SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> ANTI-C5 ANTIBODIES AND METHODS OF USE

<130> C1-A1517P

<150> JP 2015-247069
<151> 2015-12-18

<160> 150

<170> PatentIn version 3.5

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

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

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

Gly Cys Ile Tyr Thr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala
50 55 60

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

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

Ser Asp Gly Gly Tyr Val Thr Pro Thr His Ala Met Tyr Leu Trp Gly
100 105 110

Pro Gly Thr Leu Val Thr Val Ser Ser
115 120

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<400> 2

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

Leu Thr Leu Thr Cys Lys Ala Ser Gly Ile Asp Phe Ser Asn Phe Tyr

20 25 30

Tyr Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Asp Leu Ile
35 40 45

Ala Cys Ile Tyr Thr Val Ser Gly Tyr Thr Tyr Tyr Ala Ser Trp Ala
50 55 60

Lys Gly Arg Leu Thr Ile Ser Lys Thr Ser Ser Thr Thr Val Thr Leu
65 70 75 80

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
85 90 95

Arg Asp Leu His Ala Gly Ile Thr Asn Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

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<400> 3

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

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

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

Ala Cys Ile Tyr Ala Gly Ser Ser Gly Ile Ile Tyr Tyr Ala Asn Trp
    50                  55                  60

Ala Lys Gly Arg Phe Thr Ile Ser Arg Pro Ser Ser Thr Thr Val Thr
65                  70                  75                  80

Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
                85                  90                  95

Ala Thr Tyr Pro Thr Tyr Gly Asp Gly Gly His Ala Phe Asn Leu Trp
            100                 105                 110

Gly Pro Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<400> 4

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

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

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
        35                  40                  45

Met Ile Tyr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
    50                  55                  60

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

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gln
                85                  90                  95

Ile Tyr Ser Gly Asp Asn Asn Asp Asn Phe Trp Gly Pro Gly Thr Leu
            100                 105                 110

Val Thr Val Ser Ser
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115

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<400> 5

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

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

Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Met Ile Tyr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

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

Thr Ser Leu Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gln
85 90 95

Ile Tyr Ser Gly Asp Asn Asn Asp Asn Phe Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

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<400> 6

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

Leu Thr Leu Thr Cys Thr Val Ser Gly Leu Ser Leu Ser Asp Asn Thr
20 25 30

Met Thr Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

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

Arg Phe Pro Ile Ser Lys Thr Ser Thr Thr Val Asp Leu Arg Ile Thr

65 70 75 80

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

Ala Gly Asn Ile Phe Trp Tyr Phe Asp Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

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<400> 7

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

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

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

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

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

Ser Pro Thr Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asn Asp
85 90 95

Gly Ser Val Tyr Asn Leu Phe Asn Leu Trp Gly Pro Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

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<400> 8

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

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Leu Ser Gly Asn Ala

20 25 30

Ile Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40 45

Cys Ile Tyr Thr Gly Ser Asp Thr Thr Tyr Tyr Ala Thr Trp Ala Lys
50 55 60

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

Ala Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Gly
85 90 95

Ser Gly Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
100 105 110

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<400> 9

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

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

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

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

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

Ser Pro Thr Ala Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asn Asp
85 90 95

Gly Ser Val Tyr Asn Leu Phe Asn Leu Trp Gly Pro Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 10
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<400> 10

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Gln Val Gln Leu Val 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 Ser His Ser Ser
            20                  25                  30

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

Val Gly Ala Ile Tyr Thr Gly Ser Gly Ala Thr Tyr Lys Ala Ser Trp
    50                  55                  60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
                85                  90                  95

Cys Ala Ser Asp Gly Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
            100                 105                 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<211> 110
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<400> 11

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

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

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

Tyr Gly Ala Ser Lys Leu Ala Ser Gly Val Ser Ser Arg Phe Ser Gly
50 55 60

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

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

Tyr Gly Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 12
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<400> 12

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Ala Ile Glu Met Thr Gln Thr Pro Phe Ser Val Ser Ala Ala Val Gly
1               5                  10                  15

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

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

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

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Cys
65                  70                  75                  80

Ala Asp Ala Ala Thr Tyr Tyr Cys Leu Gln Gly Tyr Ser Tyr Ser Asn
                85                  90                  95

Val Asp Asp Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
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100 105 110

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<400> 13

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

Gly Thr Val Thr Ile Asn Cys Gln Ser Ser Gln Ser Val Tyr Ser Ser
20 25 30

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

Leu Ile Tyr Glu Ala Ser Lys Leu Ala Ser Gly Val Pro Pro Arg Phe
50 55 60

Ser Gly Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val
65 70 75 80

Gln Cys Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Thr Tyr Tyr Ser
85 90 95

Ser Gly Trp Tyr Phe Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 14
<211> 110
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<400> 14

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Ile Ser Asn Trp
20 25 30

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

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Cys
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Ser Ser Ser Asn

85 90 95

Val Asp Asn Thr Phe Gly Gly Gly Thr Lys Val Val Val Glu
100 105 110

<210> 15
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<400> 15

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ala Val Gly
1 5 10 15

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Glu Ser Ile Ser Asn Trp
20 25 30

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

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Glu Cys
65 70 75 80

Asp Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Asp Tyr Ser Ser Ser Asn
85 90 95

Val Asp Asn Thr Phe Gly Gly Gly Thr Thr Val Val Val Glu
100 105 110

<210> 16
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<400> 16

Ala Tyr Asp Met Thr Gln Thr Pro Ala Ser Val Glu Val Ser Val Gly
1 5 10 15

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Ser Ile Tyr Ser Ala
20 25 30

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

Tyr Ser Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Tyr Thr Leu Thr Ile Ser Asp Leu Glu Cys

65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Ser Ser Thr Asn
85 90 95

Val His Asn Ser Phe Gly Gly Gly Thr Thr Val Val Val Glu
100 105 110

<210> 17
<211> 110
<212> PRT
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<400> 17

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Ala
20 25 30

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

Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Tyr Tyr Asp Ile Asn Ser
85 90 95

Val Asp Asn Thr Phe Gly Gly Gly Thr Lys Val Val Val Glu
100 105 110

<210> 18
<211> 111
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<400> 18

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Asn Ile Tyr Ser Leu
20 25 30

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

Tyr His Thr Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Arg Gly

50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Cys
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Cys Thr Ala Tyr Gly Ser Ser
85 90 95

Asp Val Gly Gly Thr Phe Gly Gly Gly Thr Thr Val Val Val Glu
100 105 110

<210> 19
<211> 110
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<400> 19

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Ala
20 25 30

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

Tyr Tyr Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

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

Ala Asp Ala Ala Ser Tyr Tyr Cys Gln Gln Tyr Tyr Asp Ile Asn Ser
85 90 95

Val Asp Asn Thr Phe Gly Gly Gly Thr Lys Val Val Val Glu
100 105 110

<210> 20
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<400> 20

Asp Val Val 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 Asn Ile Gly Ser Ser
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile

35 40 45

Tyr Gly Ala Ser Lys Thr His 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 Val Ala Thr Tyr Tyr Cys Gln Ser Thr Lys Val Gly Ser Ser
85 90 95

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

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<400> 21

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

Leu Thr Leu Thr Cys Thr Ala Ser Gly Phe Ser Trp Asn Ser Gly Tyr
20 25 30

Asp Met Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Ala Cys Ile Tyr Thr Gly Ser Ser Ala Asn Thr Ala Tyr Ala Asn Trp
50 55 60

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

Leu Gln Met Thr Gly Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys
85 90 95

Ala Arg His Asp Asp Tyr Phe Phe Asp Leu Trp Gly Pro Gly Thr Leu
100 105 110

Val Thr Val Ser Ser
115

<210> 22
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<400> 22

Gln Ser Val Glu Glu Ser Gly Gly Arg Leu Val Thr Pro Gly Thr Pro

1 5 10 15

Leu Thr Leu Thr Cys Thr Val Ser Gly Ile Asp Leu Ser Ser Tyr Thr
20 25 30

Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Cys Ile Gly
35 40 45

Tyr Ile His Ser Phe Gly Ser Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
50 55 60

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

Ser Pro Thr Thr Glu Asp Thr Ala Thr Tyr Phe Cys Ala Arg Asp Val
85 90 95

Gly Gly Ser Ser Gly Trp Asp Leu Trp Gly Gln Gly Thr Leu Val Thr
100 105 110

Val Ser Ser
115

<210> 23
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<400> 23

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

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

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

Gly Cys Ile Gly Thr Ile Ser Asp Ser Thr Tyr Tyr Ala Ser Trp Ala
    50                  55                  60

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

Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe Cys Ala
                85                  90                  95

Arg Asp Pro Tyr Ser Tyr Gly Asp Leu Trp Gly Pro Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser
        115
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<400> 24

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

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

Asn Trp Ile Cys Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
35 40 45

Ile Ala Cys Ile Tyr Gly Gly Ser Val Gly Gly Thr Asp Tyr Ala Ser
50 55 60

Trp Ala Lys Gly Arg Phe Thr Val Ser Lys Thr Ser Ser Thr Thr Val
65 70 75 80

Thr Leu Gln Met Thr Ser Leu Thr Ala Ala Asp Thr Ala Thr Tyr Phe
85 90 95

Cys Ala Arg Met Glu Asp Gly Tyr Gly Tyr Gly Tyr Asp Thr Tyr Phe

100 105 110

Lys Leu Trp Gly Pro Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 25
<211> 114
<212> PRT
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<400> 25

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

Gly Thr Val Thr Ile Asn Cys Gln Ala Ser Gln Ser Ile Gly Asn Asn
20 25 30

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

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

Ser Arg Ser Gly Thr Glu Pro Thr Leu Thr Asn Thr Leu Thr Ile Ser
65 70 75 80

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

Tyr Gly Asn Ser Tyr Val Ala Ala Phe Gly Gly Gly Thr Glu Val Val
100 105 110

Val Lys

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<400> 26

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Glu Asn Ile Tyr Ser Asn
20 25 30

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

Tyr Asp Ala Ser Asp Leu Ala Ser Gly Val Pro Ser Arg Phe Ser Gly

50 55 60

Ser Gly Tyr Gly Thr Gln Phe Thr Leu Thr Ile Ser Gly Val Gln Cys
65 70 75 80

Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Ala Asn Tyr Asp Ser Thr Ser
85 90 95

Ser Ser Phe Gly Asn Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 27
<211> 110
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<220>
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<400> 27

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

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

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

Tyr Arg Ala Ser Thr Leu Ala Ser Gly Val Pro Ser Arg Phe Lys Gly
50 55 60

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

Ala Asp Ala Ala Thr Tyr Tyr Cys Leu Gly Gly Tyr Tyr Gly Phe Ser
85 90 95

Tyr Gly Asn Ala Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 28
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<400> 28

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

Gly Thr Val Thr Ile Lys Cys Gln Ala Ser Gln Ser Ile Thr Ser Trp
20 25 30

Leu Ala Trp Tyr Gln Gln Lys Leu Gly Gln Pro Pro Lys Leu Leu Ile

35 40 45

Tyr Lys Ala Ser Thr Leu Ala Ser Gly Val Ser Ser Arg Phe Lys Gly
50 55 60

Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Asp Leu Glu Cys
65 70 75 80

Ala Asp Ala Ala Thr Tyr Tyr Cys Gln Gly Tyr Tyr Asp Ser Ser Thr
85 90 95

Ser Ser Tyr Val Phe Gly Gly Gly Thr Glu Val Val Val Lys
100 105 110

<210> 29
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<213> Artificial sequence

<220>
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<400> 29

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

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

Trp Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

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

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Arg Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
115 120 125

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr
130 135 140

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
145 150 155 160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
165 170 175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
180 185 190

Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp
195 200 205

His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys
210 215 220

Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser
225 230 235 240

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
245 250 255

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro
260 265 270

Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
275 280 285

Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val
290 295 300

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
305 310 315 320

Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr
325 330 335

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
340 345 350

Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
355 360 365

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
370 375 380

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
385 390 395 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser
405 410 415

Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
420 425 430

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440 445

<210> 30
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<400> 30

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 Gly Ala Ser Glu Asn Ile Tyr Gly Ala
20 25 30

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

Tyr Gly Ala Thr Asn Leu Ala Asp 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 Gln Asn Val Leu Asn Thr Pro Leu
85 90 95

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly

115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210

<210> 31
<211> 122
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 31

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

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

Trp Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

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

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Arg Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 32
<211> 107
<212> PRT

<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 32

```
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 Gly Ala Ser Glu Asn Ile Tyr Gly Ala
            20                  25                  30

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

Tyr Gly Ala Thr Asn Leu Ala Asp 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 Gln Asn Val Leu Asn Thr Pro Leu
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
            100                 105
```

<210> 33

<211> 325
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 33

```
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1               5                  10                  15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
            20                  25                  30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
        35                  40                  45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
    50                  55                  60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65                  70                  75                  80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
                85                  90                  95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
            100                 105                 110
```

Glu Phe Arg Gly Gly Pro Lys Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Leu
325

<210> 34
<211> 325
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 34

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr

20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Arg Gly Gly Pro Lys Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Tyr Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe

165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Tyr His Val Thr Gln Lys Ser

305 310 315 320

Leu Ser Leu Ser Leu
325

<210> 35
<211> 325
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 35

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Arg Gly Gly Pro Lys Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
305 310 315 320

Leu Ser Leu Ser Pro
325

<210> 36
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 36

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Cys
50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 37
<211> 107
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 37

```
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1               5                  10                  15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
            20                  25                  30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
        35                  40                  45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
    50                  55                  60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65                  70                  75                  80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
                85                  90                  95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
            100                 105
```

<210> 38
<211> 107
<212> PRT

<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 38

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 39

<211> 1676
<212> PRT
<213> Homo sapiens

<400> 39

```
Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr
1               5                  10                  15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
            20                  25                  30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
        35                  40                  45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe
    50                  55                  60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65                  70                  75                  80

Asn Ser Ala Ile Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
                85                  90                  95

Asn Pro Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
            100                 105                 110

Lys Ser Lys Arg Met Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
        115                 120                 125
```

```
His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
    130                 135                 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145                 150                 155                 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Met Val Glu Glu
                165                 170                 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
            180                 185                 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Lys Ala Lys Tyr Lys Glu Asp
        195                 200                 205

Phe Ser Thr Thr Gly Thr Ala Tyr Phe Glu Val Lys Glu Tyr Val Leu
    210                 215                 220

Pro His Phe Ser Val Ser Ile Glu Pro Glu Tyr Asn Phe Ile Gly Tyr
225                 230                 235                 240

Lys Asn Phe Lys Asn Phe Glu Ile Thr Ile Lys Ala Arg Tyr Phe Tyr
                245                 250                 255

Asn Lys Val Val Thr Glu Ala Asp Val Tyr Ile Thr Phe Gly Ile Arg
            260                 265                 270
```

Glu Asp Leu Lys Asp Asp Gln Lys Glu Met Met Gln Thr Ala Met Gln
275 280 285

Asn Thr Met Leu Ile Asn Gly Ile Ala Gln Val Thr Phe Asp Ser Glu
290 295 300

Thr Ala Val Lys Glu Leu Ser Tyr Tyr Ser Leu Glu Asp Leu Asn Asn
305 310 315 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Ile Glu Ser Thr Gly Gly Phe
325 330 335

Ser Glu Glu Ala Glu Ile Pro Gly Ile Lys Tyr Val Leu Ser Pro Tyr
340 345 350

Lys Leu Asn Leu Val Ala Thr Pro Leu Phe Leu Lys Pro Gly Ile Pro
355 360 365

Tyr Pro Ile Lys Val Gln Val Lys Asp Ser Leu Asp Gln Leu Val Gly
370 375 380

Gly Val Pro Val Thr Leu Asn Ala Gln Thr Ile Asp Val Asn Gln Glu
385 390 395 400

Thr Ser Asp Leu Asp Pro Ser Lys Ser Val Thr Arg Val Asp Asp Gly
405 410 415

Val Ala Ser Phe Val Leu Asn Leu Pro Ser Gly Val Thr Val Leu Glu
420 425 430

Phe Asn Val Lys Thr Asp Ala Pro Asp Leu Pro Glu Glu Asn Gln Ala
435 440 445

Arg Glu Gly Tyr Arg Ala Ile Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
450 455 460

Leu Tyr Ile Asp Trp Thr Asp Asn His Lys Ala Leu Leu Val Gly Glu
465 470 475 480

His Leu Asn Ile Ile Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
485 490 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Ile His Phe
500 505 510

Gly Thr Arg Glu Lys Phe Ser Asp Ala Ser Tyr Gln Ser Ile Asn Ile
515 520 525

Pro Val Thr Gln Asn Met Val Pro Ser Ser Arg Leu Leu Val Tyr Tyr
530 535 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ser Asp Ser Val Trp
545 550 555 560

Leu Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
565 570 575

Pro Asp Ala Asp Ala Tyr Ser Pro Gly Gln Thr Val Ser Leu Asn Met
580 585 590

Ala Thr Gly Met Asp Ser Trp Val Ala Leu Ala Ala Val Asp Ser Ala
595 600 605

Val Tyr Gly Val Gln Arg Gly Ala Lys Lys Pro Leu Glu Arg Val Phe
610 615 620

Gln Phe Leu Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly Leu
625 630 635 640

Asn Asn Ala Asn Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr Asn
645 650 655

Ala Asn Ala Asp Asp Ser Gln Glu Asn Asp Glu Pro Cys Lys Glu Ile
660 665 670

Leu Arg Pro Arg Arg Thr Leu Gln Lys Lys Ile Glu Glu Ile Ala Ala
675 680 685

Lys Tyr Lys His Ser Val Val Lys Lys Cys Cys Tyr Asp Gly Ala Cys
690 695 700

Val Asn Asn Asp Glu Thr Cys Glu Gln Arg Ala Ala Arg Ile Ser Leu
705 710 715 720

Gly Pro Arg Cys Ile Lys Ala Phe Thr Glu Cys Cys Val Val Ala Ser
725 730 735

Gln Leu Arg Ala Asn Ile Ser His Lys Asp Met Gln Leu Gly Arg Leu
740 745 750

His Met Lys Thr Leu Leu Pro Val Ser Lys Pro Glu Ile Arg Ser Tyr
755 760 765

Phe Pro Glu Ser Trp Leu Trp Glu Val His Leu Val Pro Arg Arg Lys
770 775 780

Gln Leu Gln Phe Ala Leu Pro Asp Ser Leu Thr Thr Trp Glu Ile Gln
785 790 795 800

Gly Val Gly Ile Ser Asn Thr Gly Ile Cys Val Ala Asp Thr Val Lys
805 810 815

Ala Lys Val Phe Lys Asp Val Phe Leu Glu Met Asn Ile Pro Tyr Ser
820 825 830

Val Val Arg Gly Glu Gln Ile Gln Leu Lys Gly Thr Val Tyr Asn Tyr
835 840 845

```
Arg Thr Ser Gly Met Gln Phe Cys Val Lys Met Ser Ala Val Glu Gly
    850                 855                 860

Ile Cys Thr Ser Glu Ser Pro Val Ile Asp His Gln Gly Thr Lys Ser
865                 870                 875                 880

Ser Lys Cys Val Arg Gln Lys Val Glu Gly Ser Ser Ser His Leu Val
                885                 890                 895

Thr Phe Thr Val Leu Pro Leu Glu Ile Gly Leu His Asn Ile Asn Phe
            900                 905                 910

Ser Leu Glu Thr Trp Phe Gly Lys Glu Ile Leu Val Lys Thr Leu Arg
        915                 920                 925

Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ser Gly Val Thr Leu
    930                 935                 940

Asp Pro Arg Gly Ile Tyr Gly Thr Ile Ser Arg Arg Lys Glu Phe Pro
945                 950                 955                 960

Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Glu Ile Lys Arg Ile
                965                 970                 975

Leu Ser Val Lys Gly Leu Leu Val Gly Glu Ile Leu Ser Ala Val Leu
            980                 985                 990
```

Ser Gln Glu Gly Ile Asn Ile Leu Thr His Leu Pro Lys Gly Ser Ala
995 1000 1005

Glu Ala Glu Leu Met Ser Val Val Pro Val Phe Tyr Val Phe His
1010 1015 1020

Tyr Leu Glu Thr Gly Asn His Trp Asn Ile Phe His Ser Asp Pro
1025 1030 1035

Leu Ile Glu Lys Gln Lys Leu Lys Lys Lys Leu Lys Glu Gly Met
1040 1045 1050

Leu Ser Ile Met Ser Tyr Arg Asn Ala Asp Tyr Ser Tyr Ser Val
1055 1060 1065

Trp Lys Gly Gly Ser Ala Ser Thr Trp Leu Thr Ala Phe Ala Leu
1070 1075 1080

Arg Val Leu Gly Gln Val Asn Lys Tyr Val Glu Gln Asn Gln Asn
1085 1090 1095

Ser Ile Cys Asn Ser Leu Leu Trp Leu Val Glu Asn Tyr Gln Leu
1100 1105 1110

Asp Asn Gly Ser Phe Lys Glu Asn Ser Gln Tyr Gln Pro Ile Lys
1115 1120 1125

```
Leu Gln  Gly Thr Leu Pro Val  Glu Ala Arg Glu Asn  Ser Leu Tyr
    1130                1135                1140

Leu Thr  Ala Phe Thr Val Ile  Gly Ile Arg Lys Ala  Phe Asp Ile
    1145                1150                1155

Cys Pro  Leu Val Lys Ile Asp  Thr Ala Leu Ile Lys  Ala Asp Asn
    1160                1165                1170

Phe Leu  Leu Glu Asn Thr Leu  Pro Ala Gln Ser Thr  Phe Thr Leu
    1175                1180                1185

Ala Ile  Ser Ala Tyr Ala Leu  Ser Leu Gly Asp Lys  Thr His Pro
    1190                1195                1200

Gln Phe  Arg Ser Ile Val Ser  Ala Leu Lys Arg Glu  Ala Leu Val
    1205                1210                1215

Lys Gly  Asn Pro Pro Ile Tyr  Arg Phe Trp Lys Asp  Asn Leu Gln
    1220                1225                1230

His Lys  Asp Ser Ser Val Pro  Asn Thr Gly Thr Ala  Arg Met Val
    1235                1240                1245

Glu Thr  Thr Ala Tyr Ala Leu  Leu Thr Ser Leu Asn  Leu Lys Asp
    1250                1255                1260
```

Ile Asn Tyr Val Asn Pro Val Ile Lys Trp Leu Ser Glu Glu Gln
1265 1270 1275

Arg Tyr Gly Gly Gly Phe Tyr Ser Thr Gln Asp Thr Ile Asn Ala
1280 1285 1290

Ile Glu Gly Leu Thr Glu Tyr Ser Leu Leu Val Lys Gln Leu Arg
1295 1300 1305

Leu Ser Met Asp Ile Asp Val Ser Tyr Lys His Lys Gly Ala Leu
1310 1315 1320

His Asn Tyr Lys Met Thr Asp Lys Asn Phe Leu Gly Arg Pro Val
1325 1330 1335

Glu Val Leu Leu Asn Asp Asp Leu Ile Val Ser Thr Gly Phe Gly
1340 1345 1350

Ser Gly Leu Ala Thr Val His Val Thr Thr Val Val His Lys Thr
1355 1360 1365

Ser Thr Ser Glu Glu Val Cys Ser Phe Tyr Leu Lys Ile Asp Thr
1370 1375 1380

Gln Asp Ile Glu Ala Ser His Tyr Arg Gly Tyr Gly Asn Ser Asp
1385 1390 1395

Tyr Lys Arg Ile Val Ala Cys Ala Ser Tyr Lys Pro Ser Arg Glu
1400 1405 1410

Glu Ser Ser Ser Gly Ser Ser His Ala Val Met Asp Ile Ser Leu
1415 1420 1425

Pro Thr Gly Ile Ser Ala Asn Glu Glu Asp Leu Lys Ala Leu Val
1430 1435 1440

Glu Gly Val Asp Gln Leu Phe Thr Asp Tyr Gln Ile Lys Asp Gly
1445 1450 1455

His Val Ile Leu Gln Leu Asn Ser Ile Pro Ser Ser Asp Phe Leu
1460 1465 1470

Cys Val Arg Phe Arg Ile Phe Glu Leu Phe Glu Val Gly Phe Leu
1475 1480 1485

Ser Pro Ala Thr Phe Thr Val Tyr Glu Tyr His Arg Pro Asp Lys
1490 1495 1500

Gln Cys Thr Met Phe Tyr Ser Thr Ser Asn Ile Lys Ile Gln Lys
1505 1510 1515

Val Cys Glu Gly Ala Ala Cys Lys Cys Val Glu Ala Asp Cys Gly
1520 1525 1530

Gln Met Gln Glu Glu Leu Asp Leu Thr Ile Ser Ala Glu Thr Arg
1535 1540 1545

Lys Gln Thr Ala Cys Lys Pro Glu Ile Ala Tyr Ala Tyr Lys Val
1550 1555 1560

Ser Ile Thr Ser Ile Thr Val Glu Asn Val Phe Val Lys Tyr Lys
1565 1570 1575

Ala Thr Leu Leu Asp Ile Tyr Lys Thr Gly Glu Ala Val Ala Glu
1580 1585 1590

Lys Asp Ser Glu Ile Thr Phe Ile Lys Lys Val Thr Cys Thr Asn
1595 1600 1605

Ala Glu Leu Val Lys Gly Arg Gln Tyr Leu Ile Met Gly Lys Glu
1610 1615 1620

Ala Leu Gln Ile Lys Tyr Asn Phe Ser Phe Arg Tyr Ile Tyr Pro
1625 1630 1635

Leu Asp Ser Leu Thr Trp Ile Glu Tyr Trp Pro Arg Asp Thr Thr
1640 1645 1650

Cys Ser Ser Cys Gln Ala Phe Leu Ala Asn Leu Asp Glu Phe Ala
1655 1660 1665

Glu Asp Ile Phe Leu Asn Gly Cys
1670 1675

<210> 40
<211> 673
<212> PRT
<213> Homo sapiens

<400> 40

Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr
1 5 10 15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
20 25 30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
35 40 45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe
50 55 60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65 70 75 80

Asn Ser Ala Ile Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
85 90 95

```
Asn Pro Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
            100                 105                 110

Lys Ser Lys Arg Met Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
        115                 120                 125

His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
    130                 135                 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145                 150                 155                 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Met Val Glu Glu
                165                 170                 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
            180                 185                 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Lys Ala Lys Tyr Lys Glu Asp
        195                 200                 205

Phe Ser Thr Thr Gly Thr Ala Tyr Phe Glu Val Lys Glu Tyr Val Leu
    210                 215                 220

Pro His Phe Ser Val Ser Ile Glu Pro Glu Tyr Asn Phe Ile Gly Tyr
225                 230                 235                 240
```

Lys Asn Phe Lys Asn Phe Glu Ile Thr Ile Lys Ala Arg Tyr Phe Tyr
245 250 255

Asn Lys Val Val Thr Glu Ala Asp Val Tyr Ile Thr Phe Gly Ile Arg
260 265 270

Glu Asp Leu Lys Asp Asp Gln Lys Glu Met Met Gln Thr Ala Met Gln
275 280 285

Asn Thr Met Leu Ile Asn Gly Ile Ala Gln Val Thr Phe Asp Ser Glu
290 295 300

Thr Ala Val Lys Glu Leu Ser Tyr Tyr Ser Leu Glu Asp Leu Asn Asn
305 310 315 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Ile Glu Ser Thr Gly Gly Phe
325 330 335

Ser Glu Glu Ala Glu Ile Pro Gly Ile Lys Tyr Val Leu Ser Pro Tyr
340 345 350

Lys Leu Asn Leu Val Ala Thr Pro Leu Phe Leu Lys Pro Gly Ile Pro
355 360 365

Tyr Pro Ile Lys Val Gln Val Lys Asp Ser Leu Asp Gln Leu Val Gly
370 375 380

Gly Val Pro Val Thr Leu Asn Ala Gln Thr Ile Asp Val Asn Gln Glu
385 390 395 400

Thr Ser Asp Leu Asp Pro Ser Lys Ser Val Thr Arg Val Asp Asp Gly
405 410 415

Val Ala Ser Phe Val Leu Asn Leu Pro Ser Gly Val Thr Val Leu Glu
420 425 430

Phe Asn Val Lys Thr Asp Ala Pro Asp Leu Pro Glu Glu Asn Gln Ala
435 440 445

Arg Glu Gly Tyr Arg Ala Ile Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
450 455 460

Leu Tyr Ile Asp Trp Thr Asp Asn His Lys Ala Leu Leu Val Gly Glu
465 470 475 480

His Leu Asn Ile Ile Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
485 490 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Ile His Phe
500 505 510

Gly Thr Arg Glu Lys Phe Ser Asp Ala Ser Tyr Gln Ser Ile Asn Ile
515 520 525

Pro Val Thr Gln Asn Met Val Pro Ser Ser Arg Leu Leu Val Tyr Tyr
530 535 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ser Asp Ser Val Trp
545 550 555 560

Leu Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
565 570 575

Pro Asp Ala Asp Ala Tyr Ser Pro Gly Gln Thr Val Ser Leu Asn Met
580 585 590

Ala Thr Gly Met Asp Ser Trp Val Ala Leu Ala Ala Val Asp Ser Ala
595 600 605

Val Tyr Gly Val Gln Arg Gly Ala Lys Lys Pro Leu Glu Arg Val Phe
610 615 620

Gln Phe Leu Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly Leu
625 630 635 640

Asn Asn Ala Asn Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr Asn
645 650 655

Ala Asn Ala Asp Asp Ser Gln Glu Asn Asp Glu Pro Cys Lys Glu Ile
660 665 670

Leu

<210> 41
<211> 105
<212> PRT
<213> Homo sapiens

<400> 41

Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg Val Gly Ala
1 5 10 15

Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu Ala Phe Asp
20 25 30

Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe Ser Tyr Ser
35 40 45

Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln Asn Ser Ala
50 55 60

Ile Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln Asn Pro Val
65 70 75 80

Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser Lys Ser Lys
85 90 95

Arg Met Pro Ile Thr Tyr Asp Asn Gly
100 105

<210> 42
<211> 101
<212> PRT
<213> Homo sapiens

<400> 42

Phe Leu Phe Ile His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser
1 5 10 15

Val Lys Val Arg Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys
20 25 30

Arg Glu Thr Val Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp
35 40 45

Met Val Glu Glu Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe
50 55 60

Lys Ile Pro Ser Asn Pro Arg Tyr Gly Met Trp Thr Ile Lys Ala Lys
65 70 75 80

Tyr Lys Glu Asp Phe Ser Thr Thr Gly Thr Ala Tyr Phe Glu Val Lys
85 90 95

Glu Tyr Val Leu Pro

100

<210> 43
<211> 225
<212> PRT
<213> Homo sapiens

<400> 43

Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr
1 5 10 15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
20 25 30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
35 40 45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe
50 55 60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65 70 75 80

Asn Ser Ala Ile Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
85 90 95

Asn Pro Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
100 105 110

Lys Ser Lys Arg Met Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
115 120 125

His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
130 135 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145 150 155 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Met Val Glu Glu
165 170 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
180 185 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Lys Ala Lys Tyr Lys Glu Asp
195 200 205

Phe Ser Thr Thr Gly Thr Ala Tyr Phe Glu Val Lys Glu Tyr Val Leu
210 215 220

Pro
225

<210> 44
<211> 1676

<212> PRT
<213> Macaca fascicularis

<400> 44

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Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr
1               5                  10                  15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
            20                  25                  30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
        35                  40                  45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe
    50                  55                  60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65                  70                  75                  80

Asn Ser Ala Val Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
                85                  90                  95

Asn Gln Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
            100                 105                 110

Lys Ser Lys Lys Ile Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
        115                 120                 125
```

```
His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
    130                 135                 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145                 150                 155                 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Ile Asp Met Val Glu Glu
                165                 170                 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
            180                 185                 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Gln Ala Lys Tyr Lys Glu Asp
        195                 200                 205

Phe Ser Thr Thr Gly Thr Ala Phe Phe Glu Val Lys Glu Tyr Val Leu
    210                 215                 220

Pro His Phe Ser Val Ser Val Glu Pro Glu Ser Asn Phe Ile Gly Tyr
225                 230                 235                 240

Lys Asn Phe Lys Asn Phe Glu Ile Thr Ile Lys Ala Arg Tyr Phe Tyr
                245                 250                 255

Asn Lys Val Val Thr Glu Ala Asp Val Tyr Ile Thr Phe Gly Ile Arg
            260                 265                 270
```

```
Glu Asp Leu Lys Asp Asp Gln Lys Glu Met Met Gln Thr Ala Met Gln
        275                 280                 285

Asn Thr Met Leu Ile Asn Gly Ile Ala Glu Val Thr Phe Asp Ser Glu
    290                 295                 300

Thr Ala Val Lys Glu Leu Ser Tyr Tyr Ser Leu Glu Asp Leu Asn Asn
305                 310                 315                 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Ile Glu Ser Thr Gly Gly Phe
                325                 330                 335

Ser Glu Glu Ala Glu Ile Pro Gly Ile Lys Tyr Val Leu Ser Pro Tyr
            340                 345                 350

Lys Leu Asn Leu Val Ala Thr Pro Leu Phe Leu Lys Pro Gly Ile Pro
        355                 360                 365

Tyr Ser Ile Lys Val Gln Val Lys Asp Ala Leu Asp Gln Leu Val Gly
    370                 375                 380

Gly Val Pro Val Thr Leu Asn Ala Gln Thr Ile Asp Val Asn Gln Glu
385                 390                 395                 400

Thr Ser Asp Leu Glu Pro Arg Lys Ser Val Thr Arg Val Asp Asp Gly
                405                 410                 415
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```
Val Ala Ser Phe Val Val Asn Leu Pro Ser Gly Val Thr Val Leu Glu
            420                 425                 430

Phe Asn Val Lys Thr Asp Ala Pro Asp Leu Pro Asp Glu Asn Gln Ala
        435                 440                 445

Arg Glu Gly Tyr Arg Ala Ile Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
    450                 455                 460

Leu Tyr Ile Asp Trp Thr Asp Asn His Lys Ala Leu Leu Val Gly Glu
465                 470                 475                 480

Tyr Leu Asn Ile Ile Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
                485                 490                 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Ile His Phe
            500                 505                 510

Gly Thr Arg Glu Lys Leu Ser Asp Ala Ser Tyr Gln Ser Ile Asn Ile
        515                 520                 525

Pro Val Thr Gln Asn Met Val Pro Ser Ser Arg Leu Leu Val Tyr Tyr
    530                 535                 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ser Asp Ser Val Trp
545                 550                 555                 560
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Leu Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
565 570 575

Pro Asp Ala Asp Thr Tyr Ser Pro Gly Gln Thr Val Ser Leu Asn Met
580 585 590

Val Thr Gly Met Asp Ser Trp Val Ala Leu Thr Ala Val Asp Ser Ala
595 600 605

Val Tyr Gly Val Gln Arg Arg Ala Lys Lys Pro Leu Glu Arg Val Phe
610 615 620

Gln Phe Leu Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly Leu
625 630 635 640

Asn Asn Ala Asn Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr Asn
645 650 655

Ala Asn Ala Asp Asp Ser Gln Glu Asn Asp Glu Pro Cys Lys Glu Ile
660 665 670

Ile Arg Pro Arg Arg Met Leu Gln Glu Lys Ile Glu Glu Ile Ala Ala
675 680 685

Lys Tyr Lys His Leu Val Val Lys Lys Cys Cys Tyr Asp Gly Val Arg
690 695 700

Ile Asn His Asp Glu Thr Cys Glu Gln Arg Ala Ala Arg Ile Ser Val
705 710 715 720

Gly Pro Arg Cys Val Lys Ala Phe Thr Glu Cys Cys Val Val Ala Ser
725 730 735

Gln Leu Arg Ala Asn Asn Ser His Lys Asp Leu Gln Leu Gly Arg Leu
740 745 750

His Met Lys Thr Leu Leu Pro Val Ser Lys Pro Glu Ile Arg Ser Tyr
755 760 765

Phe Pro Glu Ser Trp Leu Trp Glu Val His Leu Val Pro Arg Arg Lys
770 775 780

Gln Leu Gln Phe Ala Leu Pro Asp Ser Val Thr Thr Trp Glu Ile Gln
785 790 795 800

Gly Val Gly Ile Ser Asn Ser Gly Ile Cys Val Ala Asp Thr Ile Lys
805 810 815

Ala Lys Val Phe Lys Asp Val Phe Leu Glu Met Asn Ile Pro Tyr Ser
820 825 830

Val Val Arg Gly Glu Gln Val Gln Leu Lys Gly Thr Val Tyr Asn Tyr
835 840 845

Arg Thr Ser Gly Met Gln Phe Cys Val Lys Met Ser Ala Val Glu Gly
850 855 860

Ile Cys Thr Ser Glu Ser Pro Val Ile Asp His Gln Gly Thr Lys Ser
865 870 875 880

Ser Lys Cys Val Arg Gln Lys Val Glu Gly Ser Ser Asn His Leu Val
885 890 895

Thr Phe Thr Val Leu Pro Leu Glu Ile Gly Leu Gln Asn Ile Asn Phe
900 905 910

Ser Leu Glu Thr Ser Phe Gly Lys Glu Ile Leu Val Lys Ser Leu Arg
915 920 925

Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ser Gly Ile Thr Leu
930 935 940

Asp Pro Arg Gly Ile Tyr Gly Thr Ile Ser Arg Arg Lys Glu Phe Pro
945 950 955 960

Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Glu Ile Lys Arg Ile
965 970 975

Leu Ser Val Lys Gly Leu Leu Val Gly Glu Ile Leu Ser Ala Val Leu
980 985 990

Ser Arg Glu Gly Ile Asn Ile Leu Thr His Leu Pro Lys Gly Ser Ala
995 1000 1005

Glu Ala Glu Leu Met Ser Val Val Pro Val Phe Tyr Val Phe His
1010 1015 1020

Tyr Leu Glu Thr Gly Asn His Trp Asn Ile Phe His Ser Asp Pro
1025 1030 1035

Leu Ile Glu Lys Arg Asn Leu Glu Lys Lys Leu Lys Glu Gly Met
1040 1045 1050

Val Ser Ile Met Ser Tyr Arg Asn Ala Asp Tyr Ser Tyr Ser Val
1055 1060 1065

Trp Lys Gly Gly Ser Ala Ser Thr Trp Leu Thr Ala Phe Ala Leu
1070 1075 1080

Arg Val Leu Gly Gln Val His Lys Tyr Val Glu Gln Asn Gln Asn
1085 1090 1095

Ser Ile Cys Asn Ser Leu Leu Trp Leu Val Glu Asn Tyr Gln Leu
1100 1105 1110

Asp Asn Gly Ser Phe Lys Glu Asn Ser Gln Tyr Gln Pro Ile Lys
1115 1120 1125

Leu Gln Gly Thr Leu Pro Val Glu Ala Arg Glu Asn Ser Leu Tyr
1130 1135 1140

Leu Thr Ala Phe Thr Val Ile Gly Ile Arg Lys Ala Phe Asp Ile
1145 1150 1155

Cys Pro Leu Val Lys Ile Asn Thr Ala Leu Ile Lys Ala Asp Thr
1160 1165 1170

Phe Leu Leu Glu Asn Thr Leu Pro Ala Gln Ser Thr Phe Thr Leu
1175 1180 1185

Ala Ile Ser Ala Tyr Ala Leu Ser Leu Gly Asp Lys Thr His Pro
1190 1195 1200

Gln Phe Arg Ser Ile Val Ser Ala Leu Lys Arg Glu Ala Leu Val
1205 1210 1215

Lys Gly Asn Pro Pro Ile Tyr Arg Phe Trp Lys Asp Ser Leu Gln
1220 1225 1230

His Lys Asp Ser Ser Val Pro Asn Thr Gly Thr Ala Arg Met Val
1235 1240 1245

Glu Thr Thr Ala Tyr Ala Leu Leu Thr Ser Leu Asn Leu Lys Asp
1250 1255 1260

```
Ile Asn  Tyr Val Asn Pro Ile  Ile Lys Trp Leu Ser  Glu Glu Gln
    1265                1270                1275

Arg Tyr  Gly Gly Gly Phe Tyr  Ser Thr Gln Asp Thr  Ile Asn Ala
    1280                1285                1290

Ile Glu  Gly Leu Thr Glu Tyr  Ser Leu Leu Val Lys  Gln Leu Arg
    1295                1300                1305

Leu Asn  Met Asp Ile Asp Val  Ala Tyr Lys His Lys  Gly Pro Leu
    1310                1315                1320

His Asn  Tyr Lys Met Thr Asp  Lys Asn Phe Leu Gly  Arg Pro Val
    1325                1330                1335

Glu Val  Leu Leu Asn Asp Asp  Leu Val Val Ser Thr  Gly Phe Gly
    1340                1345                1350

Ser Gly  Leu Ala Thr Val His  Val Thr Thr Val Val  His Lys Thr
    1355                1360                1365

Ser Thr  Ser Glu Glu Val Cys  Ser Phe Tyr Leu Lys  Ile Asp Thr
    1370                1375                1380

Gln Asp  Ile Glu Ala Ser His  Tyr Arg Gly Tyr Gly  Asn Ser Asp
    1385                1390                1395
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Tyr Lys Arg Ile Val Ala Cys Ala Ser Tyr Lys Pro Ser Lys Glu
1400 1405 1410

Glu Ser Ser Ser Gly Ser Ser His Ala Val Met Asp Ile Ser Leu
1415 1420 1425

Pro Thr Gly Ile Asn Ala Asn Glu Glu Asp Leu Lys Ala Leu Val
1430 1435 1440

Glu Gly Val Asp Gln Leu Phe Thr Asp Tyr Gln Ile Lys Asp Gly
1445 1450 1455

His Val Ile Leu Gln Leu Asn Ser Ile Pro Ser Ser Asp Phe Leu
1460 1465 1470

Cys Val Arg Phe Arg Ile Phe Glu Leu Phe Glu Val Gly Phe Leu
1475 1480 1485

Ser Pro Ala Thr Phe Thr Val Tyr Glu Tyr His Arg Pro Asp Lys
1490 1495 1500

Gln Cys Thr Met Phe Tyr Ser Thr Ser Asn Ile Lys Ile Gln Lys
1505 1510 1515

Val Cys Glu Gly Ala Thr Cys Lys Cys Ile Glu Ala Asp Cys Gly
1520 1525 1530

```
Gln Met  Gln Lys Glu Leu Asp  Leu Thr Ile Ser Ala  Glu Thr Arg
    1535                 1540                 1545

Lys Gln  Thr Ala Cys Asn Pro  Glu Ile Ala Tyr Ala  Tyr Lys Val
    1550                 1555                 1560

Ile Ile  Thr Ser Ile Thr Thr  Glu Asn Val Phe Val  Lys Tyr Lys
    1565                 1570                 1575

Ala Thr  Leu Leu Asp Ile Tyr  Lys Thr Gly Glu Ala  Val Ala Glu
    1580                 1585                 1590

Lys Asp  Ser Glu Ile Thr Phe  Ile Lys Lys Val Thr  Cys Thr Asn
    1595                 1600                 1605

Ala Glu  Leu Val Lys Gly Arg  Gln Tyr Leu Ile Met  Gly Lys Glu
    1610                 1615                 1620

Ala Leu  Gln Ile Lys Tyr Asn  Phe Thr Phe Arg Tyr  Ile Tyr Pro
    1625                 1630                 1635

Leu Asp  Ser Leu Thr Trp Ile  Glu Tyr Trp Pro Arg  Asp Thr Thr
    1640                 1645                 1650

Cys Ser  Ser Cys Gln Ala Phe  Leu Ala Asn Leu Asp  Glu Phe Ala
    1655                 1660                 1665
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Glu Asp Ile Phe Leu Asn Gly Cys
1670 1675

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<400> 45

Ser Ser Tyr Tyr Met Cys
1 5

<210> 46
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<400> 46

Asn Phe Tyr Tyr Ile Cys
1 5

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Ser Ser Tyr Tyr Met Cys
1 5

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Ser Ser Tyr Tyr Met Asn
1 5

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<400> 49

Ser Ser Tyr Tyr Met Asn

1 5

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Asp Asn Thr Met Thr
1 5

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Thr Tyr Ala Met Gly
1 5

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<400> 52

Gly Asn Ala Ile Asn
1 5

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<400> 53

Thr Tyr Ala Met Gly
1 5

<210> 54
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<220>
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<400> 54

Ser Ser Tyr Tyr Val Ala
1 5

<210> 55
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<400> 55

Cys Ile Tyr Thr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala Lys
1 5 10 15

Gly

<210> 56
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<400> 56

Cys Ile Tyr Thr Val Ser Gly Tyr Thr Tyr Tyr Ala Ser Trp Ala Lys
1 5 10 15

Gly

<210> 57
<211> 18
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<400> 57

Cys Ile Tyr Ala Gly Ser Ser Gly Ile Ile Tyr Tyr Ala Asn Trp Ala
1 5 10 15

Lys Gly

<210> 58
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<400> 58

Met Ile Tyr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 59
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<400> 59

Met Ile Tyr Gly Ser Gly Ala Thr Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 60
<211> 16
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<400> 60

Ile Ile Ser Phe Gly Gly Asp Ala Tyr Tyr Ala Ser Trp Ala Lys Gly
1 5 10 15

<210> 61
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<400> 61

Thr Ile Asp Thr Gly Asp Asn Ser Phe Tyr Ala Asn Trp Ala Lys Gly

1 5 10 15

<210> 62
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<400> 62

Cys Ile Tyr Thr Gly Ser Asp Thr Thr Tyr Tyr Ala Thr Trp Ala Lys
1 5 10 15

Gly

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<400> 63

Thr Ile Asp Thr Gly Asp Asn Ser Phe Tyr Ala Asn Trp Ala Lys Gly
1 5 10 15

<210> 64

<211> 17
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<400> 64

Ala Ile Tyr Thr Gly Ser Gly Ala Thr Tyr Lys Ala Ser Trp Ala Lys
1 5 10 15

Gly

<210> 65
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Asp Gly Gly Tyr Val Thr Pro Thr His Ala Met Tyr Leu
1 5 10

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<400> 66

Asp Leu His Ala Gly Ile Thr Asn Leu
1 5

<210> 67
<211> 13
<212> PRT
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<400> 67

Tyr Pro Thr Tyr Gly Asp Gly Gly His Ala Phe Asn Leu
1 5 10

<210> 68
<211> 11
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<220>
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<400> 68

Gln Ile Tyr Ser Gly Asp Asn Asn Asp Asn Phe
1 5 10

<210> 69
<211> 11
<212> PRT
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<220>
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<400> 69

Gln Ile Tyr Ser Gly Asp Asn Asn Asp Asn Phe
1 5 10

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<400> 70

Val Gly Ala Gly Asn Ile Phe Trp Tyr Phe Asp Leu
1 5 10

<210> 71
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<400> 71

Asn Asp Gly Ser Val Tyr Asn Leu Phe Asn Leu
1 5 10

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Gly Ser Gly Leu
1

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Asn Asp Gly Ser Val Tyr Asn Leu Phe Asn Leu
1 5 10

<210> 74

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<400> 74

Asp Gly Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
1 5 10

<210> 75
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<400> 75

Gln Ala Ser Gln Asn Ile Gly Ser Asp Leu Ala
1 5 10

<210> 76
<211> 11
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<400> 76

Gln Ala Ser Gln Asn Ile Tyr Ser Asn Leu Ala
1 5 10

<210> 77
<211> 13
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<400> 77

Gln Ser Ser Gln Ser Val Tyr Ser Ser Asp Tyr Leu Ser
1 5 10

<210> 78
<211> 11
<212> PRT
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<400> 78

Gln Ala Ser Glu Ser Ile Ser Asn Trp Leu Ala
1 5 10

<210> 79
<211> 11
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<400> 79

Gln Ala Ser Glu Ser Ile Ser Asn Trp Leu Ala
1 5 10

<210> 80
<211> 11
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<400> 80

Gln Ala Ser Glu Ser Ile Tyr Ser Ala Leu Ala
1 5 10

<210> 81
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<400> 81

Gln Ala Ser Glu Asn Ile Tyr Ser Ala Leu Ser

1 5 10

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<400> 82

Gln Ala Ser Gln Asn Ile Tyr Ser Leu Leu Ala
1 5 10

<210> 83
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<400> 83

Gln Ala Ser Glu Asn Ile Tyr Ser Ala Leu Ser
1 5 10

<210> 84
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<400> 84

Gln Ala Ser Gln Asn Ile Gly Ser Ser Leu Ala
1 5 10

<210> 85
<211> 7
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<400> 85

Gly Ala Ser Lys Leu Ala Ser
1 5

<210> 86
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<400> 86

Gly Ala Ser Asn Leu Glu Ser
1 5

<210> 87
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<400> 87

Glu Ala Ser Lys Leu Ala Ser
1 5

<210> 88
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<400> 88

Arg Ala Ser Thr Leu Ala Ser
1 5

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Arg Ala Ser Thr Leu Ala Ser
1 5

<210> 90
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<400> 90

Ser Ala Ser Thr Leu Ala Ser
1 5

<210> 91
<211> 7
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<400> 91

Tyr Ala Ser Thr Leu Ala Ser
1 5

<210> 92

<211> 7
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<400> 92

His Thr Ser Asp Leu Ala Ser
1 5

<210> 93
<211> 7
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<400> 93

Tyr Ala Ser Thr Leu Ala Ser
1 5

<210> 94
<211> 7
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<400> 94

Gly Ala Ser Lys Thr His Ser
1 5

<210> 95
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 95

Gln Cys Thr Phe Val Gly Ser Ser Tyr Gly Asn Ala
1 5 10

<210> 96
<211> 12
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<220>
<223> An artificially synthesized sequence

<400> 96

Leu Gln Gly Tyr Ser Tyr Ser Asn Val Asp Asp Ala
1 5 10

<210> 97
<211> 12
<212> PRT

<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 97

Gln Gly Thr Tyr Tyr Ser Ser Gly Trp Tyr Phe Ala
1 5 10

<210> 98
<211> 12
<212> PRT
<213> Artificial sequence

<220>
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<400> 98

Gln Gln Asp Tyr Ser Ser Ser Asn Val Asp Asn Thr
1 5 10

<210> 99
<211> 12
<212> PRT
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<220>
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<400> 99

Gln Gln Asp Tyr Ser Ser Ser Asn Val Asp Asn Thr

1 5 10

<210> 100
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 100

Gln Gln Tyr Tyr Ser Ser Thr Asn Val His Asn Ser
1 5 10

<210> 101
<211> 12
<212> PRT
<213> Artificial sequence

<220>
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<400> 101

Gln Gln Tyr Tyr Asp Ile Asn Ser Val Asp Asn Thr
1 5 10

<210> 102
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<212> PRT
<213> Artificial sequence

<220>
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<400> 102

Gln Cys Thr Ala Tyr Gly Ser Ser Asp Val Gly Gly Thr
1 5 10

<210> 103
<211> 12
<212> PRT
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<220>
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<400> 103

Gln Gln Tyr Tyr Asp Ile Asn Ser Val Asp Asn Thr
1 5 10

<210> 104
<211> 12
<212> PRT
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<220>
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<400> 104

Gln Ser Thr Lys Val Gly Ser Ser Tyr Gly Asn His
1 5 10

<210> 105
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<400> 105

Met Gly Leu Trp Gly Ile Leu Cys Leu Leu Ile Phe Leu Asp Lys Thr
1 5 10 15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Leu Arg
20 25 30

Val Gly Ser Ser Glu Asn Val Val Ile Gln Val His Gly Tyr Thr Glu
35 40 45

Ala Phe Asp Ala Thr Leu Ser Leu Lys Ser Tyr Pro Asp Lys Lys Val
50 55 60

Thr Phe Ser Ser Gly Tyr Val Asn Leu Ser Pro Glu Asn Lys Phe Gln
65 70 75 80

Asn Ala Ala Leu Leu Thr Leu Gln Pro Asn Gln Val Pro Arg Glu Glu
85 90 95

Ser Pro Val Ser His Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
100 105 110

Lys Ser Lys Lys Ile Pro Ile Thr Tyr Asn Asn Gly Ile Leu Phe Ile
115 120 125

His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Ile Arg
130 135 140

Val Tyr Ser Leu Gly Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145 150 155 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Ile Val Glu Glu
165 170 175

Asn Asp Tyr Thr Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
180 185 190

Asn Pro Lys Tyr Gly Val Trp Thr Ile Lys Ala Asn Tyr Lys Lys Asp
195 200 205

Phe Thr Thr Thr Gly Thr Ala Tyr Phe Glu Ile Lys Glu Tyr Val Leu
210 215 220

Pro Arg Phe Ser Val Ser Ile Glu Leu Glu Arg Thr Phe Ile Gly Tyr
225 230 235 240

Lys Asn Phe Lys Asn Phe Glu Ile Thr Val Lys Ala Arg Tyr Phe Tyr
245 250 255

Asn Lys Val Val Pro Asp Ala Glu Val Tyr Ala Phe Phe Gly Leu Arg
260 265 270

Glu Asp Ile Lys Asp Glu Glu Lys Gln Met Met His Lys Ala Thr Gln
275 280 285

Ala Ala Lys Leu Val Asp Gly Val Ala Gln Ile Ser Phe Asp Ser Glu
290 295 300

Thr Ala Val Lys Glu Leu Ser Tyr Asn Ser Leu Glu Asp Leu Asn Asn
305 310 315 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Thr Glu Ser Ser Gly Gly Phe
325 330 335

Ser Glu Glu Ala Glu Ile Pro Gly Val Lys Tyr Val Leu Ser Pro Tyr
340 345 350

Thr Leu Asn Leu Val Ala Thr Pro Leu Phe Val Lys Pro Gly Ile Pro
355 360 365

Phe Ser Ile Lys Ala Gln Val Lys Asp Ser Leu Glu Gln Ala Val Gly
370 375 380

Gly Val Pro Val Thr Leu Met Ala Gln Thr Val Asp Val Asn Gln Glu
385 390 395 400

Thr Ser Asp Leu Glu Thr Lys Arg Ser Ile Thr His Asp Thr Asp Gly
405 410 415

Val Ala Val Phe Val Leu Asn Leu Pro Ser Asn Val Thr Val Leu Lys
420 425 430

Phe Glu Ile Arg Thr Asp Asp Pro Glu Leu Pro Glu Glu Asn Gln Ala
435 440 445

Ser Lys Glu Tyr Glu Ala Val Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
450 455 460

Ile Tyr Ile Ala Trp Thr Glu Asn Tyr Lys Pro Met Leu Val Gly Glu
465 470 475 480

Tyr Leu Asn Ile Met Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
485 490 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Val Gln Tyr
500 505 510

Gly Thr Arg Glu Lys Leu Phe Ser Ser Thr Tyr Gln Asn Ile Asn Ile
515 520 525

Pro Val Thr Gln Asn Met Val Pro Ser Ala Arg Leu Leu Val Tyr Tyr
530 535 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ala Asp Ala Val Trp
545 550 555 560

Ile Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
565 570 575

Pro Asp Glu Tyr Val Tyr Ser Pro Gly Gln Thr Val Ser Leu Asp Met
580 585 590

Val Thr Glu Ala Asp Ser Trp Val Ala Leu Ser Ala Val Asp Arg Ala
595 600 605

Val Tyr Lys Val Gln Gly Asn Ala Lys Arg Ala Met Gln Arg Val Phe
610 615 620

Gln Ala Leu Asp Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly
625 630 635 640

His Asp Asn Ala Asp Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr
645 650 655

Asn Ala Asn Ala Asp Asp Ser His Tyr Arg Asp Asp Ser Cys Lys Glu
660 665 670

Ile Leu Arg Ser Lys Arg Asn Leu His Leu Leu Arg Gln Lys Ile Glu
675 680 685

Glu Gln Ala Ala Lys Tyr Lys His Ser Val Pro Lys Lys Cys Cys Tyr
690 695 700

Asp Gly Ala Arg Val Asn Phe Tyr Glu Thr Cys Glu Glu Arg Val Ala
705 710 715 720

Arg Val Thr Ile Gly Pro Leu Cys Ile Arg Ala Phe Asn Glu Cys Cys
725 730 735

Thr Ile Ala Asn Lys Ile Arg Lys Glu Ser Pro His Lys Pro Val Gln
740 745 750

Leu Gly Arg Ile His Ile Lys Thr Leu Leu Pro Val Met Lys Ala Asp
755 760 765

Ile Arg Ser Tyr Phe Pro Glu Ser Trp Leu Trp Glu Ile His Arg Val
770 775 780

Pro Lys Arg Lys Gln Leu Gln Val Thr Leu Pro Asp Ser Leu Thr Thr
785 790 795 800

Trp Glu Ile Gln Gly Ile Gly Ile Ser Asp Asn Gly Ile Cys Val Ala
805 810 815

Asp Thr Leu Lys Ala Lys Val Phe Lys Glu Val Phe Leu Glu Met Asn
820 825 830

Ile Pro Tyr Ser Val Val Arg Gly Glu Gln Ile Gln Leu Lys Gly Thr
835 840 845

Val Tyr Asn Tyr Met Thr Ser Gly Thr Lys Phe Cys Val Lys Met Ser
850 855 860

Ala Val Glu Gly Ile Cys Thr Ser Gly Ser Ser Ala Ala Ser Leu His
865 870 875 880

Thr Ser Arg Pro Ser Arg Cys Val Phe Gln Arg Ile Glu Gly Ser Ser
885 890 895

Ser His Leu Val Thr Phe Thr Leu Leu Pro Leu Glu Ile Gly Leu His
900 905 910

Ser Ile Asn Phe Ser Leu Glu Thr Ser Phe Gly Lys Asp Ile Leu Val
915 920 925

Lys Thr Leu Arg Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ala
930 935 940

Gly Val Ile Leu Asp Pro Lys Gly Ile Arg Gly Ile Val Asn Arg Arg
945 950 955 960

Lys Glu Phe Pro Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Lys
965 970 975

Val Glu Arg Ile Leu Ser Val Lys Gly Leu Leu Val Gly Glu Phe Leu
980 985 990

Ser Thr Val Leu Ser Lys Glu Gly Ile Asn Ile Leu Thr His Leu Pro
995 1000 1005

Lys Gly Ser Ala Glu Ala Glu Leu Met Ser Ile Ala Pro Val Phe
1010 1015 1020

Tyr Val Phe His Tyr Leu Glu Ala Gly Asn His Trp Asn Ile Phe
1025 1030 1035

Tyr Pro Asp Thr Leu Ser Lys Arg Gln Ser Leu Glu Lys Lys Ile
1040 1045 1050

Lys Gln Gly Val Val Ser Val Met Ser Tyr Arg Asn Ala Asp Tyr
1055 1060 1065

Ser Tyr Ser Met Trp Lys Gly Ala Ser Ala Ser Thr Trp Leu Thr
1070 1075 1080

Ala Phe Ala Leu Arg Val Leu Gly Gln Val Ala Lys Tyr Val Lys
1085 1090 1095

Gln Asp Glu Asn Ser Ile Cys Asn Ser Leu Leu Trp Leu Val Glu
1100 1105 1110

Lys Cys Gln Leu Glu Asn Gly Ser Phe Lys Glu Asn Ser Gln Tyr
1115 1120 1125

Leu Pro Ile Lys Leu Gln Gly Thr Leu Pro Ala Glu Ala Gln Glu
1130 1135 1140

Lys Thr Leu Tyr Leu Thr Ala Phe Ser Val Ile Gly Ile Arg Lys
1145 1150 1155

Ala Val Asp Ile Cys Pro Thr Met Lys Ile His Thr Ala Leu Asp
1160 1165 1170

Lys Ala Asp Ser Phe Leu Leu Glu Asn Thr Leu Pro Ser Lys Ser
1175 1180 1185

Thr Phe Thr Leu Ala Ile Val Ala Tyr Ala Leu Ser Leu Gly Asp
1190 1195 1200

Arg Thr His Pro Arg Phe Arg Leu Ile Val Ser Ala Leu Arg Lys
1205 1210 1215

Glu Ala Phe Val Lys Gly Asp Pro Pro Ile Tyr Arg Tyr Trp Arg
1220 1225 1230

Asp Thr Leu Lys Arg Pro Asp Ser Ser Val Pro Ser Ser Gly Thr
1235 1240 1245

Ala Gly Met Val Glu Thr Thr Ala Tyr Ala Leu Leu Ala Ser Leu
1250 1255 1260

Lys Leu Lys Asp Met Asn Tyr Ala Asn Pro Ile Ile Lys Trp Leu
1265 1270 1275

Ser Glu Glu Gln Arg Tyr Gly Gly Gly Phe Tyr Ser Thr Gln Asp
1280 1285 1290

Thr Ile Asn Ala Ile Glu Gly Leu Thr Glu Tyr Ser Leu Leu Leu
1295 1300 1305

Lys Gln Ile His Leu Asp Met Asp Ile Asn Val Ala Tyr Lys His
1310 1315 1320

Glu Gly Asp Phe His Lys Tyr Lys Val Thr Glu Lys His Phe Leu
1325 1330 1335

Gly Arg Pro Val Glu Val Ser Leu Asn Asp Asp Leu Val Val Ser
1340 1345 1350

Thr Gly Tyr Ser Ser Gly Leu Ala Thr Val Tyr Val Lys Thr Val
1355 1360 1365

Val His Lys Ile Ser Val Ser Glu Glu Phe Cys Ser Phe Tyr Leu
1370 1375 1380

Lys Ile Asp Thr Gln Asp Ile Glu Ala Ser Ser His Phe Arg Leu
1385 1390 1395

Ser Asp Ser Gly Phe Lys Arg Ile Ile Ala Cys Ala Ser Tyr Lys
1400 1405 1410

Pro Ser Lys Glu Glu Ser Thr Ser Gly Ser Ser His Ala Val Met
1415 1420 1425

Asp Ile Ser Leu Pro Thr Gly Ile Gly Ala Asn Glu Glu Asp Leu
1430 1435 1440

Arg Ala Leu Val Glu Gly Val Asp Gln Leu Leu Thr Asp Tyr Gln
1445 1450 1455

Ile Lys Asp Gly His Val Ile Leu Gln Leu Asn Ser Ile Pro Ser
1460 1465 1470

Arg Asp Phe Leu Cys Val Arg Phe Arg Ile Phe Glu Leu Phe Gln
1475 1480 1485

Val Gly Phe Leu Asn Pro Ala Thr Phe Thr Val Tyr Glu Tyr His
1490 1495 1500

Arg Pro Asp Lys Gln Cys Thr Met Ile Tyr Ser Ile Ser Asp Thr
1505 1510 1515

Arg Leu Gln Lys Val Cys Glu Gly Ala Ala Cys Thr Cys Val Glu
1520 1525 1530

Ala Asp Cys Ala Gln Leu Gln Ala Glu Val Asp Leu Ala Ile Ser
1535 1540 1545

Ala Asp Ser Arg Lys Glu Lys Ala Cys Lys Pro Glu Thr Ala Tyr
1550 1555 1560

Ala Tyr Lys Val Arg Ile Thr Ser Ala Thr Glu Glu Asn Val Phe
1565 1570 1575

Val Lys Tyr Thr Ala Thr Leu Leu Val Thr Tyr Lys Thr Gly Glu
1580 1585 1590

Ala Ala Asp Glu Asn Ser Glu Val Thr Phe Ile Lys Lys Met Ser
1595 1600 1605

Cys Thr Asn Ala Asn Leu Val Lys Gly Lys Gln Tyr Leu Ile Met
1610 1615 1620

Gly Lys Glu Val Leu Gln Ile Lys His Asn Phe Ser Phe Lys Tyr
1625 1630 1635

Ile Tyr Pro Leu Asp Ser Ser Thr Trp Ile Glu Tyr Trp Pro Thr
1640 1645 1650

Asp Thr Thr Cys Pro Ser Cys Gln Ala Phe Val Glu Asn Leu Asn
1655 1660 1665

Asn Phe Ala Glu Asp Leu Phe Leu Asn Ser Cys Glu
1670 1675 1680

<210> 106
<211> 123
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 106

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val His Ser Ser
20 25 30

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

Val Gly Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp
50 55 60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Ser Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 107
<211> 123
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 107

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val His Ser Ser
20 25 30

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

Val Gly Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp
50 55 60

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

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

Cys Ala Ser Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 108
<211> 123
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 108

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val His Ser Ser
20 25 30

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

Val Gly Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp
50 55 60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Ser Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
100 105 110

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 109
<211> 123
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 109

Gln Val Gln Leu Val 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 Val His Ser Ser
20 25 30

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

Val Gly Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp
50 55 60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Ala Ser Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
100 105 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 110
<211> 123
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 110

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Gln Val Gln Leu Val 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 Val His Ser Ser
            20                  25                  30

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

Val Ser Gly Ile Phe Thr Gly Ser Gly Ala Thr Tyr Lys Ala Glu Trp
    50                  55                  60

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

Val Leu Thr Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr
                85                  90                  95

Cys Ala Ser Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
            100                 105                 110

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 111
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 111

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 Gly Ile Ser Ser Ser
20 25 30

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

Tyr Gly Ala Ser Glu Thr Glu 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 Gln Asn Thr Lys Val Gly Ser Ser
85 90 95

Tyr Gly Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 112
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 112

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 Gly Ile Ser Ser Ser
20 25 30

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

Tyr Gly Ala Ser Glu Thr Glu 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 Gln Asn Thr Lys Val Gly Ser Ser
85 90 95

Tyr Gly Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 113
<211> 110
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 113

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 Gly Ile Ser Ser Ser
20 25 30

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

Tyr Gly Ala Ser Thr Thr 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 Gln Asn Thr Lys Val Gly Ser Ser
85 90 95

Tyr Gly Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 114
<211> 328
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 114

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110

Pro Ala Pro Glu Leu Arg Arg Gly Pro Lys Val Phe Leu Phe Pro Pro
115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205

Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300

Val Phe Ser Cys Ser Val Leu His Glu Ala Leu His Ala His Tyr Thr
305 310 315 320

Arg Lys Glu Leu Ser Leu Ser Pro
325

<210> 115
<211> 325
<212> PRT
<213> Artificial sequence

<220>

<223> An artificially synthesized sequence

<400> 115

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Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1               5                  10                  15

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
        35                  40                  45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
    50                  55                  60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65                  70                  75                  80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
                85                  90                  95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
            100                 105                 110

Glu Phe Arg Arg Gly Pro Lys Val Phe Leu Phe Pro Pro Lys Pro Lys
        115                 120                 125
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Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Leu His Glu Ala Leu His Ala His Tyr Thr Arg Lys Glu
305 310 315 320

Leu Ser Leu Ser Pro
325

<210> 116
<211> 325
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 116

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro
100 105 110

Glu Phe Arg Arg Gly Pro Lys Val Phe Leu Phe Pro Pro Lys Pro Lys
115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val
130 135 140

Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp
145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr
165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp
180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu
195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg
210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys
225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp
245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys
260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser
275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
290 295 300

Cys Ser Val Leu His Glu Ala Leu His Ala His Tyr Thr Arg Lys Glu
305 310 315 320

Leu Ser Leu Ser Pro
325

<210> 117
<211> 6
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 117

Ser Ser Tyr Tyr Met Ala
1 5

<210> 118
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 118

Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp Ala Lys
1 5 10 15

Gly

<210> 119
<211> 17

<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 119

Ala Ile Phe Thr Gly Ser Gly Ala Glu Tyr Lys Ala Glu Trp Val Lys
1 5 10 15

Gly

<210> 120
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 120

Gly Ile Phe Thr Gly Ser Gly Ala Thr Tyr Lys Ala Glu Trp Ala Lys
1 5 10 15

Gly

<210> 121
<211> 13

<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 121

Asp Ala Gly Tyr Asp Tyr Pro Thr His Ala Met His Tyr
1 5 10

<210> 122
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 122

Arg Ala Ser Gln Gly Ile Ser Ser Ser Leu Ala
1 5 10

<210> 123
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 123

Gly Ala Ser Glu Thr Glu Ser
1 5

<210> 124
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 124

Gly Ala Ser Thr Thr Gln Ser
1 5

<210> 125
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 125

Gln Asn Thr Lys Val Gly Ser Ser Tyr Gly Asn Thr
1 5 10

<210> 126
<211> 6
<212> PRT
<213> Artificial sequence

<220>
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<220>
<221> misc_feature
<222> (5)..(5)
<223> Xaa is Met or Val

<220>
<221> misc_feature
<222> (6)..(6)
<223> Xaa is Cys or Ala

<400> 126

Ser Ser Tyr Tyr Xaa Xaa
1 5

<210> 127
<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa is Cys, Ala or Gly

<220>

<221> misc_feature
<222> (3)..(3)
<223> Xaa is Tyr or Phe

<220>
<221> misc_feature
<222> (9)..(9)
<223> Xaa is Thr, Asp or Glu

<220>
<221> misc_feature
<222> (11)..(11)
<223> Xaa is Tyr, Lys or Gln

<220>
<221> misc_feature
<222> (13)..(13)
<223> Xaa is Ser, Asp or Glu

<220>
<221> misc_feature
<222> (15)..(15)
<223> Xaa is Ala or Val

<400> 127

Xaa Ile Xaa Thr Gly Ser Gly Ala Xaa Tyr Xaa Ala Xaa Trp Xaa Lys
1 5 10 15

Gly

<210> 128
<211> 13

<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<220>
<221> misc_feature
<222> (2)..(2)
<223> Xaa is Gly or Ala

<220>
<221> misc_feature
<222> (5)..(5)
<223> Xaa is Val, Gln or Asp

<220>
<221> misc_feature
<222> (6)..(6)
<223> Xaa is Thr or Tyr

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa is Tyr or His

<220>
<221> misc_feature
<222> (13)..(13)
<223> Xaa is Leu or Tyr

<400> 128

Asp Xaa Gly Tyr Xaa Xaa Pro Thr His Ala Met Xaa Xaa
1 5 10

<210> 129
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<220>
<221> misc_feature
<222> (1)..(1)
<223> Xaa is Gln or Arg

<220>
<221> misc_feature
<222> (5)..(5)
<223> Xaa is Asn, Gln or Gly

<220>
<221> misc_feature
<222> (7)..(7)
<223> Xaa is Gly or Ser

<220>
<221> misc_feature
<222> (9)..(9)
<223> Xaa is Asp, Lys or Ser

<400> 129

Xaa Ala Ser Gln Xaa Ile Xaa Ser Xaa Leu Ala
1 5 10

<210> 130
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa is Lys, Glu or Thr

<220>
<221> misc_feature
<222> (5)..(5)
<223> Xaa is Leu or Thr

<220>
<221> misc_feature
<222> (6)..(6)
<223> Xaa is Ala, His, Glu or Gln

<400> 130

Gly Ala Ser Xaa Xaa Xaa Ser
1 5

<210> 131
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<220>
<221> misc_feature
<222> (2)..(2)
<223> Xaa is Ser, Cys, Asn or Thr

<220>
<221> misc_feature
<222> (4)..(4)
<223> Xaa is Phe or Lys

<220>
<221> misc_feature
<222> (12)..(12)
<223> Xaa is Ala, Thr or His

<400> 131

Gln Xaa Thr Xaa Val Gly Ser Ser Tyr Gly Asn Xaa
1 5 10

<210> 132
<211> 30
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 132

Gln Val Gln Leu Val 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 Ser His
20 25 30

<210> 133
<211> 30
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 133

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

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Val His
20 25 30

<210> 134
<211> 30
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 134

Gln Val Gln Leu Val 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 Val His
20 25 30

<210> 135
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 135

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

<210> 136
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 136

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

<210> 137

<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 137

Arg Phe Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr
1 5 10 15

Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Ser
20 25 30

<210> 138
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 138

Arg Val Thr Ile Ser Lys Asp Thr Ser Lys Asn Gln Val Val Leu Thr
1 5 10 15

Met Thr Asn Met Asp Pro Val Asp Thr Ala Thr Tyr Tyr Cys Ala Ser
20 25 30

<210> 139

<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 139

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15

Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ser
20 25 30

<210> 140
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 140

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 141
<211> 11
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 141

Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 142
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 142

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

Asp Arg Val Thr Ile Thr Cys
20

<210> 143
<211> 23
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 143

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
20

<210> 144
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 144

Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
1 5 10 15

<210> 145
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 145

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 146
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 146

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

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

<210> 147
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 147

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

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

<210> 148
<211> 10
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 148

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
1 5 10

<210> 149
<211> 448
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 149

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

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

Trp Ile Gln Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

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

Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser Thr Val 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 Arg Tyr Phe Phe Gly Ser Ser Pro Asn Trp Tyr Phe Asp Val Trp
100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro
115 120 125

Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr
130 135 140

Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr
145 150 155 160

Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro
165 170 175

Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr
180 185 190

Val Pro Ser Ser Asn Phe Gly Thr Gln Thr Tyr Thr Cys Asn Val Asp
195 200 205

His Lys Pro Ser Asn Thr Lys Val Asp Lys Thr Val Glu Arg Lys Cys
210 215 220

Cys Val Glu Cys Pro Pro Cys Pro Ala Pro Pro Val Ala Gly Pro Ser
225 230 235 240

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
245 250 255

Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro
260 265 270

Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
275 280 285

Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val
290 295 300

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
305 310 315 320

Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr
325 330 335

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
340 345 350

Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
355 360 365

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
370 375 380

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
385 390 395 400

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser
405 410 415

Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Leu His Glu Ala
420 425 430

Leu His Ser His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
435 440 445

<210> 150
<211> 214
<212> PRT
<213> Artificial sequence

<220>
<223> An artificially synthesized sequence

<400> 150

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 Gly Ala Ser Glu Asn Ile Tyr Gly Ala
20 25 30

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

Tyr Gly Ala Thr Asn Leu Ala Asp 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 Gln Asn Val Leu Asn Thr Pro Leu
85 90 95

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

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala

130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys
210