

723163_ST25
SEQUENCE LISTING

<110> AnaptysBio, Inc.
<120> ANTIBODIES DIRECTED AGAINST LYMPHOCYTE ACTIVATION GENE 3 (LAG-3)
<130> 723163
<150> US 62/111,486
<151> 2015-02-03
<160> 200
<170> PatentIn version 3.5
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<222> (28)..(28)
<223> Xaa1 is asparagine (Asn) or serine (Ser)

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<222> (30)..(30)
<223> Xaa2 is lysine (Lys), tyrosine (Tyr), or asparagine (Asn)

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<222> (38)..(38)
<223> Xaa3 is lysine (Lys) or glutamine (Gln)

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<222> (48)..(48)
<223> Xaa4 is isoleucine (Ile) or methionine (Met)

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<222> (53)..(53)
<223> Xaa5 is alanine (Ala) or proline (Pro)

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<222> (56)..(56)
<223> Xaa6 is glycine (Gly), asparagine (Asn), or aspartic acid (Asp)

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<222> (61)..(61)
<223> Xaa7 is alanine (Ala) or serine (Ser)

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<223> Xaa8 is glutamine (Gln) or arginine (Arg)

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<222> (77)..(77)
<223> Xaa9 is aspartic acid (Asp) or asparagine (Asn)

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Xaa Ile Xaa Asp Asp
20 25 30

Tyr Ile His Trp Val Xaa Gln Ala Pro Gly Lys Gly Leu Glu Trp Xaa
35 40 45

Gly Trp Ile Asp Xaa Glu Asn Xaa Asp Ser Glu Tyr Xaa Ser Lys Phe
50 55 60

Xaa Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Xaa Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
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Tyr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
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Tyr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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20 25 30

Tyr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
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Tyr Ile His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Asp Asp Ser Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 Page 5

65 70 723163_ST25 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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

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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Asn Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

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Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
 50 55 60

Arg Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
Page 11

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Tyr Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

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Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Arg Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Arg Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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105

110

Ser Ser

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<400> 24

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Tyr Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 Page 16

35 40 723163_ST25 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Ser Glu Tyr Ala Ser Lys Phe
50 55 60

Arg Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

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Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Ala Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Ala Glu Asn Asn Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

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Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
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50

55

60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

<210> 34
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 34

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Tyr Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

<210> 35
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> Xaa1 is arginine (Arg) or glycine (Gly)

<220>
<221> MISC_FEATURE
<222> (21)..(21)
<223> Xaa2 is threonine (Thr) or isoleucine (Ile)

<220>
<221> MISC_FEATURE
<222> (23)..(23)
<223> Xaa3 is threonine (Thr) or alanine (Ala)

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa4 is serine (Ser) or phenylalanine (Phe)

<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> Xaa5 is serine (Ser) or phenylalanine (Phe)

<220>
<221> MISC_FEATURE
<222> (35)..(35)
<223> Xaa6 is serine (Ser) or isoleucine (Ile)

<220>
<221> MISC_FEATURE
<222> (42)..(42)
<223> Xaa7 is glycine (Gly) or arginine (Arg)

<220>
<221> MISC_FEATURE
<222> (56)..(56)
<223> Xaa8 is serine (Ser) or asparagine (Asn)

<220>
<221> MISC_FEATURE
<222> (78)..(78)
<223> Xaa9 is phenylalanine (Phe) or leucine (Leu)

<220>
<221> MISC_FEATURE
<222> (83)..(83)
<223> Xaa10 is asparagine (Asn) or serine (Ser)

<220>
<221> MISC_FEATURE
<222> (84)..(84)
<223> Xaa11 is serine (Ser) or phenylalanine (Phe)

<220>
<221> MISC_FEATURE
<222> (96)..(96)
<223> Xaa12 is alanine (Ala) or valine (Val)

<220>
<221> MISC_FEATURE
<222> (100)..(100)
<223> Xaa13 is aspartic acid (Asp) or asparagine (Asn)

<400> 35

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Gln Val Gln Leu Gln Gln Trp Gly Ala Xaa Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Xaa Cys Xaa Val Tyr Gly Gly Xaa Phe Xaa Gly Tyr
20 25 30

Tyr Trp Xaa Trp Ile Arg Gln Pro Pro Xaa Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Xaa Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Xaa Ser Leu
65 70 75 80

Lys Leu Xaa Xaa Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Xaa
85 90 95

Arg Glu Gly Xaa Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 36
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 36

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu

100

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105

110

Val Thr Val Ser Ser
115

<210> 37
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 37

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 38
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 38

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
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<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 40

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 41

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 41

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Ile Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

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Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 42
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 42

Gln Val Gln Leu Gln Gln Trp Gly Ala Arg Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Ile Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 43
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 43

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

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Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 44
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 44

Gln Val Gln Leu Gln Gln Trp Gly Ala Arg Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Arg Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser

115

<210> 45
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 45

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
 20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Glu Ile Asn His Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80

Lys Leu Ser Phe Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
 85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 46
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 46

Gln Val Gln Leu Gln Gln Trp Gly Ala Arg Leu Leu Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
 20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
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50

55

60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Phe Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 47
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 47

Gln Val Gln Leu Gln Gln Trp Gly Ala Arg Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Asn Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 48
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

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<400> 48

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 49

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 49

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Leu Ser Leu
65 70 75 80

Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala
85 90 95

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Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 50
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 50

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Phe Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 51
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 51

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

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Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asn Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 52
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 52

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 53

723163_ST25

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

<220>
 <223> Synthetic Sequence

<400> 53

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
 20 25 30

Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80

Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
 85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 54
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 54

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Phe Gly Tyr
 20 25 30

Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 Page 35

65 70 723163_ST25 75 80
 Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
 85 90 95

Arg Glu Gly Asn Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 55
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 55

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Phe Gly Tyr
 20 25 30

Tyr Trp Ile Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
 65 70 75 80

Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
 85 90 95

Arg Glu Gly Asp Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
 100 105 110

Val Thr Val Ser Ser
 115

<210> 56
 <211> 117
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 56

Gln Val Gln Leu Gln Gln Trp Gly Ala Gly Leu Leu Lys Pro Ser Glu
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1 5 723163_ST25 15
10

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Gly Ser Phe Ser Gly Tyr
20 25 30

Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Glu Ile Asn His Ser Gly Ser Thr Asn Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Val
85 90 95

Arg Glu Gly Asn Tyr Gly Asp Tyr Asp Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 57
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<220>
<221> MISC_FEATURE
<222> (2)..(2)
<223> Xaa1 is valine (Val) or isoleucine (Ile)

<220>
<221> MISC_FEATURE
<222> (25)..(25)
<223> Xaa2 is cysteine (Cys) or serine (Ser)

<220>
<221> MISC_FEATURE
<222> (34)..(34)
<223> Xaa3 is glycine (Gly) or serine (Ser)

<220>
<221> MISC_FEATURE
<222> (35)..(35)
<223> Xaa4 is asparagine (Asn) or aspartic acid (Asp)

<220>
<221> MISC_FEATURE
<222> (55)..(55)
<223> Xaa5 is lysine (Lys), glycine (Gly), asparagine (Asn), serine (Ser), or leucine (Leu)

<220>
<221> MISC_FEATURE

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<222> (56)..(56)
 <223> Xaa6 is valine (Val) or isoleucine (Ile)

 <220>
 <221> MISC_FEATURE
 <222> (94)..(94)
 <223> Xaa7 is serine (Ser), alanine (Ala), or glycine (Gly)

 <220>
 <221> MISC_FEATURE
 <222> (98)..(98)
 <223> Xaa8 is histidine (His) or tyrosine (Tyr)

 <400> 57
 Asp Xaa Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

 Gln Pro Ala Ser Ile Ser Cys Arg Xaa Ser Gln Ser Leu Val His Ser
 20 25 30

 Asp Xaa Xaa Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

 Pro Gln Leu Leu Ile Tyr Xaa Xaa Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Xaa Gln Ser
 85 90 95

 Thr Xaa Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

 Arg Thr

<210> 58
 <211> 114
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetic Sequence

 <400> 58

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

 Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
 20 25 30

 Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

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Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 59
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 59

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 60
<211> 114
<212> PRT
<213> Artificial Sequence

723163_ST25

<220>

<223> Synthetic Sequence

<400> 60

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 61

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 61

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Gly Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
 Page 40

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 62
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 62

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Asn Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 63
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 63

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser

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

Arg Thr

<210>	64
<211>	114
<212>	PRT
<213>	Artificial Sequence

<400> 64

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
20 25 30

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Arg Thr

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<210> 65
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 65

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ala Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 66
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 66

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

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Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 67
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 67

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr Tyr Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 68
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 68

723163_ST25

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Cys Ser Gln Ser Leu Val His Ser
20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 69
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 69

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys

100

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105

110

Arg Thr

<210> 70
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 70

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 71
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 71

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
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35 40 723163_ST25 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 72
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 72

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 73
<211> 114
<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 73

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 74

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 74

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Ile Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

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Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 75
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 75

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 76
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 76

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

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Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 77
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 77

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 78
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 78

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
 85 90 95

Thr Tyr Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 79
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 79

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Ile Ser Asn Arg Phe Ser Gly Val Pro
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50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 80

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 80

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr Tyr Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 81

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

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<400> 81

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr Tyr Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 82

<211> 114

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 82

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

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Thr Tyr Val₁₀₀ Pro Tyr Ala Phe Gly₁₀₅ Gly Thr Lys Val₁₁₀ Glu Ile Lys

Arg Thr

<210> 83
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 83

Asp Val Val₁ Met₅ Thr Gln Thr Pro Leu₁₀ Ser Leu Ser Val Thr₁₅ Pro Gly

Gln Pro Ala₂₀ Ser Ile Ser Cys Arg₂₅ Ser Ser Gln Ser Leu Val₃₀ His Ser

Asp Ser₃₅ Asn Thr Tyr Leu His Trp₄₀ Tyr Leu Gln Lys₄₅ Pro Gly Gln Ser

Pro Gln Leu Leu Ile Tyr₅₅ Leu Val Ser Asn Arg Phe₆₀ Ser Gly Val Pro

Asp Arg Phe Ser Gly₇₀ Ser Gly Ser Gly Thr₇₅ Asp Phe Thr Leu Lys₈₀ Ile

Ser Arg Val Glu₈₅ Ala Glu Asp Val Gly₉₀ Val Tyr Phe Cys Gly₉₅ Gln Ser

Thr His Val₁₀₀ Pro Tyr Ala Phe Gly₁₀₅ Gly Thr Lys Val₁₁₀ Glu Ile Lys

Arg Thr

<210> 84
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 84

Asp Val Val₁ Met₅ Thr Gln Thr Pro Leu₁₀ Ser Leu Ser Val Thr₁₅ Pro Gly

Gln Pro Ala₂₀ Ser Ile Ser Cys Arg₂₅ Ser Ser Gln Ser Leu Val₃₀ His Ser

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Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 85
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 85

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ser Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr

<210> 86

723163_ST25

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

<220>
 <223> Synthetic Sequence

<400> 86

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 87
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 87

Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
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 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 88
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 88

Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
 85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg Thr

<210> 89
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<220>
 <221> MISC_FEATURE

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<222> (49)..(53)
 <223> the subsequence Xaa1 Xaa2 Xaa3 Xaa4 Xaa5 is deleted or is
 Tyr-Asp-Ala-Ser-Asn

<220>
 <221> MISC_FEATURE
 <222> (94)..(94)
 <223> Xaa6 is threonine (Thr) or isoleucine (Ile)

<400> 89

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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Xaa Xaa Xaa Xaa Xaa Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80

Glu Asp Ile Ala Val Tyr Tyr Cys Gln Gln Ser Tyr Ser Xaa Leu Ile
 85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
 100 105 110

Pro Ser Val
 115

<210> 90
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 90

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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

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Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Ile Ala Val Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Leu Ile
85 90 95

Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val
115

<210> 91
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 91

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 Gln Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
50 55 60

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Val
65 70 75 80

Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Leu Ile Thr Phe Gly Gln Gly
85 90 95

Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val
100 105 110

<210> 92
<211> 110
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 92

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
1 5 10 15

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Asp Arg Val Thr Ile Thr Cys Gln Ala Ser Gln Asp Ile Ser Asn Tyr
20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Leu Glu Thr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr
50 55 60

Asp Phe Thr Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Ile Ala Val
65 70 75 80

Tyr Tyr Cys Gln Gln Ser Tyr Ser Ile Leu Ile Thr Phe Gly Gln Gly
85 90 95

Thr Arg Leu Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val
100 105 110

<210> 93
<211> 344
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 93
gagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggctac agtgaaaatc
60

tcctgcaagg cttctggatt taacattaaa gacgactata tacactgggt gaaacaggcc
120

cctggaaaag ggcttgagtg gattggatgg attgatcctg agaatgggtga tagtgaatat
180

gcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
300

gggggctact gggggcaagg gaccacggtc accgtctcct cagc
344

<210> 94
<211> 344
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic Sequence

<400> 94
gagggtccagc tgggtacagtc tggggctgag gtgaagaagc ctggggctac agtgaaaatc
60

tcctgcaagg cttctggatt ttccattaaa gacgactata tacactgggt gaaacaggcc
120

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cctggaaaag ggcttgagtg gattggatgg attgatacctg agaatgggtga tagtgaatat
180

gcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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120

cctggaaaag ggcttgagtg gattggatgg attgatacctg agaataacga tagtgaatat
180

gcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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120

cctggaaaag ggcttgagtg gattggatgg attgatacctg agaatgggtga tagtgaatat
180

gcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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240
atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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723163_ST25

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120

cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaatgggtga tagtgaatat
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gcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaataatga tagtgaatat
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tcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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<220>
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240

240

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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaatgggtga tagtgaatat
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaataatga tagtgaatat
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tcctcgaagt tccggggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaataatga tagtgaatat
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tcctcgaagt tccggggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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gggggctact gggggcaagg gaccacggtc accgtctcct cagc
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<213> Artificial Sequence

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<223> Synthetic Sequence

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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaatggatga tagtgaatat
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tcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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gggggctact gggggcaagg gaccacggtc accgtctcct cagc
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<212> DNA

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120

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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaatgggtga tagtgaatat
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tcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaatgggtga tagtgaatat
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tcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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gcctcgaagt tccggggcag agtcaccata accgtggaca cgtctacaaa cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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gggggctact gggggcaagg gaccacggtc accgtctcct cagc
344

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<220>
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<220>
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240
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723163_ST25

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120

cctggaaaag ggcttgagtg gatgggatgg attgatcctg agaataatga tagtgaatat
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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cctggaaaag ggcttgagtg gatgggatgg attgatgccg agaataatga tagtgaatat
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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344

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<220>
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344

240

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cctggaaaag ggcttgagt gatgggatgg attgatgccg agaatgatga tagtgaatat
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tcctcgaagt tccagggcag agtcaccata accgtggaca cgtctacaga cacagcctac
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atggagctga gcagcctgag atctgaggac acggccgtgt attactgtac gtacgctttc
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aagctgagtt ctgtgaccgc tgcggacacg gccgtgtatt actgtgcgag agagggggac
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aagctgagtt ctgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agagggggac
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aagctgaatt ctgtgaccgc tgcggacacg gccgtgtatt actgtgagag agagggggac
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aagctgagtt ttgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agagggggac
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aagctgagtt ctgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agagggggac
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aagctgaatt ctgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agagggggac
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aagctgaatt ctgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agagggggac
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aagctgaatt ctgtgaccgc tgcggacacg gccgtgtatt actgtgtgag agaggggaac
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723163_ST25

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<220>
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<220>
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<222> (30)..(30)
<223> Xaa2 is lysine (Lys), tyrosine (Tyr), or asparagine (Asn)

<220>
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<223> Xaa3 is lysine (Lys) or glutamine (Gln)

<220>
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<222> (48)..(48)

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<223> xaa4 is isoleucine (Ile) or methionine (Met)

<220>
<221> MISC_FEATURE
<222> (53)..(54)
<223> xaa5 is alanine (Ala) or proline (Pro)

      xaa6 is glutamic acid (Glu) or methionine (Met)

<220>
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<222> (56)..(56)
<223> xaa7 is glycine (Gly), asparagine (Asn), or aspartic acid (Asp)

<220>
<221> MISC_FEATURE
<222> (59)..(59)
<223> xaa8 is glutamic acid (Glu) or glutamine (Gln)

<220>
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<222> (61)..(61)
<223> xaa9 is alanine (Ala) or serine (Ser)

<220>
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<222> (65)..(65)
<223> xaa10 is glutamine (Gln) or arginine (Arg)

<220>
<221> MISC_FEATURE
<222> (77)..(77)
<223> xaa11 is aspartic acid (Asp) or asparagine (Asn)

<220>
<221> MISC_FEATURE
<222> (82)..(82)
<223> xaa12 is glutamic acid (Glu) or lysine (Lys)

<400> 181

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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Xaa Ile Xaa Asp Asp
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Tyr Ile His Trp Val Xaa Gln Ala Pro Gly Lys Gly Leu Glu Trp Xaa
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Gly Trp Ile Asp Xaa Xaa Asn Xaa Asp Ser Xaa Tyr Xaa Ser Lys Phe
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Xaa Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Xaa Thr Ala Tyr
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Met Xaa Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Met Asn Asp Asp Ser Gln Tyr Ser Ser Lys Phe
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Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
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Met Lys Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
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Ser Ser

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Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

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Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

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35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Gln Tyr Ser Ser Lys Phe
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Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
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Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
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Ser Ser

<210> 185
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Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Ser Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asp Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
 100 105 110

Ser Ser

<210> 186

<211> 114

<212> PRT

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<220>

<223> Synthetic Sequence

<400> 186

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Ile His Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Ala Glu Asn Asp Asp Ser Glu Tyr Ser Ser Lys Phe
 50 55 60

Gln Gly Arg Val Thr Ile Thr Val Asp Thr Ser Thr Asn Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 Page 100

Thr Tyr Ala Phe Gly Gly Tyr Trp Gly Gln Gly Thr Thr Val Thr Val
100 105 110

Ser Ser

<210> 187
<211> 120
<212> PRT
<213> Artificial Sequence

<220>
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<400> 187

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Ala Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr Val Ala Ala Pro Ser Val
115 120

<210> 188
<211> 120
<212> PRT
<213> Artificial Sequence

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<223> Synthetic Sequence

<400> 188

Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
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						723163_ST25													
20								25				30							
Asp	Gly	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser				
		35					40					45							
Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Ile	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro				
50						55					60								
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile				
65					70					75					80				
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Phe	Cys	Gly	Gln	Ser				
				85					90					95					
Thr	His	Val	Pro	Tyr	Ala	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Lys				
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Arg	Thr	Val	Ala	Ala	Pro	Ser	Val												
		115					120												

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<400> 189

Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20 25 30

Asp Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Ile Ser Asn Arg Phe Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe Cys Gly Gln Ser
85 90 95

Thr His Val Pro Tyr Ala Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

Arg Thr Val Ala Ala Pro Ser Val
115 120

<210> 190
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 <212> PRT
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 <222> (43)..(43)
 <223> Xaa11 Q,K

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<223> Xaa12 I,M

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<222> (70)..(70)

<223> Xaa16 L,I

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<222> (79)..(79)

<223> Xaa20 V,A

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<222> (81)..(81)

<223> Xaa21 L,M

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<222> (82)..(82)

<223> Xaa22 H,E

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<223> Xaa23 F,L

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 <223> Xaa32 T,L

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 <223> Xaa34 L,V

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 <223> Xaa35 I,T

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Glu Val Gln Leu Xaa Gln Ser Gly Ala Glu Xaa Xaa Xaa Pro Gly Ala
 1 5 10 15

Xaa Val Lys Xaa Ser Cys Xaa Val Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Met Phe Trp Val Xaa Gln Xaa Pro Xaa Xaa Gly Leu Glu Trp Xaa
 35 40 45

Gly Trp Ile Asp Pro Glu Xaa Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Asp Xaa Xaa Thr Xaa Thr Ala Asp Thr Ser Xaa Xaa Xaa Xaa Tyr
 Page 105

65 70 75 80

Xaa Xaa Xaa Ser₈₅ Leu Xaa Ser Glu₉₀ Asp Thr Ala Val Tyr₉₅ Tyr Cys

Xaa Xaa Xaa Xaa₁₀₀ Xaa Xaa Xaa Xaa Phe₁₀₅ Ala Tyr Trp Gly₁₁₀ Gln Gly Thr

Xaa Xaa Xaa₁₁₅ Val Ser Ser Ala

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<220>
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 <223> Xaa10 T,L

<400> 191

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Thr Val Lys Ile Ser Cys Lys Val Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Met Phe Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
 35 40 45

Gly Trp Ile Asp Pro Glu Xaa Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Asp Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Xaa Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Phe Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser Ala
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<210> 192
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 <212> PRT
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<400> 192

Glu Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
 1 5 10 15

Ser Val Lys Leu Ser Cys Thr Val Ser Gly Phe Asn Ile Lys Asp Asp
 20 25 30

Tyr Met Phe Trp Val Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile
 35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Ser Lys Phe
 50 55 60

Gln Asp Lys Ala Thr Leu Thr Ala Asp Thr Ser Ala Asn Ile Val Tyr
 65 70 75 80

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Leu His Phe Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Leu Phe Ala Tyr Trp Gly Gln Gly Thr Ser Leu Ile Val Ser Ser
100 105 110

Ala

<210> 193
<211> 113
<212> PRT
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<400> 193

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Thr Val Lys Ile Ser Cys Lys Val Ser Gly Phe Asn Ile Lys Asp Asp
20 25 30

Tyr Met Phe Trp Val Gln Gln Ala Pro Gly Lys Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asp Pro Glu Asn Gly Asp Thr Glu Tyr Ala Ser Lys Phe
50 55 60

Gln Asp Arg Val Thr Ile Thr Ala Asp Thr Ser Thr Asp Thr Ala Tyr
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Thr Phe Ala Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
100 105 110

Ala

<210> 194
<211> 113
<212> PRT
<213> Artificial Sequence

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<223> Synthetic Sequence

<400> 194

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

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

Ala

<210> 195
<211> 119
<212> PRT
<213> Artificial Sequence
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<223> Synthetic Sequence
<400> 195

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

Thr Val Thr Val Ser Ser Ala 723163_ST25
115

<210> 196
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<212> PRT
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<223> Xaa8 V,L

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<223> Xaa9 L,V

<400> 196

Asp Val Val Met Thr Gln Xaa Pro Leu Xaa Leu Xaa Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

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Asp Gly Lys Thr Tyr Leu Asn Trp Xaa Xaa Gln Arg Pro Gly Gln Ser
 35 40 45

Pro Xaa Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60

Asp Arg Phe Xaa Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Xaa Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95

Ala His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Xaa Glu Ile Lys
 100 105 110

Arg

<210> 197
 <211> 108
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Sequence

<400> 197

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 Ser Ile Ser Ser Tyr
 20 25 30

Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45

Tyr Ala Ala 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 Val Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Leu
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg
 100 105

<210> 198
 <211> 113
 <212> PRT
 <213> Artificial Sequence

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<223> Synthetic Sequence

<400> 198

Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ala Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

Ala His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 199

<211> 113

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Sequence

<400> 199

Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45

Pro Arg Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95

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Ala His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg

<210> 200
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 <212> PRT
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<400> 200

Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
 20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Gln Gln Arg Pro Gly Gln Ser
 35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95

Ala His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

Arg