CLAIMS:

1. An anti-serum albumin (SA) immunoglobulin single variable domain variant of DOM7h-11 (DOM7h-11 as shown in Figure 1), wherein the variant comprises at least one mutation in the FW2/CDR2 junction (positions 49 to 51, numbering according to Kabat) compared to DOM7h-11, and wherein the variant has from 2 to 8 changes compared to the amino acid sequence of DOM7h-11.

2. The variant of claim 1, wherein position 49 (according to Kabat) is Leu.

3. The variant of claim 1 or 2, wherein position 50 (according to Kabat) is Ala or Trp.

4. The variant of claim 1, 2 or 3, wherein position 51 (according to Kabat) is Phe or Asn.

5. The variant of claim 1, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of a single variable domain selected from DOM7h-11-3 (SEQ ID NO: 5), DOM7h-11-15 (SEQ ID NO: 2), DOM7h-11-12 (SEQ ID NO: 1) and DOM7h-11-19 (SEQ ID NO: 4)or has up to 4 changes compared to the selected amino acid sequence, provided that the amino acid sequence of the variant has at least one mutation in the FW2/CDR2 junction as defined in any one of claims 1 to 4.

6. The variant of claim 1, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of DOM7h-11-15^{S12P}(SEQ ID NO: 414) or has up to 4 changes compared to the amino acid sequence of DOM7h-11-15^{S12P}, provided that the amino acid sequence of the variant has at least one

mutation in the FW2/CDR2 junction as defined in any one of claims 1 to 4.

7. An anti-serum albumin (SA) immunoglobulin single variable domain variant of DOM7h-11, wherein the variant comprises a Met at position 32 (numbering according to Kabat) compared to DOM7h-11 (as shown in Figure 1), and wherein the variant has from 0 to 4 further changes compared to the amino acid sequence of DOM7h-11.

8. The variant of claim 7, wherein the variant comprises at least one mutation in the FW2/CDR2 junction (positions 49 to 51, numbering according to Kabat) compared to DOM7h-11 (as shown in Figure 1).

9. The variant of claim 7, wherein the variant comprises at least one mutation compared to DOM7h-11 (as shown in Figure 1) selected from the following

Position 49 = L,
Position 50 = A or W,
Position 51 = F or N,
Position 87 = H, and
Position 91 = T.

10. The variant of claim 7, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of a single variable domain selected from DOM7h-11-12 (SEQ ID NO: 1), DOM7h-11-15 (SEQ ID NO: 2), DOM7h-11-18 (SEQ ID NO: 3) and DOM7h-11-19 (SEQ ID NO: 4) or has up to 4 changes compared to the selected amino acid sequence, provided that the amino acid sequence of the variant has Met at position 32 .

11. The variant of claim 7, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of DOM7h-11-15^{S12P} (SEQ ID NO:

414) or has up to 4 changes compared to the selected amino acid sequence, provided that the amino acid sequence of the variant has Met at position 32 .

12. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds human SA with a dissociation constant (KD) of from about 0.1 to about 10000 nM, optionally from about 1 to about 6000 nM, as determined by surface plasmon resonance.

13. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds human SA with an off-rate constant (K_d) of from about 1.5×10^{-4} to about 0.1 sec^{-1} , optionally from about 3×10^{-4} to about 0.1 sec^{-1} as determined by surface plasmon resonance.

14. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds human SA with an on-rate constant (K_a) of from about 2×10^6 to about 1×10^4 $M^{-1}sec^{-1}$, optionally from about 1×10^6 to about 2×10^4 $M^{-1}sec^{-1}$ as determined by surface plasmon resonance.

15. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with a dissociation constant (KD) of from about 0.1 to about 10000 nM, optionally from about 1 to about 6000 nM, as determined by surface plasmon resonance.

16. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with an off-rate constant (K_d) of from about 1.5×10^{-4} to about 0.1 sec^{-1} , optionally from about 3×10^{-4} to about 0.1 sec^{-1} as determined by surface plasmon resonance.

17. The variant of any preceding claim, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with an on-rate constant (K_a) of

from about 2 x 10^6 to about 1 x 10^4 $M^{-1}sec^{-1}$, optionally from about 1 x 10^6 to about 5 x 10^3 $M^{-1}sec^{-1}$ as determined by surface plasmon resonance.

18. A multispecific ligand comprising an anti-SA variant of any preceding claim and a binding moiety that specifically binds a target antigen other than SA.

19. An anti-SA variant single variable domain of any one of claims 1 to 17, wherein the variable domain is conjugated to a drug (optionally an NCE drug), optionally wherein the selected variant is DOM7h-11-15 (SEQ ID NO: 2), DOM7h-11-15^{S12P} (SEQ ID NO: 414) or DOM7h-11-12 (SEQ ID NO: 1).

20. A fusion protein comprising a polypeptide or peptide drug fused to a variant according to any one of claims 1 to 17, optionally wherein the selected variant is DOM7h-11-15 (SEQ ID NO: 2), DOM7h-11-15^{S12P} (SEQ ID NO: 414) or DOM7h-11-12 (SEQ ID NO: 1).

21. A fusion protein according to claim 20, wherein the fusion protein comprises a linker (eg, a linker comprising the amino acid sequence TVA, optionally TVAAPS) between the variant and the drug.

22. A composition comprising a variant, fusion protein or ligand of any preceding claim and a pharmaceutically acceptable diluent, carrier, excipient or vehicle.

23. A nucleic acid comprising a nucleotide sequence encoding a variant according to any one of claims 1 to 17 or a multispecific ligand of claim 18 or fusion protein of claim 20 or 21.

24. A nucleic acid comprising the nucleotide sequence of a DOM7h-11 variant selected from the nucleotide sequence of DOM7h-11-3 (SEQ ID NO: 5), DOM7h-11-15 (SEQ ID NO: 2), DOM7h-11-12 (SEQ ID NO: 1), DOM7h-11-

18 (SEQ ID NO: 3) and DOM7h-11-19 (SEQ ID NO: 4) or a nucleotide sequence that is at least 80% identical to said selected sequence.

25. A nucleic acid comprising the nucleotide sequence of DOM7h-11-15^{S12P} (SEQ ID NO: 414) or a nucleotide sequence that is at least 80% identical to said selected sequence.

26. A vector comprising the nucleic acid of claim 23, 24 or 25.

27. An isolated host cell comprising the vector of claim 26.

28. A method of treating or preventing a disease or disorder in a patient, comprising administering at least one dose of a variant according to any one of claims 1 to 22 to said patient.

CLAIMS

1. An anti-serum albumin (SA) immunoglobulin single variable domain variant of DOM7h-11 (as shown in Figure 1), wherein the variant comprises at least one mutation in the FW2/CDR2 junction, wherein:

position 49 (according to Kabat) is Leu; or

position 50 (according to Kabat) is Ala or Trp; or

position 51 (according to Kabat) is Phe or Asn;

and wherein the variant has from 2 to 8 changes compared to the amino acid sequence of DOM7h-11.

2. The variant of claim 1, wherein the variant comprises a Met at position 32 (according to Kabat).

3. The variant of claim 1 or claim 2, wherein the variant comprises at least one mutation selected from the following: Position 87 = H, and Position 91 = T (according to Kabat).

4. The variant of any one of claims 1 to 3, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of a single variable domain selected from SEQ ID NO: 5, SEQ ID NO: 2, SEQ ID NO: 1 and SEQ ID NO: 4.

5. The variant of any one of claims 1 to 3, wherein the variant comprises an amino acid sequence that is identical to the amino acid sequence of SEQ ID NO: 414.

6. The variant of any one of claims 1 to 5, wherein the variant comprises a binding site that specifically binds human SA with a dissociation constant (KD) of from about 0.1 to about 10000 nM or from about 1 to about 6000 nM, as determined by surface plasmon resonance.

7. The variant of any one of claims 1 to 6, wherein the variant comprises a binding site that specifically binds human SA with an off-rate constant (K_d) of from about 1.5×10^{-4} to about 0.1 sec^{-1}, or from about 3×10^{-4} to about 0.1 sec^{-1} as determined by surface plasmon resonance.

8. The variant of any one of claims 1 to 7, wherein the variant comprises a binding site that specifically binds human SA with an on-rate constant (K_a) of from about 2×10^6 to about 1×10^4 $M^{-1}sec^{-1}$, or from about 1×10^6 to about 2×10^4 $M^{-1}sec^{-1}$ as determined by surface plasmon resonance.

9. The variant of any one of claims 1 to 8, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with a dissociation constant (KD) of from about 0.1 to about 10000 nM, or from about 1 to about 6000 nM, as determined by surface plasmon resonance.

10. The variant of any one of claims 1 to 9, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with an off-rate constant (K_d) of from about 1.5×10^{-4} to about 0.1 sec^{-1}, or from about 3×10^{-4} to about 0.1 sec^{-1} as determined by surface plasmon resonance.

11. The variant of any one of claims 1 to 10, wherein the variant comprises a binding site that specifically binds *Cynomolgus* monkey SA with an on-rate constant (K_a) of from about 2×10^6 to about 1×10^4 $M^{-1}sec^{-1}$, or from about 1×10^6 to about 5×10^3 $M^{-1}sec^{-1}$ as determined by surface plasmon resonance.

12. A multispecific ligand comprising an anti-SA variant of any one of claims 1 to 11 and a binding moiety that specifically binds a target antigen other than SA.

13. The multispecific ligand as of claim 12, wherein the target antigen other than SA is TNFR1.

14. The variant of any one of claims 1 to 11, wherein the variable domain is conjugated to a drug.

15. The variant according to claim 14, wherein the drug isan NCE drug.

16. A fusion protein comprising a polypeptide or peptide drug fused to a variant according to any one of claims 1 to 11.

17. The variant according to claim 14 or claim 15 or the fusion protein of claim 16, wherein the variant is SEQ ID NO: 2, SEQ ID NO: 414 or SEQ ID NO: 1.

18. The fusion protein according to claim 16, wherein the fusion protein comprises a linker between the variant and the drug.

19. The fusion protein according to claim 18, wherein the linker comprises the amino acid sequence TVA.

20. The fusion protein according to claim 19, wherein the TVA is TVAAPS.

21. A composition comprising a variant of any one of claims 1 to 11, 14, 15 or 17, a fusion protein of any one of claims 16 to 20, or a multispecific ligand of claim 12 or 13, and a pharmaceutically acceptable diluent, carrier, excipient or vehicle.

22. A nucleic acid comprising a nucleotide sequence encoding a variant of any one of claims 1 to 11, 14, 15 or 17, a multispecific ligand of claim 12 or 13 or a fusion protein of any one of claims 16 to 20.

23. A nucleic acid comprising the nucleotide sequence selected from the nucleotide sequence of SEQ ID NO: 10, SEQ ID NO: 7, SEQ ID NO: 6 and SEQ ID NO: 9 or a nucleotide sequence that is at least 80% identical to said selected sequence.

24. A nucleic acid comprising the nucleotide sequence of SEQ ID NO: 415 or a nucleotide sequence that is at least 80% identical to said selected sequence.

25. A vector comprising the nucleic acid of any one of claims 22 to 24.

26. An isolated host cell comprising the vector of claim 25.

27. Use of a composition comprising a variant of any one of claims 1 to 11, 14, 15 or 17, a multispecific ligand of claim 12 or 13 or fusion protein of any one of claims 16 to 20, for use in the preparation of a medicament for the treatment or prevention of a disease or disorder in a patient.

SEQUENCE LISTING

<110> Elena DE ANGELIS
Carolyn ENEVER
Haiqun LIU
Christopher PLUMMER
Oliver SCHON

<120> IMPROVED ANTI-SERUM ALBUMIN BINDING VARIANTS

<130> DB63556 WO

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<141> 2010-02-17

<150> 61/247136
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20 25 30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Leu Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

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1 5 10 15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
20 25 30

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Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100                 105
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<210> 3
<211> 108
<212> PRT
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<220>
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<400> 3

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            20                  25                  30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Trp Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr His Cys Ala Gln Ala Gly Thr His Pro Thr
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100                 105
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<210> 4
<211> 108
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<400> 4

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 1               5                  10                  15
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            20                  25                  30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Leu Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Thr Gly Thr His Pro Thr
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100                 105
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<210> 5
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            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Leu Trp Asn Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100   105

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gggaaagccc ctaagctcct gatcttgttt ggttcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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gggaaagccc ctaagctcct gatccttgct ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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gggaccaagg tggaaatcaa acgg   324

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gggaaagccc caaagctcct gatctggttt ggttcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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gggaccaagg tggaaatcaa acgg   324

<210> 9

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gggaaagccc ctaagctcct gatcttgttt ggttcccggt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacggat ttcactctca ccatcagcag tctgcaacct 240
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<210> 10
<211> 324
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<213> Artificial Sequence

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gggaaagccc ctaagctcct gatcctttgg aattcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
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Arg Met His Trp Val Arg Gln Ala Pro Gly Lys Ser Leu Glu Trp Val
        35   40   45
Ser Ser Ile Asp Thr Arg Gly Ser Ser Thr Tyr Tyr Ala Asp Pro Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Ala Val Thr Met Phe Ser Pro Phe Phe Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Leu Val Thr Val Ser Ser
        115   120

<210> 12
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<212> PRT
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<400> 12
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            20                  25                  30
Gly Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ser Ile Thr Arg Thr Gly Arg Val Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Trp Arg Asn Arg His Gly Glu Tyr Leu Ala Asp Phe Asp Tyr
            100                 105                 110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 13
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<220>
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<400> 13

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Arg Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ser Ile Asp Ser Asn Gly Ser Ser Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Asp Arg Thr Glu Arg Ser Pro Val Phe Asp Tyr Trp Gly Gln
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Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 14
<211> 119
<212> PRT
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Asp Tyr
            20                  25                  30
Glu Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Ser Ile Ser Glu Ser Gly Thr Thr Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Arg Arg Phe Ser Ala Ser Thr Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
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115

<210> 15
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<213> Artificial Sequence

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20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Tyr Thr Gly His Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 16
<211> 119
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<213> Artificial Sequence

<220>
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<400> 16
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1 5 10 15
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20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Tyr Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 17
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
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1 5 10 15

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            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
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            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
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<210> 19
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 19

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 20
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 20
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Met Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 21
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 21
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 22
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 22
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr

```
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Phe Asp His Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 23
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 23

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 24
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 24

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 25
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 25
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 26
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 26
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp His Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 27
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 27
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30

```
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 28
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 28

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp His Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 29
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 29

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 30
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 30
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Asp Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp His Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 31
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 31
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 32
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 32
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

```
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 33
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 33

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Lys Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 34
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 34

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 35

<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 35
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 36
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 36
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ala Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 37
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 37
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

```
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asn Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 38
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 38

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 39
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 39

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Ser Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Asp Asn Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 40
<211> 119

<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 40
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ile Thr Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Gln Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 41
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 41
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Gly Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 42
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 42
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val

50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 43
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 43
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 44
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 44
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 45
<211> 119
<212> PRT

<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 45
```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Lys Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 46
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 46
```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Glu Arg Arg Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Pro Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 47
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 47
```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Asn Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
```

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Tyr Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Thr Ser
115

<210> 48
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 48
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 49
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 49
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Lys Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 50
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 50
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 51
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 51
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 52
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 52
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr

65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 53
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 53
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Val Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 54
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 54
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Lys Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 55
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 55
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 56
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 56
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 57
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 57
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80

```
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 58
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 58

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 59
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 59

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Lys Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 60
<211> 119
<212> PRT
<213> Artificial Sequence

<220>

<223> Derived from a Human Germline sequence.

<400> 60
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 61
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 61
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 62
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 62
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 63
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 63
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 64
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 64
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Lys Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 65
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 65
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 66
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 66
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 67
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 67
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 68
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 68
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Phe
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 69
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 69
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 70
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 70
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 71
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 71
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 72
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 72
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ala Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Asp Tyr Trp Gly Gln Gly

100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 73
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 73
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Ala Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 74
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 74
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 75
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 75

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 76
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 76

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 77
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 77

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Pro Asp Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
```

Thr Leu Val Thr Val Ser Ser
115

<210> 78
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 78
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45
Ser Gln Ile Ser Ala Trp Gly Asp Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 79
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 79
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Gly Gly Gln Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 80
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 80
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

```
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Ser Gly Tyr Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 81
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 81
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Gly Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 82
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 82
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Lys Gly Thr Arg Thr Tyr Tyr Ala Asp Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
```

115

<210> 83
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 83
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
35 40 45
Ser Gln Ile Ser Glu Thr Gly Arg Arg Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 84
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 84
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Asn Asn Thr Gly Ser Thr Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Asp Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 85
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 85
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 86
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 86
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Pro Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 87
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 87
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 88
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 88
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 89
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 89
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 90
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 90
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr

```
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Thr His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 91
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 91
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Arg Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115


<210> 92
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 92
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Leu Asn Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 93
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 93
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 94
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 94
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 95
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 95
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30

```
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 96
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 96

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Val Tyr Thr Gly Arg Trp Val Ser Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 97
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 97

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Leu Tyr Thr Gly Arg Trp Val Ser Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 98
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 98
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Val Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 99
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 99
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Leu Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 100
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 100
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val

```
        35                  40                  45
Ser Gln Ile Ala Asn Thr Ala Asp Arg Arg Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 101
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 101

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Ala Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 102
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 102

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asn Thr Gly Asp Arg Arg Tyr Tyr Ala His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 103

<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 103
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Ala Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 104
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 104
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala His Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 105
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 105
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45

```
Ser Gln Ile Ser Asn Thr Ala Asp Arg Arg Tyr Tyr Ala His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 106
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 106

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asn Thr Ala Asp Arg Arg Tyr Tyr Ala His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 107
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 107

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Val Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 108
<211> 119

<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 108
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asn Thr Gly Asp Arg Arg Tyr Tyr Ala Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 109
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 109
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 110
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 110
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val

50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 111
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 111
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 112
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 112
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ser His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 113
<211> 119
<212> PRT

<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 113
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Thr His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 114
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 114
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Thr Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 115
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 115
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 116
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 116
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 117
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 117
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 118
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 118
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Asp Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 119
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 119
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 120
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 120
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr

65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 121
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 121
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Arg Tyr Tyr Asp Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 122
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 122
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asp Thr Gly Asp Arg Arg Tyr Tyr Asp His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 123
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 123
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asp Thr Gly Asp Arg Arg Tyr Tyr Asp Asp Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 124
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 124
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Gly Pro Phe Val Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 125
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 125
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Ala Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 126
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 126
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Gly Pro Phe Gln Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 127
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 127
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Gln Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 128
<211> 119
<212> PRT
<213> Artificial Sequence

<220>

<223> Derived from a Human Germline sequence.

<400> 128
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 129
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 129
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Gln Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 130
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 130
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Gln Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 131
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 131
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 132
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 132
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 133
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 133
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 134
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 134
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 135
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 135
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95

```
Ala Ile Tyr Thr Gly Arg Trp Arg Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 136
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 136

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 137
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 137

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 138
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 138
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ser His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 139
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 139
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ser His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 140
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 140
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Thr His Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly

100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 141
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 141
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Thr His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 142
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 142
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 143
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 143

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 144
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 144

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Leu Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 145
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 145

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
```

Thr Leu Val Thr Val Ser Ser
115

<210> 146
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 146
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ala Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 147
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 147
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
20 25 30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 148
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 148
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly

```
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Thr Tyr Tyr Asp His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 149
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 149

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Arg Tyr Tyr Ala His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 150
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 150

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Ala His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
```

115

<210> 151
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 151
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Arg Tyr Tyr Ala His Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 152
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 152
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Asp His Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 153
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 153
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15

```
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Arg Tyr Tyr Asp His Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 154
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 154

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ala Asp Thr Ala Asp Arg Arg Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 155
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 155

```
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1               5                  10                  15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Arg Tyr Tyr Asp Asp Ala Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Thr Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Glu Pro Phe Val Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 156
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 156
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asp Thr Ala Asp Arg Thr Tyr Tyr Ala His Ala Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Ile Tyr Thr Gly Arg Trp Val Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 157
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 157
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Val Lys Tyr
            20   25   30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Gln Ile Ser Asn Thr Gly Gly His Thr Tyr Tyr Ala Asp Ser Val
    50   55   60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Tyr Thr Gly Arg Trp Glu Pro Phe Glu Tyr Trp Gly Gln Gly
            100   105   110
Thr Leu Val Thr Val Ser Ser
        115

<210> 158
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 158
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Phe Lys Tyr

```
            20                  25                  30
Ser Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Gln Ile Ser Asp Thr Gly Asp Arg Arg Tyr Tyr Asp His Ser Val
    50                  55                  60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Ile Tyr Thr Gly Arg Trp Ala Pro Phe Glu Tyr Trp Gly Gln Gly
            100                 105                 110
Thr Leu Val Thr Val Ser Ser
        115
```

<210> 159
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 159
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttatg aggtatagga tgcattgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatcg attgattcta atggttctag tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagatcgt 300
acggagcgtt cgccggtttt tgactactgg ggtcagggaa ccctggtcac cgtctcgagc 360

<210> 160
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 160
gaggtgcagc tgttggagtc tgggggaggc ttggtgcagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt gattatgaga tgcattgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatct attagtgaga gtggtacgac gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaacgtcgt 300
ttttctgctt ctacgtttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 161
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 161
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcattggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 162
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 162
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agccttatga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 163
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 163
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agcctttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 164
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 164
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 165
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 165
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 166
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 166
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 167
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 167
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcacagt ctcgagc 357

<210> 168
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 168
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccata tcccgcgaca attccaagaa cacgctgtat 240
atgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 169
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 169
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttggt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg atctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 170
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 170
gaggtgcagc tgttggagtc aggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtggtca tacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agccttttga ccactggggt caggggaccc tggtcaccgt ctcgagc 357

<210> 171
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 171
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 172
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 172
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 173
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 173
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 174
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 174
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 175
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 175
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcacagt ctcgagc 357

<210> 176
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 176
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcgaata cgggtgatca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcacagt ctcgagc 357

<210> 177
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 177
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttggt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg atctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 178
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 178
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttggt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg atctagagtg ggtctcacag atttcgaata cgggtgatca tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 179
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 179
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 180
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 180
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 181
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 181
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcggactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga agccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 182
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 182
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 183
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 183
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 184
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 184
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggcat attactgtgc gatatatacg 300
ggtcgttggg agcctttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 185
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 185
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttaa ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 186
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 186
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 187
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 187
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa ctcgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg tgccttttga caactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 188
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 188
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttatt acgtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttca gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 189
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 189
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttggt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcggactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 190
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 190
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttttt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaagac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 191
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 191
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 192
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 192
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 193
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 193
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttaa gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 194
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 194
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttagt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgagcg tagatactac 180
gcagactcag tgaagggccg gttcaccatc tcccgcgaca atccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg agccttttga atactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 195
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 195
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aactattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tacatactac 180
gcggactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttatga gtactggggt cagggaaccc tggtcaccgt cacgagc 357

<210> 196
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 196
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgata attccaagaa cacactgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 197
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 197
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga agccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 198
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 198
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 199
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 199
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 200
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 200
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 201
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 201
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc ggtatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 202
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 202
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga agcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 203
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 203
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 204
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 204
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180

gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 205
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 205
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 206
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 206
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 207
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 207
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggcc 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga agccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 208
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 208
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 209
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 209
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 210
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 210
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 211
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 211
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 212
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 212
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga agccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 213
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 213
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggcc 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaagac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 214
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 214
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 215
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 215
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 216
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 216
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttttg aagttttcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 217
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 217
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 218
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 218
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 219
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 219
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 220
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 220
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggcat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 221
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 221
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180

gcagactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggcat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 222
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 222
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 223
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 223
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 224
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 224
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 225
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 225
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggc ccgactttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 226
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 226
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcggcct ggggtgacag gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 227
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 227
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcggacg gcggtcagag gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 228
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 228
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcggact ccggttaccg cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 229
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 229
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtccagagtg ggtctcacag atttcggacg ggggtacgcg gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 230
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 230
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcggaca agggtacgcg cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 231
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 231
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tgggatgggt ccgccaggct 120
ccagggaaag gtccagagtg ggtctcacag atttcggaga ccggtcgcag gacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 232
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 232
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attaacaata cgggttcgac cacatactac 180
gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttga ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 233
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 233
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtccagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 234
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 234
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtccagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 235
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 235
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 236
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 236
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 237
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 237
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 238
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 238
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180

acacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 239
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 239
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg cagatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 240
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 240
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attttgaata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 241
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 241
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 242
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 242
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 243
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 243
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 244
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 244
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc ggtatatact 300
gggcgttggg tgtcttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 245
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 245
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gctatatact 300
gggcgttggg tgtcttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 246
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 246
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gtttaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc ggtatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 247
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 247
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gctatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 248
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 248
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata ctgctgatcg tagatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 249
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 249
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 250
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 250
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcgg cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata cgggcgatcg tagatactac 180
gcacacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 251
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 251
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata ctgctgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 252
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 252
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcacacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 253
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 253
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcgaata ctgctgatcg tagatactac 180
gcacacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 254
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 254
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cggctgatcg tagatactac 180
gcacacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 255
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 255
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgtgaata cgggtgatcg tagatactac 180

gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 256
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 256
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcgaata cgggtgatcg tagatactac 180
gcagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 257
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 257
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 258
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 258
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 259
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 259
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 260
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 260
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
tcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 261
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 261
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
acacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 262
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 262
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
acagacgcgg tgaaggggcg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agcctttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 263
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 263
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 264
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 264
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 265
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 265
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata cgggtgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 266
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 266
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 267
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 267
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgcctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatcactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg aacctttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 268
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 268
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata cgggtgatcg tagatactac 180
gatgacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 269
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 269
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tagatactac 180
gatgactctg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 270
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 270
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata cgggtgatcg tagatactac 180
gatcactctg tgaagggccg gttcactatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 271
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 271
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata cgggtgatcg tagatactac 180
gatgacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 272
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 272
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180

gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg ggccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 273
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 273
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg tgcctttgc ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 274
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 274
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg gacctttca gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 275
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 275
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttca gtactggggt cagggaactc tggtcaccgt ctcgagc 357

<210> 276
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 276
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 277
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 277
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg cgccttttca gtactggggt cagggaactc tggtcaccgt ctcgagc 357

<210> 278
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 278
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg tgcctttca gtactggggt cagggcaccc tggtcaccgt ctcgagc 357

<210> 279
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 279
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ccggtgatcg tagatactac 180
gatcactctg tgaagggccg gttcactatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 280
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 280
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 281
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 281
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 282
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 282
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 283
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 283
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttgga ggccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 284
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 284
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agcctttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 285
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 285
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 286
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 286
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
tcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 287
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 287
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
tcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 288
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 288
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
acacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgcctttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 289
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 289
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180

acacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 290
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 290
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 291
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 291
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 292
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 292
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttg aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ccggtgatcg tagatactac 180
gatcactctg tgaagggccg gttcactatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 293
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 293
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt caccttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ccggtgatcg tagatactac 180
gatcactctg tgaagggccg gttcactatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 294
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 294
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tacatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgcgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 295
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 295
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttttt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tacatactac 180
gcacacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 296
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 296
gaggtgcagc tgttggagtc tgggggaggc ttggtgcagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tacatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 297
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 297
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tacatactac 180
gatcacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgctgaggac accgcggtat attactgtgc gatatatact 300
gggcgttggg tgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 298
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 298
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tagatactac 180
gcacactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 299
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 299
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gcacacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 300
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 300
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tagatactac 180
gcacacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 301
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 301
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gatcacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 302
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 302
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tagatactac 180
gatcacgcgg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt caggggaccc tggtcaccgt ctcgagc 357

<210> 303
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 303
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgtt aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag attgcggata ctgctgatcg tagatactac 180
gatcactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcggtggg cgccttttga gtactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 304
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 304
gaggtgcagc tgctggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttttc aagtattcga tggggtgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacag atttcggata ctgctgatcg tagatactac 180
gatgacgcgg tgaagggccg gttcaccatc acccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gatatatacg 300
ggtcgttggg agccttttgt ctactggggt cagggaaccc tggtcaccgt ctcgagc 357

<210> 305
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 305
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1   5   10   15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Ser Gly Gly Gly
        35   40   45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
    50   55   60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65   70   75   80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
                85   90   95
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
            100   105   110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
        115   120   125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
    130   135   140
Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu

145 150 155 160
Ile Lys Arg

<210> 306
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 306
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggtgc ggcgttgcct aggacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 307
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 307
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
35 40 45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
50 55 60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65 70 75 80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
85 90 95
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
100 105 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
115 120 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
130 135 140
Gln Gly Leu Arg His Pro Lys Thr Phe Gly Gln Gly Thr Lys Val Glu
145 150 155 160
Ile Lys Arg

<210> 308
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 308
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120

ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggttt gaggcatcct aagacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 309
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 309
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
35 40 45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
50 55 60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65 70 75 80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
85 90 95
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
100 105 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
115 120 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
130 135 140
Gln Gly Leu Met Lys Pro Met Thr Phe Gly Gln Gly Thr Lys Val Glu
145 150 155 160
Ile Lys Arg

<210> 310
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 310
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggtct tatgaagcct atgacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 311
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 311
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1   5   10   15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
        35   40   45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
    50   55   60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Ser Cys Arg Ala
65   70   75   80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
                85   90   95
Glu Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
            100   105   110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
        115   120   125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
    130   135   140
Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu
145   150   155   160
Ile Lys Arg

<210> 312
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 312
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatctc ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggga agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggtgc ggcgttgcct aggacgttcg gccaagggac caaggtggaa 480
atcaaacgg   489

<210> 313
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 313
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1   5   10   15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
        35   40   45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
    50   55   60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65   70   75   80
Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln Gln Lys Pro Gly
                85   90   95
Lys Ala Pro Lys Leu Leu Ile Trp Phe Gly Ser Arg Leu Gln Ser Gly
            100   105   110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu

```
        115                 120                 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
    130                 135                 140
Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
145                 150                 155                 160
Ile Lys Arg
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<210> 314
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 314
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcgtccga ttgggacgac gttaagttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatct ggtttggttc ccggttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg cgcaggctgg gacgcatcct acgacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 315
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 315
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His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1               5                  10                  15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20                  25                  30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
        35                  40                  45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
    50                  55                  60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65                  70                  75                  80
Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
                85                  90                  95
Lys Ala Pro Lys Leu Leu Ile Leu Phe Gly Ser Arg Leu Gln Ser Gly
            100                 105                 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
        115                 120                 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
    130                 135                 140
Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
145                 150                 155                 160
Ile Lys Arg
```

<210> 316
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 316
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcgtccga ttgggacgat gttaagttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatct tgtttggttc ccggttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg cgcaggctgg gacgcatcct acgacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 317
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 317
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
 1   5   10   15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
        35   40   45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
    50   55   60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65   70   75   80
Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
                85   90   95
Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly
            100   105   110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
        115   120   125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
    130   135   140
Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
145   150   155   160
Ile Lys Arg

<210> 318
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 318
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcgtccga ttgggacgat gttaagttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatcc ttgctttttc ccgtttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgcg cgcaggctgg gacgcatcct acgacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 319
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 319
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln
            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Gly Gly Gly Gly
            100   105   110
Ser Cys

<210> 320
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 320
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtttgaggc atcctaagac gttcggccaa 300
gggaccaagg tggaaatcaa acggggtggc ggaggggttt cctgt   345

<210> 321
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 321
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln
            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala
            100   105   110
Pro Ser Cys
        115

<210> 322
<211> 345

<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 322
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtttgaggc atcctaagac gttcggccaa 300
gggaccaagg tggaaatcaa acggaccgtc gctgctccat cttgt 345

<210> 323
<211> 235
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 323
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
            20   25   30
Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35   40   45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
    50   55   60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65   70   75   80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85   90   95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
            100   105   110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
        115   120   125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
    130   135   140
Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr Leu
145   150   155   160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Trp
                165   170   175
Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
            180   185   190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
        195   200   205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
    210   215   220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225   230   235

<210> 324
<211> 249
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 324
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1   5   10   15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
            20   25   30

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Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
        35                  40                  45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
    50                  55                  60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65                  70                  75                  80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
            100                 105                 110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
        115                 120                 125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
    130                 135                 140
Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr Leu
145                 150                 155                 160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Trp
                165                 170                 175
Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
            180                 185                 190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
        195                 200                 205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
    210                 215                 220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln
225                 230                 235                 240
Lys Leu Ile Ser Glu Glu Asp Leu Asn
                245
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<210> 325
<211> 705
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 325
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420
tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgacgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatctggtt tggttcccgg 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgtgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgg 705

<210> 326
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 326
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420

tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgacgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatctggtt tggttcccgg 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgtgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgggcggc cgcagaacaa 720
aaactcatct cagaagagga tctgaattaa 750

<210> 327
<211> 235
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 327
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
20 25 30
Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
50 55 60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
115 120 125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
130 135 140
Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu
145 150 155 160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu
165 170 175
Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
180 185 190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
195 200 205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
210 215 220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225 230 235

<210> 328
<211> 249
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 328
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
20 25 30
Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
50 55 60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys

```
                85                  90                  95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
            100                 105                 110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
        115                 120                 125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
    130                 135                 140
Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu
145                 150                 155                 160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu
                165                 170                 175
Phe Gly Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
            180                 185                 190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
        195                 200                 205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
    210                 215                 220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln
225                 230                 235                 240
Lys Leu Ile Ser Glu Glu Asp Leu Asn
                245
```

<210> 329
<211> 705
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 329
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420
tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgatgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatcttgtt tggttcccgg 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgtgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgg 705

<210> 330
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 330
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420
tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgatgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatcttgtt tggttcccgg 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgtgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgggcggc cgcagaacaa 720
aaactcatct cagaagagga tctgaattaa 750

<210> 331
<211> 235
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 331
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
20 25 30
Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
50 55 60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
115 120 125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
130 135 140
Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu
145 150 155 160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu
165 170 175
Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
180 185 190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
195 200 205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
210 215 220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
225 230 235

<210> 332
<211> 249
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 332
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Arg Tyr
20 25 30
Ser Met Gly Trp Leu Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Arg Ile Asp Ser Tyr Gly Arg Gly Thr Tyr Tyr Glu Asp Pro Val
50 55 60
Lys Gly Arg Phe Ser Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Ile Ser Gln Phe Gly Ser Asn Ala Phe Asp Tyr Trp Gly Gln
100 105 110
Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr Ser Gly Pro Ser Asp
115 120 125
Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp
130 135 140

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Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu
145                 150                 155                 160
Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu
                165                 170                 175
Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser
            180                 185                 190
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu
        195                 200                 205
Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr
    210                 215                 220
Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln
225                 230                 235                 240
Lys Leu Ile Ser Glu Glu Asp Leu Asn
                245
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<210> 333
<211> 705
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 333
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420
tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgatgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatccttgc tttttcccgt 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgcgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgg   705

<210> 334
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 334
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttaat aggtatagta tggggtggct ccgccaggct 120
ccagggaagg gtctagagtg ggtctcacgg attgattctt atggtcgtgg tacatactac 180
gaagaccccg tgaagggccg gttcagcatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgccgtat attactgtgc gaaaatttct 300
cagtttgggt caaatgcgtt tgactactgg ggtcagggaa cccaggtcac cgtctcgagc 360
gctagcacca gtggtccatc ggacatccag atgacccagt ctccatcctc cctgtctgca 420
tctgtaggag accgtgtcac catcacttgc cgggcaagtc gtccgattgg gacgatgtta 480
agttggtacc agcagaaacc agggaaagcc cctaagctcc tgatccttgc tttttcccgt 540
ttgcaaagtg gggtcccatc acgtttcagt ggcagtggat ctgggacaga tttcactctc 600
accatcagca gtctgcaacc tgaagatttt gctacgtact actgcgcgca ggctgggacg 660
catcctacga cgttcggcca agggaccaag gtggaaatca aacgggcggc cgcagaacaa 720
aaactcatct cagaagagga tctgaattaa   750

<210> 335
<211> 9
<212> PRT
<213> Homo Sapiens

<400> 335

Ser Gln Ser Ile Ser Ser Tyr Leu Asn
1 5

<210> 336
<211> 8
<212> PRT
<213> Homo Sapiens

<400> 336
Tyr Ala Ala Ser Ser Leu Gln Ser
1 5

<210> 337
<211> 9
<212> PRT
<213> Homo Sapiens

<400> 337
Gln Gln Ser Tyr Ser Thr Pro Asn Thr
1 5

<210> 338
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 338
Ser Arg Pro Ile Gly Thr Thr Leu Ser
1 5

<210> 339
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 339
Trp Phe Gly Ser Arg Leu Gln Ser
1 5

<210> 340
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 340
Ala Gln Ala Gly Thr His Pro Thr Thr
1 5

<210> 341
<211> 9
<212> PRT

<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 341
Ser Arg Pro Ile Gly Thr Met Leu Ser
 1   5

<210> 342
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 342
Leu Phe Gly Ser Arg Leu Gln Ser
 1   5

<210> 343
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 343
Ala Gln Ala Gly Thr His Pro Thr Thr
 1   5

<210> 344
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 344
Ser Arg Pro Ile Gly Thr Met Leu Ser
 1   5

<210> 345
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 345
Leu Ala Phe Ser Arg Leu Gln Ser
 1   5

<210> 346
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Derived from a Human Germline sequence.

<400> 346
Ala Gln Ala Gly Thr His Pro Thr Thr
 1   5

<210> 347
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 347
Ser Arg Pro Ile Gly Thr Met Leu Ser
 1   5

<210> 348
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 348
Trp Phe Gly Ser Arg Leu Gln Ser
 1   5

<210> 349
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 349
Ala Gln Ala Gly Thr His Pro Thr Thr
 1   5

<210> 350
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 350
Ser Arg Pro Ile Gly Thr Met Leu Ser
 1   5

<210> 351
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 351

Leu Phe Gly Ser Arg Leu Gln Ser
1 5

<210> 352
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 352
Ala Gln Thr Gly Thr His Pro Thr Thr
1 5

<210> 353
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 353
Ser Arg Pro Ile Gly Thr Thr Leu Ser
1 5

<210> 354
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 354
Leu Trp Phe Ser Arg Leu Gln Ser
1 5

<210> 355
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 355
Ala Gln Ala Gly Thr His Pro Thr Thr
1 5

<210> 356
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 356
Ser Gln Trp Ile Gly Ser Gln Leu Ser
1 5

<210> 357
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 357
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 358
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 358
Ala Gln Gly Ala Ala Leu Pro Arg Thr
 1   5

<210> 359
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 359
Ser Gln Trp Ile Gly Ser Gln Leu Ser
 1   5

<210> 360
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 360
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 361
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 361
Ala Gln Gly Leu Arg His Pro Lys Thr
 1   5

<210> 362
<211> 9

<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 362
Ser Gln Trp Ile Gly Ser Gln Leu Ser
 1   5

<210> 363
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 363
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 364
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 364
Ala Gln Gly Leu Met Lys Pro Met Thr
 1   5

<210> 365
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 365
Ser Gln Trp Ile Gly Ser Gln Leu Ser
 1   5

<210> 366
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 366
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 367
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 367
Ala Gln Gly Ala Ala Leu Pro Arg Thr
 1   5

<210> 368
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 368
Ser Gln Trp Ile Gly Ser Gln Leu Ser
 1   5

<210> 369
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 369
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 370
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 370
Ala Gln Gly Ala Ala Leu Pro Lys Thr
 1   5

<210> 371
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 371
Ser Gln Trp Ile Gly Ser Gln Leu Ser
 1   5

<210> 372
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 372
Met Trp Arg Ser Ser Leu Gln Ser
 1   5

<210> 373
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 373
Ala Gln Gly Phe Lys Lys Pro Arg Thr
 1   5

<210> 374
<211> 165
<212> PRT
<213> Homo Sapiens

<400> 374
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu
                165

<210> 375
<211> 495
<212> DNA
<213> Homo Sapiens

<400> 375
tgtgatctgc ctcaaaccca cagcctgggt agcaggagga ccttgatgct cctggcacag 60
atgaggagaa tctctctttt ctcctgcttg aaggacagac atgactttgg atttccccag 120
gaggagtttg gcaaccagtt ccaaaaggct gaaaccatcc ctgtcctcca tgagatgatc 180
cagcagatct tcaatctctt cagcacaaag gactcatctg ctgcttggga tgagaccctc 240
ctagacaaat tctacactga actctaccag cagctgaatg acctggaagc ctgtgtgata 300
caggggtgtgg gggtgacaga gactcccctg atgaaggagg actccattct ggctgtgagg 360
aaatacttcc aaagaatcac tctctatctg aaagagaaga aatacagccc ttgtgcctgg 420
gaggttgtca gagcagaaat catgagatct ttttctttgt caacaaactt gcaagaaagt 480
ttaagaagta aggaa   495

<210> 376
<211> 25

<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 376
gcccggatcc accggctgtg atctg 25

<210> 377
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 377
ggaggatgga gactgggtca tctggatgtc 30

<210> 378
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 378
gacatccaga tgacccagtc tccatcctcc 30

<210> 379
<211> 82
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 379
gcgcaagctt ttattaattc agatcctctt ctgagatgag tttttgttct gcggccgccc 60
gtttgatttc caccttggtc cc 82

<210> 380
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 380
gcccggatcc accggctgtg atctggcgca agcttttatt aattcagatc ctcttc 56

<210> 381
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 381
tgagatgagt ttttgttctg cggccgcccg tttgatttcc accttggtcc c 51

<210> 382
<211> 1
<212> PRT

<213> Murine

<400> 382
Gly
 1

<210> 383
<211> 61
<212> DNA
<213> Murine

<400> 383
atggagaccg acaccctgct gctgtgggtg ctgctgctgt gggtgcccgg atccaccggg 60
c 61

<210> 384
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 384
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165   170   175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180   185   190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195   200   205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210   215   220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225   230   235   240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245   250   255
Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly
            260   265   270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
        275   280   285
Glu Glu Asp Leu Asn
    290

<210> 385

<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 385
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtgcgg cgttgcctag gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa 882

<210> 386
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 386
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165   170   175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180   185   190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195   200   205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210   215   220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225   230   235   240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245   250   255
Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly
            260   265   270
Thr Lys Val Glu Ile Lys Arg

<210> 387
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 387
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtgcgg cgttgcctag gacgttcggc caagggacca aggtggaaat caaacgg 837

<210> 388
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 388
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165   170   175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180   185   190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195   200   205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210   215   220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225   230   235   240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245   250   255

Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys Thr Phe Gly Gln Gly
260 265 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
275 280 285
Glu Glu Asp Leu Asn
290

<210> 389
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 389
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtttga ggcatcctaa gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa 882

<210> 390
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 390
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1 5 10 15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
20 25 30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
35 40 45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
50 55 60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65 70 75 80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
85 90 95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
100 105 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
115 120 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
130 135 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145 150 155 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
165 170 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
180 185 190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
195 200 205

Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
210 215 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225 230 235 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
245 250 255
Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys Thr Phe Gly Gln Gly
260 265 270
Thr Lys Val Glu Ile Lys Arg
275

<210> 391
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 391
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtttga ggcatcctaa gacgttcggc caagggacca aggtggaaat caaacgg 837

<210> 392
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 392
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1 5 10 15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
20 25 30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
35 40 45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
50 55 60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65 70 75 80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
85 90 95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
100 105 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
115 120 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
130 135 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145 150 155 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
165 170 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile

```
            180                 185                 190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Gly Leu Met Lys Pro Met Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
        275                 280                 285
Glu Glu Asp Leu Asn
    290
```

<210> 393
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 393
```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtctta tgaagcctat gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa                    882
```

<210> 394
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 394
```
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1               5                  10                  15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
```

```
    130                 135                 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165                 170                 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180                 185                 190
Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Gly Leu Met Lys Pro Met Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg
        275
```

<210> 395
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 395

```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtctta tgaagcctat gacgttcggc caagggacca aggtggaaat caaacgg    837
```

<210> 396
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 396

```
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1                5                  10                  15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110
```

```
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130                 135                 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165                 170                 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180                 185                 190
Ser Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
        275                 280                 285
Glu Glu Asp Leu Asn
    290
```

<210> 397
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 397
```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatctctt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccaggggaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtgcgg cgttgcctag gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa                    882
```

<210> 398
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 398
```
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1               5                  10                  15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60
```

```
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130                 135                 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165                 170                 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180                 185                 190
Ser Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg
        275
```

<210> 399
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 399

```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatctctt gccgggcaag tcagtggatt 600
gggtctcagt tatcttggta ccagcagaaa ccaggggaag cccctaagct cctgatcatg 660
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 780
cagggtgcgg cgttgcctag gacgttcggc caagggacca aggtggaaat caaacgg    837
```

<210> 400
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 400

```
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1               5                  10                  15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
```

```
        35                  40                  45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130                 135                 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165                 170                 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180                 185                 190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Trp Phe Gly Ser Arg
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
        275                 280                 285
Glu Glu Asp Leu Asn
    290
```

<210> 401
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 401

```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgacgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatctgg 660
tttggttccc ggttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa                    882
```

<210> 402
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 402
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165   170   175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180   185   190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Thr Leu Ser Trp Tyr Gln
        195   200   205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Trp Phe Gly Ser Arg
    210   215   220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225   230   235   240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245   250   255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
            260   265   270
Thr Lys Val Glu Ile Lys Arg
        275

<210> 403
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 403
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgacgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatctgg 660
tttggttccc ggttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgg   837

<210> 404
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 404

```
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1               5                  10                  15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20                  25                  30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35                  40                  45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50                  55                  60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65                  70                  75                  80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85                  90                  95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100                 105                 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115                 120                 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130                 135                 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145                 150                 155                 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165                 170                 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180                 185                 190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln
        195                 200                 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Phe Gly Ser Arg
    210                 215                 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225                 230                 235                 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245                 250                 255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
            260                 265                 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
        275                 280                 285
Glu Glu Asp Leu Asn
    290
```

<210> 405
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 405

```
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgatgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatcttg 660
tttggttccc ggttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa                    882
```

<210> 406
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 406
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
 1   5   10   15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
            20   25   30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
        35   40   45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
    50   55   60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65   70   75   80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
                85   90   95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
            100   105   110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
        115   120   125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
    130   135   140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145   150   155   160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
                165   170   175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
            180   185   190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln
        195   200   205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Phe Gly Ser Arg
    210   215   220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225   230   235   240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
                245   250   255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
            260   265   270
Thr Lys Val Glu Ile Lys Arg
        275

<210> 407
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 407
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgatgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatcttg 660

tttggttccc ggttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgg 837

<210> 408
<211> 293
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 408
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1 5 10 15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
20 25 30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
35 40 45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
50 55 60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65 70 75 80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
85 90 95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
100 105 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
115 120 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
130 135 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145 150 155 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
165 170 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
180 185 190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln
195 200 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg
210 215 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225 230 235 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
245 250 255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
260 265 270
Thr Lys Val Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser
275 280 285
Glu Glu Asp Leu Asn
290

<210> 409
<211> 882
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 409
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120
gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360

aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgatgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatcctt 660
gcttttccc gtttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgcgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgggcg 840
gccgcagaac aaaaactcat ctcagaagag gatctgaatt aa 882

<210> 410
<211> 279
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 410
Cys Asp Leu Pro Gln Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met
1 5 10 15
Leu Leu Ala Gln Met Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp
20 25 30
Arg His Asp Phe Gly Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln
35 40 45
Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln Gln Ile Phe
50 55 60
Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu
65 70 75 80
Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu
85 90 95
Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys
100 105 110
Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu
115 120 125
Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg
130 135 140
Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser
145 150 155 160
Leu Arg Ser Lys Glu Thr Val Ala Ala Pro Ser Asp Ile Gln Met Thr
165 170 175
Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
180 185 190
Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln
195 200 205
Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg
210 215 220
Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
225 230 235 240
Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr
245 250 255
Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly
260 265 270
Thr Lys Val Glu Ile Lys Arg
275

<210> 411
<211> 837
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 411
tgcgacttgc cacagacaca tagtttggga tcaagaagaa cattgatgtt attagcacaa 60
atgcgtagaa tttctttgtt ctcttgtcta aaggaccgtc acgacttcgg attccctcag 120

gaagagtttg gaaaccaatt ccaaaaagca gaaactattc ctgtcttgca cgaaatgatc 180
cagcaaatat tcaatttgtt ttctacaaag gactcatcag ccgcttggga tgaaactctg 240
ttagataaat tctacactga actatatcaa caactgaacg atctagaggc ttgcgttatt 300
cagggtgtag gagttactga aactccccta atgaaagaag attcaattct agccgttaga 360
aaatactttc agcgtatcac attgtattta aaggaaaaga aatactcccc atgtgcatgg 420
gaggtggtta gagcagaaat tatgaggtcc ttctctcttt ctacgaattt gcaagaatct 480
ttgagatcta aggaaaccgt cgctgctcca tctgacatcc agatgaccca gtctccatcc 540
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcgtccgatt 600
gggacgatgt taagttggta ccagcagaaa ccagggaaag cccctaagct cctgatcctt 660
gctttttccc gtttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 720
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgcgcg 780
caggctggga cgcatcctac gacgttcggc caagggacca aggtggaaat caaacgg 837

<210> 412
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 412
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln
            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65   70   75   80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Leu Arg His Pro Lys
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Cys
            100   105

<210> 413
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 413
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtttgaggc atcctaagac gttcggccaa 300
gggaccaagg tggaaatcaa atgc 324

<210> 414
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 414
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Pro Ala Ser Val Gly
 1   5   10   15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Arg Pro Ile Gly Thr Met
            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile

```
        35                  40                  45
Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65                  70                  75                  80
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Ala Gly Thr His Pro Thr
                85                  90                  95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
            100                 105
```

<210> 415
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 415
gacatccaga tgacccagtc tccatcctcc ctgcctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgct ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 416
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 416
gcaacagcgt cgacggacat ccagatgacc cagtctccat cctccctgcc tgcatctgta 60
gg 62

<210> 417
<211> 360
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 417
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttagt cagtatagga tgcattgggt ccgccaggct 120
ccagggaaga gtctagagtg ggtctcaagt attgatacta ggggttcgtc tacatactac 180
gcagaccccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaagctgtg 300
acgatgtttt ctccttttt tgactactgg ggtcagggaa ccctggtcac cgtctcgagc 360

<210> 418
<211> 369
<212> DNA
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 418
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggtc cctgcgtctc 60
tcctgtgcag cctccggatt cacctttgct gattatggga tgcgttgggt ccgccaggct 120
ccagggaagg gtctagagtg ggtctcatct attacgcgga ctggtcgtgt tacatactac 180

gcagactccg tgaagggccg gttcaccatc tcccgcgaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgcg tgccgaggac accgcggtat attactgtgc gaaatggcgg 300
aatcggcatg gtgagtatct tgctgatttt gactactggg gtcagggaac cctggtcacc 360
gtctcgagc 369

<210> 419
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Derived from a Human Germline sequence.

<400> 419
Thr Val Ala Ala Pro Ser Cys
1 5

<210> 420
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Linker Sequence

<400> 420
Gly Gly Gly Gly Ser Cys
1 5