)

5	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
10	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	-----
	Cry8Ka1	TCCTTTGCATGAGCACTTCTCGAAACCACTCCCATAGTGCACTTCTTATCTTTGTATA 240
15	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
20	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
25	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
30	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
35	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
40	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
45	Sequence_18	TATTTCCCTAAGGATATCGTAATCCCTATTTCTGATAAGAGGATTTTGTCAGTGTAGGAAG 300
	Cry8Ka1	-----
50	Sequence_71	-----
	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
55	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
60	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
65	Sequence_43	-----

FIGURA 18 (Continuação)

	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
15	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AGCGAATGTCTTTTCGTATTTCAAACAAAAAATAAAGGATGTTTATGCACGGAAATAATC	360
	Cry8Ka1	-----	
20			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
25	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
30	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
35	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
40	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
45	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
50	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATCATATTAATAATGCCAGTACATAAAGATAGATGGGGGTCATTTTTTGAAATGATTTCG	420
	Cry8Ka1	-----	
55			
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
60	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
65	Sequence_41	-----	

FIGURA 18 (Continuação)

	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
15	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAAAGACTCCGTTGACTCGATAGGAGGTGCACAGAAAAATGGAAGAAAGATATGCATCGC	480
25	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
30	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
35	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
40	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
45	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----GGTTTCCATTCCCACCG	17
55	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	AAGATCAGTCGGATGTAGAAGTTTCTAATCGCAAGGGGAAGAAAAACCATACAGTTCCT	540
	Cry8Ka1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
65	Sequence_67	-----	
	Sequence_61	-----	

FIGURA 18 (Continuação)

Sequence_93 -----

	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
5	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
10	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
15	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
20	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	GTTTTCACTTTCAAAAACCCCAATACACCGAAACTTGTCTATGATGTGAGTCATTTATCT	77
	Sequence_3	-----	
25	Sequence_13	-----	
	Sequence_18	TTCAATGTATGGTTTCCATTCCAACAGGTTTCAAATTCAAAAACCCCAATACACCGAAAC	600
	Cry8Ka1	-----	
	Sequence_71	-----	
30	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
35	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
40	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
45	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
50	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
55	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	TATGGCAAAAGAGATGTGTAAACGAACGATTGACGTAGAGGATTGTGGGCAAATTGAGAT	137
	Sequence_3	-----	
	Sequence_13	-----	
60	Sequence_18	TTGTCTATGATGTGAGTCATTTATCTATGGCAAAAGAGATGTGTAAACGAACGATTGACG	660
	Cry8Ka1	-----	
	Sequence_71	-----	
65	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	

FIGURA 18 (Continuação)

	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
5	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
10	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
15	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
20	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
25	Sequence_17	AGATTTACATGTCTTAAAAATTAAAGGTGTTTACCGTTTATCGTGAACGTATCCATTGA	197
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAGAGGATTGTGGGCAAATTGAGATAGATTTACATGTCTTAAAAATTAAAGGTGTTTTAC	720
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
35	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
40	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
45	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
50	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
55	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	ACCGCTTAGTATGGAACATGTATATACCACAAGTGGTAGAGACACATCCTTATTTTAAAG	257
	Sequence_3	-----	
FIGURA 18 (Continuação)			
60	Sequence_13	-----	
	Sequence_18	CGTTTATCGTGAACGTATCCATTGAACCGCTTAGTATGAACATGTATATACCACAAGTGG	780
	Cry8Ka1	-----	
65	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	

	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
5	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
10	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
15	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
20	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
25	Sequence_17	TTGTCAAGAAACGGTATATGTGGATCATATTTTAAATATAGTGTGATCATGTCCCATA	317
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAGAGACACATCCTTATTTTAAAGTTGTCAAGAAACGGTATATGTGGATCATATTTTAA	840
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
35	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
40	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
45	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
50	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
55	Sequence_33	-----	
FIGURA 18 (Continuação)			
	Sequence_69	-----	
	Sequence_11	-----	
60	Sequence_1	-----	
	Sequence_17	TTATGTAATTGATGGCCATCATATTCAAGTGCGTGATGTATCGATTAAATTGATGGAAGA	377
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	ATATAGTGTGATCATGTCCCGTATTATGTAATTGATGGCCATCATATTCAAGTGCGTGA	900
65	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	

	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
5	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
10	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
15	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
20	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
5	Sequence_1	-----	
	Sequence_17	AAACCCACAAACTGCTCAAATATCGGGTGTTTTTTATTTTGATTATGCATAATTATAAAA	437
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TGTATCGATTAAATTGATGGAAGAAAACCCACAAACTGCTCAAATATCGGGTGTTTTTTA	960
30	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
35	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
40	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
45	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
50	Sequence_79	-----	
	Sequence_51	-----	
FIGURA 18 (Continuação)			
	Sequence_83	-----	
	Sequence_7	-----	
55	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
60	Sequence_1	-----	
	Sequence_17	AATCAAAAAATATTTTGTGAAGAATCCCTAAAATTATCACAACATTGTTTATTATAAAAT	497
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TTTGTATTATGCATAATTTTAAAAAATCAAAAAATATTTTGTGAAGAATCCCTAAAATTA	1020
65	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	

	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
5	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
10	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
15	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
20	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
25	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	AACTCATTTC AAGAAAAATCGTAATATTTTTTTATCTAACAGGAATTTTATCATCTACAG	557
	Sequence_3	-----	
	Sequence_13	-----	
30	Sequence_18	TCACAACATTGTTTATTATATAAAATAACTCATTTCAAGAAAAATCGTAATATTTTTTTATC	1080
	Cry8Ka1	-----	

	Sequence_71	-----	
35	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
40	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
45	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	

FIGURA 18 (Continuação)

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

	Sequence_71	-----	
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	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
5	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
10	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
15	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
20	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
25	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	AAGAGTATCTAGAAGAGTTTGTCTATGTAAGAACAAAAGGAATCTATCGTATATGCTACTC	677
	Sequence_3	-----	
30	Sequence_13	-----	
	Sequence_18	GACAGTCAAAAGAGTACCTGGTTTGTCTGTAGAAAAAAGAATCGATCGTACAGGAAAG	1200
	Cry8Ka1	-----	
35	Sequence_71	-----ATGAGTC	7
	Sequence_73	-----ATGAGTC	7
	Sequence_21	-----ATGAGTC	7
	Sequence_67	-----ATGAGTC	7
	Sequence_61	-----ATGAGTC	7
40	Sequence_93	-----ATGAGTC	7
	Sequence_59	-----ATGAGTC	7
	Sequence_91	-----ATGAGTC	7
	Sequence_39	-----ATGAGTC	7
FIGURA 18 (Continuação)			
45	Sequence_41	-----ATGAGTC	7
	Sequence_49	-----ATGAGTC	7
	Sequence_81	-----ATGAGTC	7
	Sequence_45	-----ATGAGTC	7
	Sequence_77	-----ATGAGTC	7
50	Sequence_75	-----ATGAGTC	7
	Sequence_43	-----ATGAGTC	7
	Sequence_47	-----ATGAGTC	7
	Sequence_79	-----ATGAGTC	7
	Sequence_51	-----ATGAGTC	7
55	Sequence_83	-----ATGAGTC	7
	Sequence_7	-----ATGAGTC	7
	Sequence_25	-----ATGAGTC	7
	Sequence_29	-----ATGAGTC	7
	Sequence_33	-----ATGAGTC	7
60	Sequence_69	-----ATGAGTC	7
	Sequence_11	-----ATGAGTC	7
	Sequence_1	-----ATGAGTC	7
	Sequence_17	AAAAGAAAGTGTAAGAAATCTTTGTATCTTGTATATGTATAGGAGGAAATAGATGAGTC	737
	Sequence_3	-----ATGAGTC	7
65	Sequence_13	-----ATGAGTC	7
	Sequence_18	TTAAAAAAGTGTAAGAAATTTTATATCTTTTGTATGTATAGGAGGAAATAGATGAGTC	1260
	Cry8Ka1	-----ATGAGTC	7

Sequence_71 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_73 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_21 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_67 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
5 Sequence_61 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_93 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_59 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_91 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_39 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
10 Sequence_41 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_49 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_81 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_45 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_77 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
15 Sequence_75 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_43 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_47 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_79 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_51 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
20 Sequence_83 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_7 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_25 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_29 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_33 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
25 Sequence_69 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_11 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_1 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_17 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 797
30 Sequence_3 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_13 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 67
Sequence_18 CAAATAATCAAAATGAATATGAAATTATAGATGCGACACCTTCTACTTCTGTATCCAATG 1320
Cry8Ka1 CAAATAATCTAAATGAATATGAAATTATAGATGCGACACCTTCTACATCTGTATCTAATG 67

FIGURA 18 (Continuação)

Sequence_13 AAGATTATTTAAAAATGTCTGCGGGAATGCTAGTGAATACCCTGGTTACCTGAAGTAC 187
Sequence_18 AAGATTATTTAAAAATGTCTGCGGGAATGCTAGTGAATACCCTGGTTACCTGAAGTAC 1440

AGGATTATTTAAGAATGTCTGAAGGTTACGATAATAAATATTTTGCAAATCCTGAAGTGT 187
* * * * *

[illegible]

	Sequence_18	GTTTAGGGGTCCCATTGTTGGGCCGATAGTGAGTCTTTATACTCAACTTATTGATATTC	1560
	Cry8Ka1	GGTTAGGACTTCCATTGCTGGGGAAACAGGGATGGCTCTTAATTTCACTTAGGTCTAT	304
		* * * * *	
5	Sequence_71	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_73	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_21	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_67	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_61	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
10	Sequence_93	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_59	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_91	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_39	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_41	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
15	Sequence_49	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_81	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_45	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_77	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_75	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
20	Sequence_43	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_47	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_79	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_51	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_83	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
25	Sequence_7	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_25	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_29	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_33	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_69	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
30	Sequence_11	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_1	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_17	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	1097
	Sequence_3	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
	Sequence_13	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	367
35	Sequence_18	TGTGGCCTTCAGGGGAAAAGAGTCAATGGGAAATTTTATGGAACAAGTAGAAGAAGTCA	1620
	Cry8Ka1	TATGGCCACA---TCAGGAAACCCGTGGGCTGAACATAATGATATTGGTAGAAGAAGTCA	361
		* * * * *	
40	Sequence_71	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_73	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_21	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_67	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_61	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
45	Sequence_93	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_59	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_91	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_39	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_41	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_49	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
50	Sequence_81	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_45	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_77	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_75	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_43	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
55	Sequence_47	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_79	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_51	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
FIGURA 18 (Continuação)			
60	Sequence_83	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_7	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_25	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_29	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
	Sequence_33	TTAATCAAAAAATAGCAGAATATGCAAGGAATAAAGCGCTTTCGGAATTAGAAGGATTAG	427
65	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	TAAATCAAAAAATAGAAGAGACTGTAAGAAACAAAGCACTAGCGGATTGGGCAATTCCAG	421
	* *	
Sequence_71	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_73	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_21	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_67	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_61	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_93	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_59	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_91	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGA-	486
Sequence_39	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_41	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	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	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_79	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_51	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	487
Sequence_83	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCATTTTCGAA	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	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT-	486
Sequence_13	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT-	486
Sequence_18	GTAATAATTACCAATTATATCTAACTGCGCTTGAAGAATGGGAAGAAAATCCAAATGGT-	1739
Cry8Ka1	GTAGAGCCTTACGATCCTATTTAAACGCATTGGAAGATTGGCAAAAAACCCCTAATATCT	481
	*** *	
Sequence_71	GTCGAGGTTTTTCGAAGTCGAGGTCCA--GCCTTACGAGAT-GTGCGAAATCGATTTGAA	543
Sequence_73	GTCGAGGTTTTTCGAAGTCGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	540
Sequence_21	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_67	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_61	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_93	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_59	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_91	--CGAGGTTTTTCGA--CGAGGT-----GCCTTACGAGAT-GTGCGAAATCGATTTGAA	534
Sequence_39	GTCGAGGTTTTTCGAAGTCGAGGTCCA--GCCTTACGAGAT-GTGCGAAATCGATTTGAA	543
Sequence_41	GTCGAGGTTTTTCGAAGTCGAGGT-----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 18 (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-GTGCGAAATCGATTGAA	522
Sequence_13	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	522
Sequence_18	-TCAA-----GA-----GCCTTACGAGAT-GTGCGAAATCGATTGAA	1775
Cry8Ka1	TTCG-----GAGTAAAGAGTTAGTAAAGAAAGATTTTCA	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	AACGCGAACATTCAAT-ACGTACCGAAATGAGTTCTTTGCCATAAGAGGATTTGAAAT	575
	* * * * *	
Sequence_71	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	662
Sequence_73	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_21	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_67	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_61	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_93	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_59	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_91	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_39	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	662
FIGURA 18 (Continuação)		
Sequence_41	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_49	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	656
Sequence_81	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	656
Sequence_45	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_77	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_75	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	656
Sequence_43	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	656
Sequence_47	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_79	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	659
Sequence_51	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	665
Sequence_83	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	665
Sequence_7	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_25	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_29	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_33	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_69	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	653
Sequence_11	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	641
Sequence_1	ACCATTCCCTTACTGTATATGCAATGGCAGCCAAACCTTCATTTACTGTTATTAAAGGACGC	641

5	Sequence_17	ACCATTCCCTTACTGTATATGCAATGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	1371
	Sequence_3	ACCATTCCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
	Sequence_13	ACCATTCCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	641
	Sequence_18	ACCATTCCCTTACAGTATATACACAGGCAGCCAACCTTCATTTACTGTTATTAAAGGACGC	1894
	Cry8Ka1	TCCTCTTTTAGCAACATATGCACAAGCTGCGAATTTACATTTATTTCTAATTAAGATAT	635
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10	Sequence_71	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
	Sequence_73	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_21	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_67	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_61	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACGTGGTGGATCG	713
15	Sequence_93	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACGTGGTGGATCG	713
	Sequence_59	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_91	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_39	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	722
	Sequence_41	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
20	Sequence_49	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
	Sequence_81	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
	Sequence_45	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_77	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_75	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
30	Sequence_43	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	716
	Sequence_47	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_79	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	719
	Sequence_51	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	725
	Sequence_83	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	725
35	Sequence_7	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_25	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_29	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_33	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
	Sequence_69	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	713
40	Sequence_11	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	701
	Sequence_1	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	701
	Sequence_17	GTCAATTTTGGAGAAGAATGGGGATGGTCAACAACACTACTATTAATAACTATTATGATCG	1431
	Sequence_3	TTCAATTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	701
	Sequence_13	TTCAATTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	701
45	Sequence_18	TTCAATTTTGGAGAAGAATGGGGATGGTCTACAACCACTATTAATAACTATTATGATCG	1954
	Cry8Ka1	TCAAATTTATGGAAAAGAATGGGGATATACTCAAGCCGATATTGACTTATTTTATAGAGA	695
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50	Sequence_71	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	782
	Sequence_73	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	779
	Sequence_21	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
	Sequence_67	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
FIGURA 18 (Continuação)			
55	Sequence_61	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
	Sequence_93	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
	Sequence_59	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
	Sequence_91	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	773
	Sequence_39	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	782
60	Sequence_41	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	779
	Sequence_49	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	776
	Sequence_81	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	776
	Sequence_45	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	779
	Sequence_77	TCAAATGAAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAAACTGGTTT	779
65	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	TCAAATGAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAACTGGTTT	761
Sequence_17	TCAAATGAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAACTGGTTT	1491
Sequence_3	TCAAATGAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAACTGGTTT	761
Sequence_13	TCAAATGAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAACTGGTTT	761
5 Sequence_18	TCAAATGAACTTACTGCAGAATATTCTGATCACTGTGTAAAGTGGTATGAACTGGTTT	2014
Cry8Ka1	ACAAGTAGAGTTTACGAAAGAATACACCGAACACTGTATTAATATTTATATGATGGTTT	755
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Sequence_71	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	842
10 Sequence_73	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_21	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_67	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_61	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_93	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
15 Sequence_59	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_91	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_39	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	842
Sequence_41	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_49	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
20 Sequence_81	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
Sequence_45	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_77	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_75	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
Sequence_43	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	836
Sequence_47	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_79	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	839
Sequence_51	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	845
Sequence_83	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	845
Sequence_7	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
30 Sequence_25	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_29	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_33	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_69	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	833
Sequence_11	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	821
35 Sequence_1	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	821
Sequence_17	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTTGACTATAACCAATTCCGTAGAGA	1551
Sequence_3	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
Sequence_13	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	821
Sequence_18	AGCAAAATTTAAAGGCACGAGCGCTAAACAATGGGTCGACTATAACCAATTCCGTAGAGA	2074
40 Cry8Ka1	AAATCAATTTAAAGGTTTCAATGCTAAGCAATGGATTGCATTTAATCGCTTCCGTAGAGA	815
	* *	

FIGURA 18 (Continuação)

Sequence_71	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	902
45 Sequence_73	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_21	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_67	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_61	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA	893
Sequence_93	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA	893
50 Sequence_59	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA	893
Sequence_91	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACAATAACGTA	893
Sequence_39	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	902
Sequence_41	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_49	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
55 Sequence_81	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
Sequence_45	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_77	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_75	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
Sequence_43	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	896
60 Sequence_47	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_79	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	899
Sequence_51	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	905
Sequence_83	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	905
Sequence_7	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
65 Sequence_25	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_29	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_33	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_69	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	893
Sequence_11	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCCAAATTATGACACACGCACGTA	881

Sequence_1	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCTCAAATTATGACACACGCACGTA	881
Sequence_17	AATGACACTGGCGGTTTTAGATGTTGTTGCATTATTCCTCAAATTATGACACACGCACGTA	1611
Sequence_3	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCTCAAATTATGACACACGCACGTA	881
Sequence_13	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCTCAAATTATGACACACGCACGTA	881
5 Sequence_18	AATGACACTGACGGTTTTAGATGTTGTTGCATTATTCCTCAAATTATGACACACGCACGTA	2134
Cry8Ka1	AATGACATTGACGGTACTGGATGTAGTTGCATTATTCCTGAACTATGATGTACGTATGTA	875
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Sequence_71	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
10 Sequence_73	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_21	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_67	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_61	CCCAATAGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
15 Sequence_93	CCCAATAGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_59	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_91	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_39	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	962
Sequence_41	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_49	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
20 Sequence_81	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_45	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_77	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_75	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_43	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	956
Sequence_47	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_79	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	959
Sequence_51	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	965
Sequence_83	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	965
Sequence_7	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
30 Sequence_25	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_29	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_33	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
Sequence_69	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	953
35 Sequence_11	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
Sequence_1	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
Sequence_17	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	1671
Sequence_3	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
FIGURA 18 (Continuação)		
40 Sequence_13	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	941
Sequence_18	CCCAATGGAAACGAAAGCACAACCTAACAGGGAAGTATATACAGATCCACTGGGCGCGGT	2194
Cry8Ka1	CCCTATAAAACAACTACAGAGCTAACGAGAACAATTTATACCGATCCACTTGGTTACAC	935
	*** ** ***** * ** * ***** ** * * ***** ***** **	
45 Sequence_71	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1016
Sequence_73	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
Sequence_21	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_67	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_61	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
50 Sequence_93	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_59	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_91	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_39	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1016
Sequence_41	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
55 Sequence_49	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
Sequence_81	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
Sequence_45	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
Sequence_77	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
Sequence_75	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
60 Sequence_43	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1010
Sequence_47	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
Sequence_79	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1013
Sequence_51	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1019
Sequence_83	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1019
65 Sequence_7	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_25	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_29	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_33	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007
Sequence_69	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTTCGGAGTGAT	1007

Sequence_11	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	995
Sequence_1	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	995
Sequence_17	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	1725
Sequence_3	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	995
Sequence_13	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	995
Sequence_18	AAACGTGTCTTCAATTGGT-----TCCTGGTATGACAAAGCACCTTCTTTCCGGAGTGAT	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 18 (Continuação)		
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	AGAAAGTGATGCGATTCCAGCCCCTAGTCTGGTTAAGTGGTTAAGTCAGATTGAAATTTA	1055
	**** * **** *	
Sequence_71	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
Sequence_73	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_21	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_67	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_61	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_93	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_59	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_91	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_39	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1136
Sequence_41	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_49	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
Sequence_81	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
Sequence_45	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_77	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_75	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
Sequence_43	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1130
Sequence_47	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_79	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1133
Sequence_51	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
Sequence_83	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1139
Sequence_7	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_25	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_29	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_33	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127

Sequence_69	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1127
Sequence_11	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
Sequence_1	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
Sequence_17	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1845
5 Sequence_3	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
Sequence_13	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	1115
Sequence_18	TACACAATCAAGAAGCATTCTTCCGCTCGCTATATAAGACATTGGGCTGGTCATCAAAT	2368
Cry8Ka1	TTCGAAATCCGCAAGGGCTACACC--GCAAAGTGGGATTATGGGCAGGACATACAAAT	1112
	* *	
10 Sequence_71	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1196
Sequence_73	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_21	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_67	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
15 Sequence_61	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_93	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_59	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_91	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_39	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1196
20 Sequence_41	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_49	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
Sequence_81	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
Sequence_45	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_77	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_75	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
Sequence_43	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1190
Sequence_47	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_79	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1193
Sequence_51	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1199

FIGURA 18 (Continuação)

Sequence_83	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1199
Sequence_7	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_25	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
35 Sequence_29	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_33	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_69	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1187
Sequence_11	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1175
Sequence_1	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1175
40 Sequence_17	AAGCTACCATCGTGTCTAGTAGGGGTAGTAATCTTCAACAAATGTATGGAACCTAATCAAAA	1905
Sequence_3	AAGCTATCATCGGATTTTGTAGTATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	1175
Sequence_13	AAGCTATCATCGGATTTTGTAGTATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	1175
Sequence_18	AAGCTATCATCGGATTTTGTAGTATAATATTATAAAACAGATGTATGGAACCTAATCAAAA	2428
Cry8Ka1	AACATATCACTATAGTGGAGATGATGGTCAAGCAGTACCTAATTATGGAGATAGAACGAA	1172
45	** * * * * * * * * * * * * * * * * * *	
Sequence_71	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
Sequence_73	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
Sequence_21	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
50 Sequence_67	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_61	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_93	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_59	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
Sequence_91	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1247
55 Sequence_39	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1256
Sequence_41	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
Sequence_49	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
Sequence_81	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
Sequence_45	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
60 Sequence_77	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
Sequence_75	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
Sequence_43	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1250
Sequence_47	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
Sequence_79	TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA	1253
65 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
 5 Sequence_17 TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACTCTATCAAA 1965
 Sequence_3 TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
 Sequence_13 TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 1235
 Sequence_18 TCTACACAGCACTAGTACCTTTGATTTTACGAATTATGATATTTACAAGACGTTATCAAA 2488
 10 Cry8Ka1 TCCTGTAATTGTAAATCGTTATAATTTTGAGCAGGCTGACATTTATAGAGTTTCATCATC 1232
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Sequence_71 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1315
 Sequence_73 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312
 Sequence_21 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 15 Sequence_67 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_61 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_93 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_59 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_91 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 20 Sequence_39 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1315
 Sequence_41 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312
 Sequence_49 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1309
 Sequence_81 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1309
 Sequence_45 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312
 Sequence_77 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312

FIGURA 18 (Continuação)

Sequence_75 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1309
 Sequence_43 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1309
 30 Sequence_47 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312
 Sequence_79 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1312
 Sequence_51 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1318
 Sequence_83 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1318
 Sequence_7 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 35 Sequence_25 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_29 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_33 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_69 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1306
 Sequence_11 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1294
 40 Sequence_1 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 1294
 Sequence_17 GGATGCAGTACTCCTTGATATTGTT-TACCCTGGTTATACGTATATATTTTTTGAATGC 2024
 Sequence_3 AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGAATGC 1294
 Sequence_13 AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGAATGC 1294
 Sequence_18 AGATGCGGTGCTCCTTGATATTGTT-TTTCCTGGTTATACGTATATATTTTTTGAATGC 2547
 45 Cry8Ka1 TGTTGCTTCAAGTACAACCTAGTGGTGTAAATTATAACTACTAAGGCTATATTGATGG 1292
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Sequence_71 CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1373
 Sequence_73 CAGAAGTCGAGTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA 1370
 50 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
 60 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
 65 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	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1364
Sequence_33	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1364
Sequence_69	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1364
Sequence_11	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
5 Sequence_1	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
Sequence_17	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	2082
Sequence_3	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
Sequence_13	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	1352
Sequence_18	CAGAAGTCGAGTTTTTTCATGGTAAACCAATTGAATA-ATACCAGAAAGAC-GTTAAAGTA	2605
10 Cry8Ka1	CATAAGTACAA-----ACAATGGACTAGTGAGTTACATGTATGAAAAATTATCGAAGTT	1346
	** * * * *	
Sequence_71	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1429
Sequence_73	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1426
15 Sequence_21	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
Sequence_67	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
Sequence_61	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
Sequence_93	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
20 Sequence_59	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
Sequence_91	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1420
Sequence_39	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1429
FIGURA 18 (Continuação)		
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
30 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
35 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
40 Sequence_11	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1408
Sequence_1	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	1408
Sequence_17	TAATCCAGTTTCCAAAGATATTATAGCGAGTACAAGAGATTCGGAATTAGAAT----TAC	2138
Sequence_3	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC	1408
Sequence_13	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC	1408
45 Sequence_18	TAATCCGTTTCCAAAGATATTATAGCGGGGACAAGAGATTCGGAATTAGAAT----TAC	2661
Cry8Ka1	TTTTAATGAACAAAAGATACAATTACAGAGCTACCTGTTTCAGATATCCAGTCCTCTAC	1406
	* * * * *	
Sequence_71	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
Sequence_73	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_21	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_67	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_61	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_93	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
55 Sequence_59	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_91	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
Sequence_39	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1489
Sequence_41	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_49	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
60 Sequence_81	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_45	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_77	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_75	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
Sequence_43	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1483
65 Sequence_47	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_79	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1486
Sequence_51	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_83	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1492
Sequence_7	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480

5	Sequence_25	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_29	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_33	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_69	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1480
	Sequence_11	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
10	Sequence_1	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
	Sequence_17	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2198
	Sequence_3	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
	Sequence_13	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	1468
	Sequence_18	CTCCAGAACTTCAGATCAACCAAATTATGAGTCATATAGCCATAGATTATGTCATATCA	2721
	Cry8Ka1	CTACGGGA-TGCTGAACAGTACAGTCATCGCTATCCTAT-GTTTCTAATGCTCCAACA	1464
		*** *	
15	Sequence_71	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1547
	Sequence_73	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
	Sequence_21	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_67	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
FIGURA 18 (Continuação)			
20	Sequence_61	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_93	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_59	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_91	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_39	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1547
30	Sequence_41	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
	Sequence_49	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1541
	Sequence_81	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1541
	Sequence_45	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
	Sequence_77	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
35	Sequence_75	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1541
	Sequence_43	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1541
	Sequence_47	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
	Sequence_79	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1544
	Sequence_51	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1550
40	Sequence_83	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1550
	Sequence_7	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_25	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_29	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_33	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
45	Sequence_69	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1538
	Sequence_11	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
	Sequence_1	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
	Sequence_17	CAAGTATTCGCGACGGG--TAACACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2256
	Sequence_3	CAAGTATTCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
50	Sequence_13	CAAGTATTCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	1526
	Sequence_18	CAAGTATTCGCGACGGG--TTCAACTACCGGATTAGTACCTGTATTTTCTTGGACACA	2779
	Cry8Ka1	-GAGTACTCTTCGGGCGGACATTTAATTTTGGGACTAATCCAGTACTGGGTGGACGCA	1523
		**** *	
55	Sequence_71	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_73	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_21	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_67	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_61	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
60	Sequence_93	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_59	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_91	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1598
	Sequence_39	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1607
	Sequence_41	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
65	Sequence_49	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_81	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_45	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_77	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_75	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_43	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1601
	Sequence_47	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_79	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1604
	Sequence_51	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610
	Sequence_83	TCGAAGTGCAGATTTAAACAATACAATATATTCAGATAAAATCACTCAAATTCGGGCCGT	1610

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FIGURA 18 (Continuação)

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GAGGGGATTTATTACAGT-----ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT

Sequence_7	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1709
Sequence_25	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1709
Sequence_29	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1709
Sequence_33	GAGGGGATTTATTACAGT----	ATAATAGAAGTACTG-GTTCTGTAGGAACCTTATTTCT	1709
5 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	TCCTGGATTTACAGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA		1706

FIGURA 18 (Continuação)

Sequence_13	TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA	1706
Sequence_18	TCCTGGATTTACAGGGGGGGGGATAATAAAAGTAATAAGAAATGGAGTAATTATATCACA	2959
15 Cry8Ka1	AACAGGCTTTACAGGTGGAGATTTAGTGAAATTCCTCC---ACTGGATTACGTCTACAGG	1682

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Sequence_71	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1778
Sequence_73	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
Sequence_21	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
20 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
30 Sequence_77	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
Sequence_75	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1772
Sequence_43	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1772
Sequence_47	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
Sequence_79	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1775
35 Sequence_51	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1781
Sequence_83	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1781
Sequence_7	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_25	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_29	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
40 Sequence_33	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_69	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1769
Sequence_11	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
Sequence_1	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	1757
Sequence_17	AGCTCGATATGGCCTAGCATTAGAAAAAGCAGGGAAATATCGTGTAAGACTGAGATATGC	2487
45 Sequence_3	TATGCG---TGTTAAATTTAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	1763
Sequence_13	TATGCG---TGTTAAATTTAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	1763
Sequence_18	TATGCG---TGTTAAATTTAGACATTAACAAAGAATATAGTATGAGGATTCGGTATGC	3016
Cry8Ka1	AATACAGTTTAATTTAAGATAGAAGAAAGAGCGTTATCGTATCCGTATACGATATGC	1742

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Sequence_71	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1826
Sequence_73	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1823
Sequence_21	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
Sequence_67	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
55 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
60 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
65 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
5 Sequence_33	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817

FIGURA 18 (Continuação)

Sequence_69	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1817
Sequence_11	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
10 Sequence_1	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	1805
Sequence_17	TACTGATGCAGATATTGTATTGCATGTAAAC-----GATGCTCAGATTCAGAT	2535
Sequence_3	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
Sequence_13	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	1823
Sequence_18	TTCCGCTAATAATACTGAATTTTATATAAATCCTTCTGAAGAAAACGTTAAATCTCACGC	3076
15 Cry8Ka1	CGCTGATGTTAATGCT--ACTCTATCTGCATTGGATTAA-ATGATGCATTATTAAACAT	1799

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Sequence_71	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1886
Sequence_73	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
20 Sequence_21	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_67	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_61	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_93	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_59	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_91	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_39	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1886
Sequence_41	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
Sequence_49	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1880
Sequence_81	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1880
30 Sequence_45	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
Sequence_77	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
Sequence_75	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1880
Sequence_43	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1880
Sequence_47	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
35 Sequence_79	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1883
Sequence_51	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1889
Sequence_83	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1889
Sequence_7	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_25	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
40 Sequence_29	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_33	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_69	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1877
Sequence_11	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1865
Sequence_1	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	1865
45 Sequence_17	GCCAAAAACAATGAACCCAGGTGAGGATCTGACATCTAAACTTTTAAAGTTGCAGATGC	2595
Sequence_3	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACAATATAATAAATTTAATTATGC-GACTT	1882
Sequence_13	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACAATATAATAAATTTAATTATGC-GACTT	1882
Sequence_18	TCAAAAAACTATGAATAGAGGTGAAGCTTTAACAATATAATAAATTTAATTATGC-GACTT	3135
50 Cry8Ka1	TAAATCGACAATGTCTCAAGACACACATTGAAGTATAACGATTTCCAATATGCAGAAGC	1859

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Sequence_71	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1942
Sequence_73	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
Sequence_21	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
55 Sequence_67	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
Sequence_61	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
Sequence_93	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
Sequence_59	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
Sequence_91	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1933
60 Sequence_39	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1942
Sequence_41	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
Sequence_49	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
Sequence_81	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
Sequence_45	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
65 Sequence_77	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
Sequence_75	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
Sequence_43	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1936
Sequence_47	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939
Sequence_79	TATCACAACAGTTAATTTA--GCAACAGATAGTTTCGGTTGCAGTTAAA--CATAATTTAG	1939

Sequence_51 TATCACAAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATGTAG 1945

FIGURA 18 (Continuação)

5 Sequence_83 TATCACAAACAGTTAATTTA--GCAACAGATAGTTCGGTTGCAGTTAAA--CATAATTTAG 1945
 Sequence_7 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1933
 Sequence_25 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATGTAG 1933
 Sequence_29 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCAGTGAAA--CATAATGTAG 1933
 Sequence_33 TATCACAAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATGTAG 1933
 Sequence_69 TATCACAAACAGTAAATTTA--GCAACAGATAGTTCGGTAGCAGTGAAA--CATAATTTAG 1933
 10 Sequence_11 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
 Sequence_1 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 1921
 Sequence_17 TATCACAAACATTAAATTTA--GCAACAGATAGTTCGCTAGCATTGAAA--CATAATTTAG 2651
 Sequence_3 TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTATTACTCTAGGGGCTATATTTGAA 1941
 Sequence_13 TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTATTACTCTAGGGGCTATATTTGAA 1941
 15 Sequence_18 TGCCCCC-TATTAAATTTACGACAACCGAACCTTTTATTACTCTAGGGGCTATATTTGAA 3194
 Cry8Ka1 TGACAAAACAGTGCATTTA-----TACAATCCTCGTTTTTCTTTA-----TATTTAGAAA 1909
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20 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
 30 Sequence_81 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
 Sequence_45 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
 Sequence_77 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
 Sequence_75 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
 Sequence_43 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1996
 35 Sequence_47 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
 Sequence_79 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1999
 Sequence_51 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
 Sequence_83 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2005
 Sequence_7 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
 40 Sequence_25 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
 Sequence_29 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
 Sequence_33 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
 Sequence_69 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1993
 Sequence_11 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
 45 Sequence_1 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 1981
 Sequence_17 GTGAAGACCCTAATTCAACATTATCTGGTATAGTTTACGTTGACCGAATCGAATTCATCC 2711
 Sequence_3 GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC 1993
 Sequence_13 GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC 1993
 Sequence_18 GCGGAAGACTTTCTTGGAATTGA-----AGCTTATATAGACCGAATCGAATTTATCC 3246
 50 Cry8Ka1 ATTCAGATCAATCCGGGAAAAGT-----ATTTATATAGATCGAATCGAATTCATCC 1960
 * * * * * * * * * * * *

Sequence_71 CAGTAGATGAGACATATGAAGCGGAA----- 2028
 Sequence_73 CAGTAGATGAGACATATGAAGCGGAA----- 2025
 55 Sequence_21 CAGTAGATGAGACATATGAAGCGGAATAA----- 2022
 Sequence_67 CAGTAGATGAGACATATGAAGCGGAATAA----- 2022
 Sequence_61 CAGTAGATGAGACATATGAAGCGGAA----- 2019
 Sequence_93 CAGTAGATGAGACATATGAAGCGGAA----- 2019
 Sequence_59 CAGTAGATGAGACATATGAAGCGGAA----- 2019
 60 Sequence_91 CAGTAGATGAGACATATGAAGCGGAA----- 2019
 Sequence_39 CAGTAGATGAGACATATGAAGCGGAA----- 2028
 Sequence_41 CAGTAGATGAGACATATGAAGCGGAA----- 2025
 Sequence_49 CAGTAGATGAGACATATGAAGCGGAA----- 2022
 Sequence_81 CAGTAGATGAGACATATGAAGCGGAA----- 2022
 65 Sequence_45 CAGTAGATGAGACATATGAAGCGGAA----- 2025
 Sequence_77 CAGTAGATGAGACATATGAAGCGGAA----- 2025

FIGURA 18 (Continuação)

Sequence_75 CAGTAGATGAGACATATGAAGCGGAA----- 2022

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

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

FIGURA 18 (Continuação)

	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
5	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
10	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2161
	Sequence_17	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2891
15	Sequence_3	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	2173
	Sequence_13	-----	
	Sequence_18	AAGCGGCAAACCTTAGTGGAATGCCTATCGGATGATTTGTATCCAAATGAAAAACGATTGT	3426
	Cry8Ka1	-----	
20	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
30	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
35	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
40	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
45	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2221
	Sequence_17	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2951
	Sequence_3	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	2233
50	Sequence_13	-----	
	Sequence_18	TATTTGATGCAGTGAGAGAGGCCAAAACGCCTCAGTGAGGCACGTAATTTGCTTCAAGATC	3486
	Cry8Ka1	-----	
55	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
60			
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
65	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	

FIGURA 18 (Continuação)

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

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

FIGURA 18 (Continuação)

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

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

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

FIGURA 18 (Continuação)

	Sequence_13	-----	
55	Sequence_18	ACACAAGATATAGATTGAGAGGGTTTGTCTGGAAGCAGTCAAGGATTGGAAATTTTCACAA	3726
	Cry8Ka1	-----	

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

	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
5	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
10	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
15	Sequence_11	-----	
	Sequence_1	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	2521
	Sequence_17	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	3251
	Sequence_3	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	2533
	Sequence_13	-----	
20	Sequence_18	TTCGTCATCAAACGAACCGAATTGTAAAAAATGTACCGGATGATTTGCTGCCAGATGTAT	3786
	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
30	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
35	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
40	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
45	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
FIGURA 18 (Continuação)			
50	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2581
	Sequence_17	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3311
	Sequence_3	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	2593
	Sequence_13	-----	
55	Sequence_18	CTCCTGTAACTCGGATGGTAGTATCAATCGATGCAGCGAACAAAAGTATGTGAATAGCC	3846
	Cry8Ka1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
65	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	

	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
5	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
10	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
15	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GTTTAGAAGTAGAAAACCGTTCGGTGAAGCGCATGAGTTCTCTATTTCCTATTGATACAG	2641
	Sequence_17	GTTTAGAAGTAGAAAACCGTTCGGTGAAGCGCATGAGTTCTCTATTTCCTATTGATACAG	3371
	Sequence_3	GTTTAGAAGTAGAAAACCGTTCGGTGAAGCGCATGAGTTCTCTATTTCCTATTGATACAG	2653
20	Sequence_13	-----	
	Sequence_18	GTTTAGAAGTAGAAAACCGTTCGGTGAAGCGCATGAGTTCTCTATTTCCTATTGATACAG	3906
	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
30	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
35	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
40	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
FIGURA 18 (Continuação)			
45	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
50	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2701
	Sequence_17	GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3431
	Sequence_3	GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	2713
55	Sequence_13	-----	
	Sequence_18	GTGAAATCGATTACAATGAAAATGCAGGAATATGGGTTGGATTTAAGATTACGGACCCAG	3966
	Cry8Ka1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
65	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	

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

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

FIGURA 18 (Continuação)

40	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
45	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
50	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2821
	Sequence_17	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	3551
55	Sequence_3	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	2833
	Sequence_13	-----	
	Sequence_18	CATTAGAACGCTTGCAAAGAGAAGAACAACAGTGGAAGATTCAAATGACAAGAAGACGTG	4086
	Cry8Ka1	-----	
60	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
65	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	

	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
5	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
10	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
15	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
20	Sequence_1	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2881
	Sequence_17	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	3611
	Sequence_3	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	2893
	Sequence_13	-----	
	Sequence_18	AAGAAACAGATAGAAGGTATATGGCATCGAAACAAGCGGTAGATCGTTTATATGCCGATT	4146
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
35	FIGURA 18 (Continuação)		
40	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
45	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
50	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
55	Sequence_1	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2941
	Sequence_17	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	3671
	Sequence_3	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	2953
	Sequence_13	-----	
	Sequence_18	ATCAGGATCAGCAACTGAATCCTGATGTAGAGATTACAGATCTTACTGCGGCCCAAGATC	4206
60	Cry8Ka1	-----	
65	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	

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

	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
30	Sequence_67	-----	

FIGURA 18 (Continuação)

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

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

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

FIGURA 18 (Continuação)

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

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

FIGURA 18 (Continuação)

25	Sequence_13	-----	
	Sequence_18	AAGTTTCGCAACAGTTTACAGTTCAACCGAATCAAAGATATGTGTTACGAGTTACTGCGA	4506
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
35	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
40	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
45	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
50	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
55	Sequence_11	-----	
	Sequence_1	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAATCAAACAGAAA	3301
	Sequence_17	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAATCAAACAGAAA	4031
	Sequence_3	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAATCAAACAGAAA	3313
60	Sequence_13	-----	
	Sequence_18	GAAAAGAAGGGGTAGGAAATGGATATGTAAGTATCCGTGATGGTGGAATCAAACAGAAA	4566
	Cry8Ka1	-----	
65	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	

	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
5	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
10	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
15	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
FIGURA 18 (Continuação)			
20	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3361
	Sequence_17	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4091
25	Sequence_3	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	3373
	Sequence_13	-----	
	Sequence_18	CGCTTACTTTTAGTGCAAGCGATTATGATACAAATGGAATGTATAATACGCAAGTGTCCA	4626
	Cry8Ka1	-----	
30	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
35	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
40	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
45	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
50	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
55	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3421
	Sequence_17	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4151
	Sequence_3	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	3433
60	Sequence_13	-----	
	Sequence_18	ATACAAATGGATATAACACAAATAATGCGTATAATACACAAGCATCGAGTACAAACGGAT	4686
	Cry8Ka1	-----	
65	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	

	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
5	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
10	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
15	Sequence_51	-----	
FIGURA 18 (Continuação)			
	Sequence_83	-----	
	Sequence_7	-----	
20	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
25	Sequence_1	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3481
	Sequence_17	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4211
	Sequence_3	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	3493
	Sequence_13	-----	
	Sequence_18	ATAACGCAAATAATATGTATAATACGCAAGCATCGAATACAAACGGATATAACACAAATA	4746
30	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
35	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
40	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
45	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
50	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
55	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTTCATCCCGTATACAG	3541
	Sequence_17	GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTTCATCCCGTATACAG	4271
60	Sequence_3	GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTTCATCCCGTATACAG	3553
	Sequence_13	-----	
	Sequence_18	GTGTGTACAATGATCAAACCGGCTATATCACAAAAACAGTGACATTTCATCCCGTATACAG	4806
	Cry8Ka1	-----	
65	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	

	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
5	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
10	Sequence_45	-----
	Sequence_77	-----

FIGURA 18 (Continuação)

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

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

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

	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
5	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
10	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
15	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
20	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
25	Sequence_1	-----	
	Sequence_17	TTTTTATGCAAAAGAGTCCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT	4451
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TTTTTATGCAAAAGAGTCCTTTTCATACAGAATATATTGGTTTTACCCGGATTACATATTT	4986
30	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
35	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
40	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
45	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
50	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
55	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
60	Sequence_17	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA	4511
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TGTGAATAGGACTATGGTTGGTTACCTTACGGTACCTTTTTATATCCACCGGCATTGGAA	5046
65	Cry8Ka1	-----	
	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	

Sequence_61
Sequence_93
Sequence_59

FIGURA 18 (Continuação)

5

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
Cry8Ka1

10

15

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25

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AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 4571

AATGTAAGAGGGAGGATAATCATATATAGTCCCTTCCCTACACATCAAATTCCTTCGAAA 5106

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60

65

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
Cry8Ka1

GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 4631

GTTTCTCGTGAATGAGAGTGAATATTTCTTTTGTACTTTATTCAGGTCTTGTAAGAAAG 5166

Sequence_71
Sequence_73

FIGURA 18 (Continuação)

	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
5	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
10	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
15	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
20	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
5	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	4691
	Sequence_3	-----	
30	Sequence_13	-----	
	Sequence_18	GAATGGTATTCACACAAATGATGGGTGTGGATACGTCTGTTAAACCTGAGATATTTGTAA	5226
	Cry8Ka1	-----	
	Sequence_71	-----	
35	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
40	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
45	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
50	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
55	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
60	Sequence_1	TAATCAAGTCATAGTTTTTTTGAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	4751
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	TAATCAAGTCATAGTTTTTTTGAATCTGTTTAAATGAGCTGAGATGTAATACATCAATCT	5286
65			
	Cry8Ka1	-----	

FIGURA 18 (Continuação)

	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
5	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
10	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
15	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
20	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
25	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	4811
30	Sequence_3	-----	
	Sequence_13	TAGATAGTTGAATCATATGACCAAATTGATACTGCATAATATTACGAATAAATAGGGTAT	5346
	Sequence_18	-----	
	Cry8Ka1	-----	
35	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
40	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
45	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
50	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
55	Sequence_83	-----	
	Sequence_7	-----	
	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
60	Sequence_69	-----	
	Sequence_11	-----	
FIGURA 18 (Continuação)			
65	Sequence_1	-----	
	Sequence_17	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG	4871
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	GTTCCATATCTGAATCACAAAAAATGCCGACATGAAGAACAGGAACCTTCTGTTTTAAAG	5406
	Cry8Ka1	-----	

	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
5	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
10	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
15	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
20	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
25	Sequence_25	-----	
	Sequence_29	-----	
30	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	CTT-----	4874
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CTTGTAAATAAGTTTGTCCAATGTATGATTAAAAATATATAATGTTTCCGTAAAAACATGCT	5466
	Cry8Ka1	-----	
35	Sequence_71	-----	
	Sequence_73	-----	
	Sequence_21	-----	
40	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
	Sequence_59	-----	
	Sequence_91	-----	
45	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
	Sequence_81	-----	
	Sequence_45	-----	
50	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
55	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
FIGURA 18 (Continuação)			
60	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	
65	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
	Sequence_18	CGTCCCATTTGAACTGTTTCATGATAGTGAAAGTGAGTTAATTCTTCTTTTAAAGCAAGA	5526
	Cry8Ka1	-----	

	Sequence_71	-----
	Sequence_73	-----
5	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
10	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
15	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
20	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
25	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
30	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	CAAAGTATGAAAATTCGTGAGAATGATGCTCGGAAAAAAAAACGTCTTTTATCATGTAAAA 5586
35	Cry8Ka1	-----

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

FIGURA 18 (Continuação)

55	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
60	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
65	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	TAAACTACGTCCATAATTCATGGTTTGTAAATTGTATAACTCCAAATGATTTTTTGT 5646

Cry8Ka1

	Sequence_71	-----
5	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
10	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
15	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
20	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
25	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
30	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
35	Sequence_18	TATTTTGGAGAGGCACATGTAGTTTGTCCGATAGTCTATGCAATAAGTTTAGAATTTTCAG 5706
	Cry8Ka1	-----

	Sequence_71	-----
40	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
45	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
50		
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
55	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
60	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
65	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----

FIGURA 18 (Continuação)

Sequence_18 GAACAATTTTCCATGCGTCATTGATTTTTGTTGTACCATAGTTTCTAATTGCTCATACG 5766
Cry8Ka1

5 Sequence_71
Sequence_73
Sequence_21
Sequence_67
Sequence_61
10 Sequence_93
Sequence_59
Sequence_91
Sequence_39
Sequence_41
15 Sequence_49
Sequence_81
Sequence_45
Sequence_77
Sequence_75
20 Sequence_43
Sequence_47
Sequence_79
Sequence_51
Sequence_83
25 Sequence_7
Sequence_25
Sequence_29
Sequence_33
Sequence_69
30 Sequence_11
Sequence_1
Sequence_17
Sequence_3
Sequence_13
35 Sequence_18 TAAATGCATAATGATGATTAAAAAAACAGAGAAGAGTTGGTAAACAGTCTCATGATTAA 5826
Cry8Ka1

40 Sequence_71
Sequence_73
Sequence_21
Sequence_67
Sequence_61
Sequence_93

FIGURA 18 (Continuação)

45 Sequence_59
Sequence_91
Sequence_39
50 Sequence_41
Sequence_49
Sequence_81
Sequence_45
Sequence_77
55 Sequence_75
Sequence_43
Sequence_47
Sequence_79
Sequence_51
60 Sequence_83
Sequence_7
Sequence_25
Sequence_29
Sequence_33
65 Sequence_69
Sequence_11
Sequence_1
Sequence_17
Sequence_3

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

5

Sequence_71 -----

Sequence_73 -----

Sequence_21 -----

10

Sequence_67 -----

Sequence_61 -----

Sequence_93 -----

Sequence_59 -----

Sequence_91 -----

15

Sequence_39 -----

Sequence_41 -----

Sequence_49 -----

Sequence_81 -----

Sequence_45 -----

20

Sequence_77 -----

Sequence_75 -----

Sequence_43 -----

Sequence_47 -----

Sequence_79 -----

25

Sequence_51 -----

Sequence_83 -----

Sequence_7 -----

Sequence_25 -----

Sequence_29 -----

30

Sequence_33 -----

Sequence_69 -----

Sequence_11 -----

Sequence_1 -----

Sequence_17 -----

35

Sequence_3 -----

Sequence_13 -----

Sequence_18 CATCCAAAGGATTGGAAAAATCTTCTGAAATGGTTTTTCATATGCTGGTGTGTAAACGAA 5946
 Cry8Ka1 -----

40

Sequence_71 -----

FIGURA 18 (Continuação)

Sequence_73 -----

45

Sequence_21 -----

Sequence_67 -----

Sequence_61 -----

Sequence_93 -----

Sequence_59 -----

50

Sequence_91 -----

Sequence_39 -----

Sequence_41 -----

Sequence_49 -----

Sequence_81 -----

55

Sequence_45 -----

Sequence_77 -----

Sequence_75 -----

Sequence_43 -----

Sequence_47 -----

60

Sequence_79 -----

Sequence_51 -----

Sequence_83 -----

Sequence_7 -----

Sequence_25 -----

65

Sequence_29 -----

Sequence_33 -----

Sequence_69 -----

Sequence_11 -----

Sequence_1 -----

Sequence_17 -----

	Sequence_3	-----
	Sequence_13	-----
	Sequence_18	TCACATTCAACCATTGTCCAATACCGAATCCGTATGAGGTCTGGAAAATTTAGTTGTATCT 6006
5	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
10	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
15	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
20	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
25	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
30	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----
35	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----

FIGURA 18 (Continuação)

40	Sequence_18	GATTTTTTTGGGTGACATATAGAAAGAGTTGATCCAATGCCTGTAGTTGGTTGTCTGGGA 6066
	Cry8Ka1	-----
	Sequence_71	-----
45	Sequence_73	-----
	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----
	Sequence_93	-----
	Sequence_59	-----
50	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
	Sequence_49	-----
	Sequence_81	-----
55	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
	Sequence_43	-----
	Sequence_47	-----
60	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
	Sequence_7	-----
	Sequence_25	-----
65	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
	Sequence_1	-----

	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
5	Sequence_18	AAGGAGTATGAGTCACACCATATTTTTCATAAAAAAACTGGACCATAATACTTCTAATAT	6126
	Cry8Ka1	-----	
	Sequence_71	-----	
10	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
15	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
20	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
5	Sequence_43	-----	
	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
30	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	FIGURA 18 (Continuação)		
35	Sequence_11	-----	
	Sequence_1	-----	
	Sequence_17	-----	
	Sequence_3	-----	
	Sequence_13	-----	
40	Sequence_18	GTTGTTTCATTTCCCTATGATTTTACAAGGATTGTTTGAATGTGTATCTCATATTGTTTCGA	6186
	Cry8Ka1	-----	
	Sequence_71	-----	
45	Sequence_73	-----	
	Sequence_21	-----	
	Sequence_67	-----	
	Sequence_61	-----	
	Sequence_93	-----	
50	Sequence_59	-----	
	Sequence_91	-----	
	Sequence_39	-----	
	Sequence_41	-----	
	Sequence_49	-----	
55	Sequence_81	-----	
	Sequence_45	-----	
	Sequence_77	-----	
	Sequence_75	-----	
	Sequence_43	-----	
60	Sequence_47	-----	
	Sequence_79	-----	
	Sequence_51	-----	
	Sequence_83	-----	
	Sequence_7	-----	
65	Sequence_25	-----	
	Sequence_29	-----	
	Sequence_33	-----	
	Sequence_69	-----	
	Sequence_11	-----	

Sequence_1 -----
 Sequence_17 -----
 Sequence_3 -----
 Sequence_13 -----
 5 Sequence_18 GATACACATTCAATTTTGTGATAATCCGCCTTAGGGTGGAGTACTAAGAAATAATTCCT 6246
 Cry8Ka1 -----

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

FIGURA 18 (Continuação)

Sequence_7 -----
 Sequence_25 -----
 Sequence_29 -----
 Sequence_33 -----
 35 Sequence_69 -----
 Sequence_11 -----
 Sequence_1 -----
 Sequence_17 -----
 Sequence_3 -----
 40 Sequence_13 -----
 Sequence_18 CCGCGATTGTCTCTATGTCATCTCTTTCATCAAAAAATATCCGTTTCGATAAAGGAAAACT 6306
 Cry8Ka1 -----

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

Sequence_11 -----
 Sequence_1 -----
 Sequence_17 -----
 Sequence_3 -----
 5 Sequence_13 -----
 Sequence_18 CAGGACTTACAGATAAGACCTTTTGATATATAAAATCAATAGAATACTGAGAAGGATAGG 6366
 Cry8Ka1 -----

10 Sequence_71 -----
 Sequence_73 -----
 Sequence_21 -----
 Sequence_67 -----
 Sequence_61 -----
 15 Sequence_93 -----
 Sequence_59 -----
 Sequence_91 -----
 Sequence_39 -----
 Sequence_41 -----
 20 Sequence_49 -----
 Sequence_81 -----
 Sequence_45 -----
 Sequence_77 -----
 Sequence_75 -----

FIGURA 18 (Continuação)

Sequence_43 -----
 Sequence_47 -----
 Sequence_79 -----
 30 Sequence_51 -----
 Sequence_83 -----
 Sequence_7 -----
 Sequence_25 -----
 Sequence_29 -----
 35 Sequence_33 -----
 Sequence_69 -----
 Sequence_11 -----
 Sequence_1 -----
 Sequence_17 -----
 40 Sequence_3 -----
 Sequence_13 -----
 Sequence_18 TTAACATAATCCCTTTTATAGATGTCTCAATCTGAAAAGGTTGAAATTCTTGATTAATAA 6426
 Cry8Ka1 -----

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

Sequence_69 -----
 Sequence_11 -----
 Sequence_1 -----
 Sequence_17 -----
 5 Sequence_3 -----
 Sequence_13 -----
 Sequence_18 -----
 Cry8Ka1 ATTTAATGTCATCTCTCAAAATTCTTTCGGAACAATTTAGTGTGTTGTGCACTCACTCCTA 6486

10 Sequence_71 -----
 Sequence_73 -----
 Sequence_21 -----
 Sequence_67 -----
 15 Sequence_61 -----
 Sequence_93 -----
 Sequence_59 -----
 Sequence_91 -----
 Sequence_39 -----
 20 Sequence_41 -----

FIGURA 18 (Continuação)

25 Sequence_49 -----
 Sequence_81 -----
 Sequence_45 -----
 Sequence_77 -----
 Sequence_75 -----
 Sequence_43 -----
 Sequence_47 -----
 30 Sequence_79 -----
 Sequence_51 -----
 Sequence_83 -----
 Sequence_7 -----
 Sequence_25 -----
 35 Sequence_29 -----
 Sequence_33 -----
 Sequence_69 -----
 Sequence_11 -----
 Sequence_1 -----
 40 Sequence_17 -----
 Sequence_3 -----
 Sequence_13 -----
 Sequence_18 -----
 Cry8Ka1 ACGTATGCCATCCATCTTGTTTCATATAGTAGTTCTAAGAATTGTAGTTGTCTGCGTAAAT 6546

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

	Sequence_33	-----
	Sequence_69	-----
	Sequence_11	-----
5	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
10	Sequence_18	TGTTATTTAAAAGAGAACGCATGAGTAGACACCTTCTTTCATTATATAAAATATCACTGAT 6606
	Cry8Ka1	-----
	Sequence_71	-----
	Sequence_73	-----
15	Sequence_21	-----
	Sequence_67	-----
	Sequence_61	-----

FIGURA 18 (Continuação)

20	Sequence_93	-----
	Sequence_59	-----
	Sequence_91	-----
	Sequence_39	-----
	Sequence_41	-----
25	Sequence_49	-----
	Sequence_81	-----
	Sequence_45	-----
	Sequence_77	-----
	Sequence_75	-----
30	Sequence_43	-----
	Sequence_47	-----
	Sequence_79	-----
	Sequence_51	-----
	Sequence_83	-----
35	Sequence_7	-----
	Sequence_25	-----
	Sequence_29	-----
	Sequence_33	-----
	Sequence_69	-----
40	Sequence_11	-----
	Sequence_1	-----
	Sequence_17	-----
	Sequence_3	-----
	Sequence_13	-----
45	Sequence_18	GGAATTC 6613
	Cry8Ka1	-----

FIGURA 19

5 Cry8Ba1 MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTNALQNMDYKDYLMKSAGNVSEYPGSP 60
 50c_b MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTNALQNMDYKDYLMKSAGNVSEYPGSP 60
 Cry8Bb1 MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTNALQNMDYKDYLMKSAGNVSEYPGSP 60
 Cry8Bc1 MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTNALQNMDYKDYLMKSAGNVSEYPGSP 60
 Cry8Aa1 MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTDALQNMNYKDYLMKSAGNVSEYPGSP 60
 10 Cry8AB001.1 MSPNNQNEYEIIDATPSTSVSNDNRYPPFANEPTNALQNMNYKDYLMSEGYDSEYSGSP 60
 Cry8Da1 MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLMSEGENPELFGNP 60
 Cry8Da3 MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLMSEGENPELFGNP 60
 Cry8Da2 MSPNNQNEYEILDASSSTSVSDNSVRYPLANDQTTTLQNMNYKDYLMSEGENPELFGNP 60
 Cry8Ca1 MSPNNQNEYEIDALSPTSVDNSIRYPLANDQTTTLQNMNYKDYLMKTESTNAELSRNP 60
 Cry8Ca2 MSPNNQNEYEIDALSPTSVDNSIRYPLANDQTTTLQNMNYKDYLMKTESTNAELSRNP 60
 15 Cry8Ka1 MSPNNQNEYEIIDATPSTSVSNDSTRYPYANEPTNALQNMNYKDYLMSEGYDNKYFANP 60
 *****:***.*****:*** ***: * :*****:*****:***. : . *

 20 Cry8Ba1 EVFLSEQDAVKAADIVGKLLTGLGVPPFVGPIVSLYTQLIDILWPSKQKSQWEIFMEQVE 120
 50c_b EVFLSEQDAVKAADIVGKLLTGLGVPPFVGPIVSLYTQLIDILWPSKQKSQWEIFMEQVE 120
 Cry8Bb1 EVLVSGQDAKAAIDIVGKLLSGLGVPPFVGPIVSLYTQLIDILWPSGKKSQWEIFMEQVE 120
 Cry8Bc1 EVLVSGQDAKAAIDIVGKLLSGLGVPPFVGPIVSLYTQLIDILWPSGKKSQWEIFMEQVE 120
 Cry8Aa1 ETFISS-STIQTGIGIVGRILGALGVPPFASQIASFYSFIVGQLWPSKSVDIWGEIMERVE 119
 Cry8AB001.1 GALVSGKQAIKVGIDIVGNILGKLGVPFASQIVSFYNFILDQLWPSNSVSVWEQIMTLVE 120
 25 Cry8Da1 ETFISS-TVQTGIGIVGQVLGALGVPPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
 Cry8Da3 ETFISS-TVQTGIGIVGQVLGALGVPPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
 Cry8Da2 ETFISS-TVQTGIGIVGQVLGALGVPPFAGQIASFYSFIVGQLWPSSTVSVWEMIMKQVE 119
 Cry8Ca1 GTFISAQDAVGTGIDIVSTIISGLGIPVLGEVFSILGSLIGLLWPSNNENVQIFMNRVE 120
 Cry8Ca2 GTFISAQDAVGTGIDIVSTIISGLGIPVLGEVFSILGSLIGLLWPSNNENVQIFMNRVE 120
 30 Cry8Ka1 EVFAAPG-GITGTITIVTKLLGWLGLPFAGETGMALNFILGLLWPTSG-NPWAELMILVE 118
 .: : ..* ** : : *****. : : . * : * **

 35 Cry8Ba1 ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWKENPNNGSRALRDVRNRFIELDRLF 180
 50c_b ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWKENPNNGSRALRDVRNRFIELDRLF 180
 Cry8Bb1 ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWEENPNNGSRALRDVRNRFIELDRLF 180
 Cry8Bc1 ELINQKIAEYARNKALSELEGLGNNYQLYLTALEEWEENPNNGSRALRDVRNRFIELDRLF 180
 Cry8Aa1 ELVDQKIEKYVKDKALAEKLGALDGVYQQSLEDWLENRNDARTSRVSVNQFIALDLNF 179
 Cry8AB001.1 ELVDQKITEYARNKALAEKLGALDGVYQQSLEAWLENRNDTRARSVSVNQFIALELDF 180
 Cry8Da1 DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
 40 Cry8Da3 DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
 Cry8Da2 DLIDQKITDSVRKTALAGLQGLGDGLDVYQKSLKNWLENRNDTRARSVVVTQYIALELDF 179
 Cry8Ca1 ELIDQKILDSVRSRAIADLANSRIAVEYYQNALEDWRKNPHSTRSAALVKERFGNAEAIL 180
 Cry8Ca2 ELIDQKILDSVRSRAIADLANSRIAVEYYQNALEDWRKNPHSTRSAALVKERFGNAEAIL 180
 45 Cry8Ka1 ELINQKIEETVRNKALADLNGSRLRSYLNAFEDWQKNPNIFRSKELVKERFSNAEHS 178
 :*:***. : : . * : : * : * : * : * : : : :

 50 Cry8Ba1 TQYMPSFRVTNFEVPFLTQYVYMAANLHLLLRDASIFGEEWGLSTSTINNYNRQMKLTA 240
 50c_b TQYMPSFRVTNFEVPFLTQYVYMAANLHLLLRDASIFGEEWGLSTSTINNYNRQMKLTA 240
 Cry8Bb1 TQYMPSFRVTNFEVPFLTQYVYMAANLHLLLRDASIFGEEWGLSTSTINNYNRQMKLTA 240
 Cry8Bc1 TQYMPSFRVTNFEVPFLTQYVYMAANLHLLLRDASIFGEEWGLSTSTINNYNRQMKLTA 240
 Cry8Aa1 VSSIPFAVSGHEVLLAVYAQAVNLHLLLRDASIFGEEWGFTPEISRFYNRQVQLTA 239
 Cry8AB001.1 VGAIPSAVSGQEVPLLVYAQAANLHLLLRDASIFGEEWGFTSSEISTYNRQVQLTS 240
 Cry8Da1 VAKIPSAFISGQEVPLLSVYAQAANLHLLLRDASIFGAEWGFTPEISTFYDRQVTRTA 239
 Cry8Da3 VAKIPSAFISGQEVPLLSVYAQAANLHLLLRDASIFGAEWGFTPEISTFYDRQVTRTA 239
 55 Cry8Da2 VAKIPSAFISGQEVPLLSVYAQAANLHLLLRDASIFGAEWGFTPEISTFYDRQVTRTA 239
 Cry8Ca1 RTNMGFSQTNYETPLLPTYAQAASLHLLVMRDVQIYGKEWGYPQNDIDLIFYKEQVSYTA 240
 Cry8Ca2 RTNMGFSQTNYETPLLPTYAQAASLHLLVMRDVQIYGKEWGYPQNDIDLIFYKEQVSYTA 240
 60 Cry8Ka1 RTEMSFAIRGFEIPLLATYAQAANLHLLFLIKDIQIYGKEWGYTQADIDLIFYREQVEFTK 238
 : ** . * :*.*: * :*:*:*:* * :* * * . * . :* .*: *

FIGURA 19 (Continuação)

5	Cry8Ba1	EYSDHCVKWYETGLAKLKGSSAKQWIDYNQFRREMTLTVLDVVALFNSYDTRTYPLATTA	300
	50c_b	EYSDHCVKWYETGLAKLKGSSAKQWIDYNQFRREMTLTVLDVVALFNSYDTRTYPLATTA	300
	Cry8Bb1	EYSDHCVKWYETGLAKLKGTSKQWVDYNQFRREMTLAVLDVVALFPNYDTRTYPMETKA	300
	Cry8Bc1	EYSDHCVKWYETGLAKLKGTSKQWVDYNQFRREMTLTVLDVVALFPNYDTRTYPMETKA	300
	Cry8Aa1	EYSDYCVKWYKIGLDKLGTTSSKSWLNHYHQFRREMTLLVLDLVALFPNYDTHMYPIETTA	299
10	Cry8AB001.1	QYSDYCVKWYDTGLQKLKGTSAESWLEYHQFRREMTFMVLDLVALFPNYDTHTYPLETKA	300
	Cry8Da1	QYSDYCVKWYNTGLDKLKGTTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA	299
	Cry8Da3	QYSDYCVKWYNTGLDKLKGTTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA	299
	Cry8Da2	QYSDYCVKWYNTGLDKLKGTTNAASWLKYHQFRREMTLLVLDLVALFPNYDTRTYPIETTA	299
	Cry8Ca1	RYSDHCVQWYNAGLNKLRTGAKQWVDYNRFRREMTNVMVLDLVALFPNYDARIYPLETNA	300
	Cry8Ca2	RYSDHCVQWYNAGLNKLRTGAKQWVDYNRFRREMTNVMVLDLVALFPNYDARIYPLETNA	300
15	Cry8Ka1	EYTEHCINIYNDGLNQLKGSNAQWIAFNRFREMTLTVLDVVALFPNYDVRMYPIKTTT	298
		.*:::.*: * . ** :*: : .*: :*:*****. ***:****.***: ** :*:	
20	Cry8Ba1	QLTREVTDPPLGAVDVPNIG---SWYDKAP---SFSEIEKAAIRPPHVFDYITGLTVYT	353
	50c_b	QLTREVTDPPLGAVDVPNIG---SWYDKAP---SFSEIEKAAIRPPHVFDYITGLTVYT	353
	Cry8Bb1	QLTREVTDPPLGAVNVSSIG---SWYDKAP---SFGVIESSVIRPPHVFDYITGLTVYT	353
	Cry8Bc1	QLTREVTDPPLGAVNVSSIG---SWYDKAP---SFGVIESSVIRPPHVFDYITGLTVYT	353
	Cry8Aa1	QLTRDVYTDPIAFNIVTSTG---FCNPWSTHSGILFYEVENNVIRPPHFLDILSSVEINT	356
	Cry8AB001.1	QLTREVTDPPIAFNLGSAAG---FCSPWSKYTGISFSEIENDVIRPPHFLNLLRSLEINT	357
25	Cry8Da1	QLTREVTDPPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHFLDILSEIEFYT	356
	Cry8Da3	QLTREVTDPPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHFLDILSEIEFYT	356
	Cry8Da2	QLTREVTDPPI-VFNRETSGGFCRRWSLN--SDISFSEVESAVIRSPHFLDILSEIEFYT	356
	Cry8Ca1	ELTREIFTDPVGSYVTGQSSSTLISWYDMIPALPSFSTLEN-LLRKPDPFTLLQEIRMYT	359
	Cry8Ca2	ELTREIFTDPVGSYVTGQSSSTLISWYDMIPALPSFSTLEN-LLRKPDPFTLLQEIRMYT	359
30	Cry8Ka1	ELTRTIYTDPLGYTKTGSSSTP-PWYNYS---SFSYIESVAIPAPSLVKWLSQIEIYS	353
		:*** ::***: . * :*. : * .. : : . :	
35	Cry8Ba1	KKRSFTS--DRYMRYWAGHQISYKHIGTSSTFTQMYGTNQNQLQSTSNFDFNTYDIYKTLS	411
	50c_b	KKRSFTS--DRYMRYWAGHQISYKHIGTSSTFTQMYGTNQNQLQSTSNFDFNTYDIYKTLS	411
	Cry8Bb1	QSRSISS--ARYIRHWAGHQISYHRVSRGSLQMYGTNQNHLSTSTFDFNTYDIYKTLS	411
	Cry8Bc1	QSRSISS--ARYIRHWAGHQISYHRIFSDNIIKQMYGTNQNHLSTSTFDFNTYDIYKTLS	411
	Cry8Aa1	SRGGITLNDAYINYWSGHTLKYRRTADSTVITYTAN-YGRITSEKNSFALEDTRDIFEINS	415
	Cry8AB001.1	VRGTILGNTKDYLNYSWGHSLQYN-FIGKTIVRESN-YGYLTSEKTRIELDTRDIFEINS	415
40	Cry8Da1	TRAGLPLNNTTEYLEYVWGHISIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS	415
	Cry8Da3	TRAGLPLNNTTEYLEYVWGHISIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS	415
	Cry8Da2	TRAGLPLNNTTEYLEYVWGHISIKYKNTNASS-ALERNYGTITSNKIKYYDLANKDIFQVRS	415
	Cry8Ca1	SFR--QNGTIEYYNYWGGQRLTSLYIYGSS-FNK--YSGVLAGAEDIIPVGQNDIYRV--	412
	Cry8Ca2	SFR--QNGTIEYYNYWGGQRLTSLYIYGSS-FNK--YSGVLAGAEDIIPVGQNDIYRV--	412
	Cry8Ka1	KSARATP---QSADYWAGHTITYHSGDDGQAVPNYGDRTNPVIVNRYNFEQADIYRVSS	410
45		:* *: : . **:	
50	Cry8Ba1	NGAVLLDIVPGYTYTFFGMPETEFFMVNQLNNTRKT-LTYKPASKDIID---RTRDSEL	467
	50c_b	NGAVLLDIVPGYTYTFFGMPETEFFMVNQLNNTRKT-LTYKPASKDIID---RTRDSEL	467
	Cry8Bb1	KDAVLLDIVPGYTYTFFGMPETEFFMVNQLNNTRKT-LKYNPVSKDIIA---STRDSEL	467
	Cry8Bc1	KDAVLLDIVPGYTYTFFGMPETEFFMVNQLNNTRKT-LKYNPVSKDIIA---GTRDSEL	467
	Cry8Aa1	TVANLAN-----YYQKAYGVPGSWFHMVKRG-TSSTT-AYLYSKTHALQGCTQVYESSD	468
	Cry8AB001.1	TAASLAN-----YYQETYGVPSERLHLVRWASPYYS-SHLYSKTHTTGEGCTQVYESSE	469
	Cry8Da1	LGADLAN-----YYAQVYGVVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID	470
	Cry8Da3	LGADLAN-----YYAQVYGVVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID	470
	Cry8Da2	LGADLAN-----YYAQVYGVVPYASFTLLDKNTGSGSVGGFTYSKPHTTMQVCTQNYNTID	470
55	Cry8Ca1	VWTYIGR-----YTNSLLGVNPVTFFYFSNNTQK-----TYSKPKQ-FAGGIKTIDSGE	459
	Cry8Ca2	VWTYIGR-----YTNSLLGVNPVTFFYFSNNTQK-----TYSKPKQ-FAGGIKTIDSGE	459
	Cry8Ka1	SVASSTT-----SGVKLLTTKAIFDGISTNGLVSY---MYEKLNSFFN---ELKDTIT	458
60		: : :	

FIGURA 19 (Continuação)

5	Cry8Ba1	ELPPETSG---QPNYESYSHRLGHITFIYSS-----STSTYVPVFSWTHRSADLTNTVK	518
	50c_b	ELPPETSG---QPNYESYSHRLGHITFIYSS-----STSTYVPVFSWTHRSADLTNTVK	518
	Cry8Bb1	ELPPETSD---QPNYESYSHRLCHITSIPATG-----NTTGLVPVFSWTHRSADLNNTIY	519
	Cry8Bc1	ELPPETSD---QPNYESYSHRLCHITSIPATG-----STTGLVPVFSWTHRSADLINAVH	519
	Cry8Aa1	EIPLDRT---VPVAESYSHRLSHITSHSFSKNGSAYY--GSPFVFWTHTSADLNNTIY	522
10	Cry8AB001.1	EIPVDRT---VPINEGYSHRLSYVTALFFQKIINTFYRNGTLPVFWWTHRSADLTNTIY	525
	Cry8Da1	EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY	525
	Cry8Da3	EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY	525
	Cry8Da2	EIPPENE-----PLSRGYSHRLSHITSYSFSKNASSPARYGNLPVFAWTHRSADVTNTVY	525
	Cry8Ca1	ELTYEN-----YQSYSHRVSYIT--SFEIKSTGGTVLGVPVIFGWTHSSASRNNFIY	509
	Cry8Ca2	ELTYEN-----YQSYSHRVSYIT--SFEIKSTGGTVLGVPVIFGWTHSSASRNNFIY	509
15	Cry8Ka1	ELPVQISSPPTYGDAAEQYSHRLSYVSNAPTEYSSGGHLILGLIPVLGWTHSTSLTQTNQIH	518
		*.: : . ****: :.: *.: *** *	
20	Cry8Ba1	SGEITQIPGGKSSTIGRNTY-----IIKGRG-YTGGDLVALTDTRIG-----SCEFQM	564
	50c_b	SGEITQIPGGKSSTIGRNTY-----IIKGRG-YTGGDLVALTDTRIG-----SCEFQM	564
	Cry8Bb1	SDKITQIPAVKCDNLPPFVP-----VVKGP-HTGGDLLQYNRSTGSGVTLFLARYGL	571
	Cry8Bc1	SDKITQIPVVKVSDLAPSITG-GPNNTTVSGPG-FTGGGIIKVRN---GVIISHMRVK	573
	Cry8Aa1	SDKITQIPAVKGDML-----YLGGSVVQPG-FTGGDILKRTNPSIL---GTFVAVTV	570
	Cry8AB001.1	PDVITQIPVVKAYELGSSILPDSPSPITVPGPG-FTGGDIIQLLANTKG---IANMNF	580
25	Cry8Da1	SDKITQIPVVKHAHTLVSGTT-----VIKGP-FTGGNILKRTSSGP---LAYTSVSV	573
	Cry8Da3	SDKITQIPVVKHAHTLVSGTT-----VIKGP-FTGGNILKRTSSGP---LAYTSVSV	573
	Cry8Da2	SDKITQIPVVKHAHTLVSGTT-----VIKGP-FTGGNILKRTSSGP---LAYTSVSV	573
	Cry8Ca1	ATKISQIPINKASRTSGGAV-----WNFQEGLYNGGPVVKLSGSGSQ---VINLRVATD	560
	Cry8Ca2	ATKISQIPINKASRTSGGAV-----WNFQEGLYNGGPVVKLSGSGSQ---VINLRVATD	560
30	Cry8Ka1	SDSITQIPAVKANVSSTVY-----VEKGTG-FTGGDLVKFSTGFMS---TGIQFNL	566
		. *:*** * * ..** :	
35	Cry8Ba1	IFPESQRFIRIRIRYASNETSYISLYGLN----QSGTLKFNQTYSNKNENDLTYNDFKYIE	620
	50c_b	IFPESQRFIRIRIRYASNETSYISLYGLN----QSGTLKFNQTYSNKNENDLTYNDFKYIE	620
	Cry8Bb1	ALEKAGKYRVLRYATDADIVLHVN-----DAQIQMPKTMN--PGEDLTSKTFKVAD	621
	Cry8Bc1	ISDINKEYSMRIRYASANTEFYINPSE-----ENVKSHAQKTMN--RGEALTYNKFNYAT	627
	Cry8Aa1	NGSLSQRYRVIRIRYASTTDFEFTLYLGD---TIE--KNRFNKTMDNGASLTETFKFAS	624
	Cry8AB001.1	IQDINKEYIMRIRYASAAPEFNIAVGT----SGERVSTSAQTMNPGDILTFNKFNYAT	636
	Cry8Da1	KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMMKGGDLTFNTFDLAT	628
40	Cry8Da3	KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMMKGGDLTFNTFDLAT	628
	Cry8Da2	KSPLSQRYRARIRYASTTNLRLFVTISG-----TRIYSINVNKTMMKGGDLTFNTFDLAT	628
	Cry8Ca1	AKGASQRYRIRIRYASDRAGKFTISSRSPENPATYSASIAYTNTMTSNASLTYSTFAYAE	620
	Cry8Ca2	AKGASQRYRIRIRYASDRAGKFTISSRSPENPATYSASIAYTNTMTSNASLTYSTFAYAE	620
	Cry8Ka1	KIEERKRYRIRIRYAADVNATLSALGLN-----DAFINIKSTMSQDTPLKYNDFOYAE	619
45		.: *:***: : . *.. *	
50	Cry8Ba1	YPRVISVNASSNIQRLSIG---IQTNTNLFILDRIEFIPVDETYEAEQDLEAAKKAVNA	676
	50c_b	YPRVISVNASSNIQRLSIG---IQTNTNLFILDRIEFIPVDETYEAEQDLEAAKKAVNA	676
	Cry8Bb1	AITTLNLTADSSALAKHNLGEPNSTLSGIVYVDRIEFIPVDETYEAEQDLEAAKKAVNA	681
	Cry8Bc1	LPPIKFTTTEPFITLGAIF--EAEDFLGIEAYIDRIEFIPVDETYEAEQDLEAAKKAVNA	685
	Cry8Aa1	FITDFQFRETQDKILLS---MGDFSS-GQEVYIDRIEFIPVDETYEAEQDLEAAKKAVNA	680
	Cry8AB001.1	FPP-IFNSTKISIMLTAR-LAAFASTLLETYIDRIEFIPVDETYEAEQDLEAAKKAVNA	694
	Cry8Da1	IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVK-	683
	Cry8Da3	IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVNG	684
	Cry8Da2	IG--TAFTFSNYSDSLTVG--ADSFASGGEVYVDKFELIPVNATFEAEEDLDVAKKAVNG	684
55	Cry8Ca1	SGP-INLGISGSSRTFDIS--ITKEAGAAANLYIDRIEFIPVNTLFEAEEDLDVAKKAVNG	677
	Cry8Ca2	SGP-INLGISGSSRTFDIS--ITKEAGAAANLYIDRIEFIPVNTLFEAEEDLDVAKKAVNG	677
	Cry8Ka1	ADKTVHLYNPRFSLYLENS-----DQSGKSIYIDRIEFIPVDETYEAEQDLE-----	666
60		:*::*:***: :*** **:	

FIGURA 19 (Continuação)

5	Cry8Ba1	LFTNTKDGLQPGVTDYEVNQAAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP	736
	50c_b	LFTNTKDGLQPGVTDYEVNQAAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP	736
	Cry8Bb1	LFTNTKDGLRPGVTDYEVNQAAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP	741
	Cry8Bc1	LFTNTKDGLRPGVTDYEVNQAAANLVECLSDDLYPNEKRLLFDAVREAKRLSEARNLLQDP	745
	Cry8Aa1	LFTNTKDGLRPGVTDYEVNQAAANLVECLSDDLYPNEKRLLFDAVREAKRLSGARNLLQDP	740
10	Cry8AB001.1	LFTNTKDGLRPGVTDYEVNQAAANLV-----	719
	Cry8Da1	-----NLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT	721
	Cry8Da3	LFTSKKDALQTSVTDYQVNQAAANLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT	744
	Cry8Da2	LFTSKKDALQTSVTDYQVNQAAANLVECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT	744
	Cry8Ca1	LFTNEKDALQTSVTDYQVNQAAANLIECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT	737
15	Cry8Ca2	LFTNEKDALQTSVTDYQVNQAAANLIECLSDELYPNEKRMLWDAVKEAKRLVQARNLLQDT	737
	Cry8Ka1	-----	
20	Cry8Ba1	DFQEINGENGWTASTGIEVIEGDAVFKGRLRLPGAREIDTETYPTYLYQKVEEGVLKPY	796
	50c_b	DFQEINGENGWTASTGIEVIEGDAVFKGRLRLPGAREIDTETYPTYLYQKVEEGVLKPY	796
	Cry8Bb1	DFQEINGENGWTASTGIEVIEGDALFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY	801
	Cry8Bc1	DFQEINGENGWTASTGIEVIEGDALFKGRYLRLPGAREIDTETYPTYLYQKVEEGVLKPY	805
	Cry8Aa1	DFQEINGENGWAASTGIEVIEGDAVFKGRLRLPGAREIDTETYPTYLYQKVEEGVLKPY	800
	Cry8AB001.1	-----	
25	Cry8Da1	GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY	781
	Cry8Da3	GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY	804
	Cry8Da2	GFNRINGENGWTGSTGIEVAEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY	804
	Cry8Ca1	GFNRINGENGWTGSTGIEVVEGDVLFKDRSLRLTSAREIDTETYPTYLYQQIDESLLKPY	797
	Cry8Ca2	GFNRINGENGWTGSTGIEVVEGDVLFKDRSLRLTNAREIDTETYPTYLYQQIDESLLKPY	797
30	Cry8Ka1	-----	
35	Cry8Ba1	TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDILLPDVPPVNDGRINRCSEQKYVNSR	856
	50c_b	TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDILLPDVPPVNDGRINRCSEQKYVNSR	856
	Cry8Bb1	TRYRLRGFVGSSQGLEIFTIRHQTNRIVKNVPDILLPDVSPVNSDGSINRCSEQKYVNSR	861
	Cry8Bc1	TRYRLRGFVGSSQGLEIFTIRHQTNRIVKNVPDILLPDVSPVNSDGSINRCSEQKYVNSR	865
	Cry8Aa1	TRYRLRGFVGSSQGLEIYTIRHQTNRIVKNVPDILLPDVSPVNSDGSINRCSEQKYVNSR	860
	Cry8AB001.1	-----	
40	Cry8Da1	TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDILLPDVLPVNSCGGIDRCSEQQYVDAN	841
	Cry8Da3	TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDILLPDVLPVNSCGGIDRCSEQQYVDAN	864
	Cry8Da2	TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDILLPDVLPVNSCGGIDRCSEQQYVDAN	864
	Cry8Ca1	TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDILLPDVRPVNSCGGVDRCSQYVDAN	857
	Cry8Ca2	TRYKLKGFIGSSQDLEIKLIRHRANQIVKNVPDILLPDVRPVNSCGGVDRCSQYVDAN	857
	Cry8Ka1	-----	
45	Cry8Ba1	LEVENR-----SGEAHEFSIPIDTGELDYNNENAGIIVGFKITDPEGYATLGNELEVEEG	910
	50c_b	LEVENR-----SGEAHEFSIPIDTGELDYNNENAGIIVGFKITDPEGYATLGNELEVEEG	910
	Cry8Bb1	LEVENR-----SGEAHEFSIPIDTGELDYNNENAGIIVGFKITDPEGYATLGNELEVEEG	915
	Cry8Bc1	LEVENR-----SGEAHEFSIPIDTGELDYNNENAGIIVGFKITDPEGYATLGNELEVEEG	919
50	Cry8Aa1	LEGENR-----SGDAHEFSLPIDIGELDYNNENAGIIVGFKITDPEGYATLGNELEVEEG	914
	Cry8AB001.1	-----	
	Cry8Da1	LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNELEVEEG	901
	Cry8Da3	LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNELEVEEG	924
	Cry8Da2	LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWVVFKIPTTNGYATLGNELEVEEG	924
55	Cry8Ca1	LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWIVFKIPTTNGNATLGNELEVEEG	917
	Cry8Ca2	LALENNGENGNMSSDSHAFSFHIDTGEIDLNENTGIWIVFKIPTTNGNATLGNELEVEEG	917
	Cry8Ka1	-----	
60			

FIGURA 19 (Continuação)

5	Cry8Ba1	PLSGDALERLQKEEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPNVEITDL	970
	50c_b	PLSGDALERLQKEEQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPNVEITDL	970
	Cry8Bb1	PLSGDALERLQREEQQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL	975
	Cry8Bc1	PLSGDALERLQREEQQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL	979
	Cry8Aa1	PLSGDALERLQREEQQQWKIQMTRRREETDRRYMASKQAVDRLYADYQDQQLNPDVEITDL	974
	Cry8AB001.1	-----	
10	Cry8Da1	PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM	961
	Cry8Da3	PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM	984
	Cry8Da2	PLSGETLERAQQQEQQWQDKMARKRGASEKAYYAAKQAIDRLFADYQDQKLNSGVEMSDM	984
	Cry8Ca1	PLSGETLEWAQQQEQQWQDKMARKRAASEKTYAAKQAIDRLFADYQDQKLNSGVEMSDL	977
	Cry8Ca2	PLSGETLEWAQQQEQQWQDKMARKRAASEKTYAAKQAIDRLFADYQDQKLNSGVEMSDL	977
15	Cry8Ka1	-----	
20	Cry8Ba1	TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWGLYDQRNAIPNGDYRNELSN	1030
	50c_b	TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWGLYDQRNAIPNGDYRNELSN	1030
	Cry8Bb1	TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWSLYDQRNAIPNGDFRNGLSN	1035
	Cry8Bc1	TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWSLYDQRNAIPNGDFRNGLSN	1039
	Cry8Aa1	TAAQDLIQSIPYVYNEMFPEIPGMNYTKFTELTDRLQQAWNLYDQRNAIPNGDFRNGLSN	1034
	Cry8AB001.1	-----	
25	Cry8Da1	LAAQNLVQSIPIVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSN	1021
	Cry8Da3	LAAQNLVQSIPIVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSN	1044
	Cry8Da2	LAAQNLVQSIPIVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLRNAIPNGDFRNGLSN	1044
	Cry8Ca1	LAAQNLVQSIPIVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLQNAIPNGDFRNGLSN	1037
	Cry8Ca2	LAAQNLVQSIPIVYNDALPEIPGMNYTSFTELTNRLQQAWNLYDLQNAIPNGDFRNGLSN	1037
30	Cry8Ka1	-----	
35	Cry8Ba1	WNTTSGVNVQQINHTSVLVI PNWNEQVSQKFTVQPNQRYVLRVTARKEGVNGYVSIRDG	1090
	50c_b	WNTTSGVNVQQINHTSVLVI PNWNEQVSQKFTVQPNQRYVLRVTARKEGVNGYVSIRDG	1090
	Cry8Bb1	WNATPGVEVQQINHTSVLVI PNWDEQVSQQFTVQPNQRYVLRVTARKEGVNGYVSIRDG	1095
	Cry8Bc1	WNATPGVEVQQINHTSVLVI PNWDEQVSQQFTVQPNQRYVLRVTARKEGVNGYVSIRDG	1099
	Cry8Aa1	WNATPGVEVQQINHTSVLVI PNWDEQVSQQFTVQPNQRYVLRVTARKEGVNGYVSIRDG	1094
	Cry8AB001.1	-----	
40	Cry8Da1	WNATSDVNVQQLSDTSVLVI PNWNSQVSQQFTVQPNRYVLRVTARKEGVGDGYVIIRDG	1081
	Cry8Da3	WNATSDVNVQQLSDTSVLVI PNWNSQVSQQFTVQPNRYVLRVTARKEGVGDGYVIIRDG	1104
	Cry8Da2	WNATSDVNVQQLSDTSVLVI PNWNSQVSQQFTVQPNRYVLRVTARKEGVGDGYVIIRDG	1104
	Cry8Ca1	WNATSDVNVQQLSDTSVLVI PNWNSQVSQQFTVQPNRYVLRVTARKEGVGDGYVIIRDG	1097
	Cry8Ca2	WNATSDVNVQQLSDTSVLVI PNWNSQVSQQFTVQPNRYVLRVTARKEGVGDGYVIIRDG	1097
	Cry8Ka1	-----	
45	Cry8Ba1	GNQSETLTFSASDYDTNGMYDTQASNTNGYNTNSVYMIKPAISR-----	1134
	50c_b	GNQSETLTFSASDYDTNGMYDTQASNTNGYNTNSVYMIKPAISR-----	1134
	Cry8Bb1	GNQTETLTFSASDYDTNGMYNTQVSNNTNGYNTNAYNTQASSTNGYNANNMYNTQASNTN	1155
	Cry8Bc1	GNQTETLTFSASDYDTNGMYNTQVSNNTNGYNTNAYNTQASSTNGYNANNMYNTQASNTN	1159
50	Cry8Aa1	GNQSETLTFSASDYDTNGVYNDQTYIT-----	1122
	Cry8AB001.1	-----	
	Cry8Da1	ANQTETLTFNICDDDTGVLSDQTSYIT-----	1109
	Cry8Da3	ANQTETLTFNICDDDTGVLSDQTSYIT-----	1132
	Cry8Da2	ANQTETLTFNICDDDTGVLSDQTSYIT-----	1132
55	Cry8Ca1	ANQTETLTFNICDDDTGVLSTDQTSYIT-----	1125
	Cry8Ca2	ANQTETLTFNICDDDTGVLSTDQTSYIT-----	1125
	Cry8Ka1	-----	
60			

FIGURA 19 (Continuação)

5	Cry8Ba1	-----KTVDISSVYNQMWIEISETEGTFYIESVELIVDVE	1169
	50c_b	-----KTVDISSVYNQMWIEISETEGTFYIESVELIVDVE	1169
	Cry8Bb1	GYNTNSVYNDQTGYITKTVTFIPYTDQMWIEMSETEGTFYIESVELIVDVE	1206
	Cry8Bc1	GYNTNSVYNDQTGYITKTVTFIPYTDQMWIEMSETEGTFYIESVELIVDVE	1210
	Cry8Aa1	-----KTVTFIPYTDQMWIEISETEGTFYIESVELIVDVE	1157
	Cry8AB001.1	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1144
10	Cry8Da1	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1167
	Cry8Da3	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1167
	Cry8Da2	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1160
	Cry8Ca1	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1160
	Cry8Ca2	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1160
15	Cry8Ka1	-----KTVEFTPSTEQVWIDMSETEGVFNIESVELVLEEE	1160

RESUMO

“MOLÉCULA DE ÁCIDO NUCLEÍCO 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 *Bacillus 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 sequência nucleotídica e
15 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 endotoxina ativa contra o bicudo-do-algodoeiro.