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<110> GENENTECH, INC.

<120> ANTI-B7-H4 ANTIBODIES AND IMMUNOCONJUGATES

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<150> US 61/784,877
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<151> 2013-09-05

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

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

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

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

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

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<213> Homo sapiens

<400> 2

Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr

20 25 30

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

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

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

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

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

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<213> Mus musculus

<400> 3

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

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

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

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

Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
65 70 75 80

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

Ala Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
100 105

<210> 4
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<400> 4

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

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

Trp Ile Gly Trp Ala Lys Gln Arg Pro Gly His Gly Phe Glu Trp Ile
        35                  40                  45

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
            100                 105                 110

Gln Gly Thr Ser Ile Thr Val Ser Ser
        115                 120


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<400>  5

Gly Tyr Thr Phe Thr Ser Tyr Tyr Ile His
1               5                   10


<210>  6
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<212>  PRT
<213>  Mus musculus

<400>  6

Asp Ile Tyr Pro Gly Gly Gly Tyr Thr Asn Tyr Asn Glu Lys Phe Lys
1               5                   10                  15

Gly



<210>  7
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<213>  Mus musculus

<400>  7

Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser
1               5                   10


<210>  8
<211>  11
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<212> PRT
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<400> 8

Lys Ala Ser Gln Gly Phe Asn Lys Tyr Val Ala
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<210> 9
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<400> 9

Tyr Thr Ser Thr Leu Gln Pro
1 5

<210> 10
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<213> Mus musculus

<400> 10

Leu Gln Tyr Gly Asn Leu Leu Tyr Ala
1 5

<210> 11
<211> 113
<212> PRT
<213> Mus musculus

<400> 11

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

Glu Lys Val Thr Met Ser Cys Arg Ser Ser Gln Ser Leu Phe Asp Ser
20 25 30

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

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

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

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

Asp Tyr Ser Phe Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Glu
100 105 110

Lys

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

Tyr Ile His Trp Met Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

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

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

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

Ala Arg Val Leu Phe Tyr Tyr Gly Ser Pro Phe Ala Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 13
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<400> 13

Gly Tyr Ser Phe Thr Gly Tyr Tyr Ile His
1 5 10

<210> 14
<211> 17
<212> PRT
<213> Mus musculus

<400> 14

Arg Val Asn Pro Asn Asn Gly Asp Pro Ile Tyr Asn Gln Lys Phe Arg
1 5 10 15

Gly

<210> 15

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<213> Mus musculus

<400> 15

Val Leu Phe Tyr Tyr Gly Ser Pro Phe Ala Tyr
1 5 10

<210> 16
<211> 17
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<400> 16

Arg Ser Ser Gln Ser Leu Phe Asp Ser Gly Ser Gln Arg Asn Tyr Leu
1 5 10 15

Thr

<210> 17
<211> 7
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<213> Mus musculus

<400> 17

Trp Ala Ser Thr Arg Glu Ser
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<210> 18
<211> 9
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<213> Mus musculus

<400> 18

Gln Asn Asp Tyr Ser Phe Pro Phe Thr
1 5

<210> 19
<211> 107
<212> PRT
<213> Mus musculus

<400> 19

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

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

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

Leu Ile Gly Gly Thr Asn Asn Arg Val Pro Gly Val Pro Ala Arg Phe
50 55 60

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


Gln Thr Glu Asp Glu Ala Met Tyr Phe Cys Ala Leu Trp Tyr Asn Asn
                85                  90                  95


His Trp Val Phe Gly Gly Gly Thr Lys Leu Glu
            100                 105


<210>  20
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<212>  PRT
<213>  Mus musculus

<400>  20

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


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


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


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


Lys Val Lys Ala Thr Phe Thr Ala Asp Thr Ser Ser Asn Thr Ala Tyr
65                  70                  75                  80


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


Ala Arg Tyr Tyr Phe Gly Ser Ser Ser Phe Tyr Phe Asp Tyr Trp Gly
            100                 105                 110


Gln Gly Thr Ser Leu Thr Val Ser Ser
        115                 120


<210>  21
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<400>  21

Gly Tyr Thr Phe Ser Ser Tyr Trp Ile Glu
1               5                   10


<210>  22
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<400> 22

Glu Ile Leu Pro Gly Thr Ser Ile Thr Thr Tyr Asn Ala Lys Phe Lys
1 5 10 15

Val

<210> 23
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<400> 23

Ala Arg Tyr Tyr Phe Gly Ser Ser Ser Phe Tyr Phe Asp Tyr
1 5 10

<210> 24
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<400> 24

Arg Ser Ser Thr Gly Ala Val Thr Thr Ser Asn Tyr Ala Asn
1 5 10

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<400> 25

Gly Thr Asn Asn Arg Val Pro
1 5

<210> 26
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<400> 26

Ala Leu Trp Tyr Asn Asn His Trp Val
1 5

<210> 27
<211> 106
<212> PRT
<213> Mus musculus

<400> 27

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

Glu Lys Val Thr Leu Thr Cys Ser Ala Thr Ser Ser Ile Ser Tyr Met
20 25 30

His Trp Tyr Gln Gln Lys Pro Gly Thr Ser Pro Lys Gly Trp Ile Tyr
35 40 45

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

Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Ser Met Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 28
<211> 116
<212> PRT
<213> Mus musculus

<400> 28

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

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

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

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

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

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

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

Thr Val Ser Ser
115

<210> 29
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<400> 29

Gly Tyr Thr Phe Thr Asn Phe Trp Ile His
1 5 10

<210> 30
<211> 17
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<213> Mus musculus

<400> 30

Glu Ile Asp Pro Ser Asp Ser Tyr Thr Asn Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 31
<211> 7
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<213> Mus musculus

<400> 31

Glu Ile Thr Thr Val Asp Tyr
1 5

<210> 32
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<400> 32

Ser Ala Thr Ser Ser Ile Ser Tyr Met His
1 5 10

<210> 33
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<400> 33

Asp Thr Ser Lys Leu Ala His
1 5

<210> 34
<211> 9
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<400> 34

His Gln Arg Arg Ser Tyr Pro Phe Thr
1 5

<210> 35
<211> 108
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<213> Artificial sequence

<220>
<223> Synthetic

<400> 35

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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
20 25 30

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

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

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

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

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

<210> 36
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<213> Artificial sequence

<220>
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<400> 36

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly

100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 37
<211> 121
<212> PRT
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<220>
<223> Synthetic

<400> 37

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 38
<211> 121
<212> PRT
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<400> 38

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

Trp Ile Gly Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile

35 40 45

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 39
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<212> PRT
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<400> 39

Gly Tyr Thr Phe Thr Ser Tyr Trp Ile Gly
1 5 10

<210> 40
<211> 17
<212> PRT
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<220>
<223> Synthetic

<400> 40

Asp Ile Tyr Pro Gly Gly Gly Tyr Thr Asn Tyr Asn Glu Lys Phe Lys
1 5 10 15

Gly

<210> 41
<211> 12
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 41

Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser
1 5 10

<210> 42
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<400> 42

Lys Ala Ser Gln Gly Phe Asn Lys Tyr Val Ala
1 5 10

<210> 43
<211> 7
<212> PRT
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<400> 43

Tyr Thr Ser Thr Leu Gln Pro
1 5

<210> 44
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<400> 44

Leu Gln Tyr Gly Asn Leu Leu Tyr Ala
1 5

<210> 45
<211> 23
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<213> Artificial sequence

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<400> 45

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
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<210> 46
<211> 15
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<400> 46

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
1 5 10 15

<210> 47
<211> 32
<212> PRT
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<220>
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<400> 47

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Arg Asp Tyr 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> 48
<211> 11
<212> PRT
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<400> 48

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
1 5 10

<210> 49
<211> 25
<212> PRT
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<400> 49

Glu 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
20 25

<210> 50
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 50

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly

1 5 10

<210> 51
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 51

Arg Ala Thr Leu Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 52
<211> 32
<212> PRT
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<220>
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<400> 52

Arg Ala Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 53
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<212> PRT
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<220>
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<400> 53

Arg Val Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 54
<211> 11
<212> PRT
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<400> 54

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

1 5 10

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<211> 106
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<400> 55

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 Ser Ala Thr Ser Ser Ile Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

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

<210> 56
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<400> 56

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

Lys Gly Arg Val Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr

65 70 75 80

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

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

Thr Val Ser Ser
115

<210> 57
<211> 106
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 57

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 Ser Ala Thr Ser Ser Ile Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

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

<210> 58
<211> 10
<212> PRT
<213> Artificial sequence

<220>
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<400> 58

Gly Tyr Thr Phe Thr Asn Phe Trp Ile His
1 5 10

<210> 59

<211> 17
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 59

Glu Ile Asp Pro Ser Asp Ser Tyr Thr Asn Tyr Asn Gln Lys Phe Lys
1 5 10 15

Gly

<210> 60
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 60

Glu Ile Thr Thr Val Asp Tyr
1 5

<210> 61
<211> 10
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<220>
<223> Synthetic

<400> 61

Ser Ala Thr Ser Ser Ile Ser Tyr Met His
1 5 10

<210> 62
<211> 7
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 62

Asp Thr Ser Lys Leu Ala His
1 5

<210> 63
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 63

His Gln Arg Arg Ser Tyr Pro Phe Thr
1 5

<210> 64
<211> 23
<212> PRT
<213> Artificial sequence

<220>
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<400> 64

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> 65
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 65

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Gly Trp Ile Tyr
1 5 10 15

<210> 66
<211> 15
<212> PRT
<213> Artificial sequence

<220>
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<400> 66

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Gly Leu Ile Tyr
1 5 10 15

<210> 67
<211> 32
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<220>
<223> Synthetic

<400> 67

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> 68
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<400> 68

Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
1 5 10

<210> 69
<211> 25
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<220>
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<400> 69

Glu 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
20 25

<210> 70
<211> 14
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 70

Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile Gly
1 5 10

<210> 71
<211> 32
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<213> Artificial sequence

<220>
<223> Synthetic

<400> 71

Arg Val Thr Ile Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 72
<211> 11
<212> PRT

<213> Artificial sequence

<220>
<223> Synthetic

<400> 72

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
1 5 10

<210> 73
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<212> PRT
<213> Homo sapiens

<400> 73

Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile
1 5 10 15

Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser
20 25 30

Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile
35 40 45

Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
50 55 60

Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Leu Gly Leu Val
65 70 75 80

His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp Glu Met
85 90 95

Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn
100 105 110

Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
115 120 125

Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu
130 135 140

Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn
145 150 155 160

Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
165 170 175

Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
180 185 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
195 200 205

```
Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
    210                 215                 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225                 230                 235                 240

Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn Ser
                245                 250                 255

Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile Ser Trp Ala Leu
            260                 265                 270

Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
        275                 280
```

<210> 74
<211> 254
<212> PRT
<213> Homo sapiens

<400> 74

```
Phe Gly Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser
1               5                   10                  15

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

Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val
        35                  40                  45

Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu
    50                  55                  60

Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val
65                  70                  75                  80

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

Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn
            100                 105                 110

Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn
        115                 120                 125

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

Trp Phe Pro Gln Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly
145                 150                 155                 160
```

```
Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu
                165                 170                 175

Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn
            180                 185                 190

Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly
        195                 200                 205

Asp Ile Lys Val Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln
    210                 215                 220

Leu Leu Asn Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile
225                 230                 235                 240

Ser Trp Ala Leu Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
                245                 250


<210>  75
<211>  282
<212>  PRT
<213>  Macaca fascicularis

<400>  75

Met Ala Ser Leu Gly Gln Ile Leu Phe Trp Ser Ile Ile Ser Ile Ile
1               5                   10                  15

Phe Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser
            20                  25                  30

Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile
        35                  40                  45

Gly Glu Asp Gly Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
    50                  55                  60

Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val Ile Gly Leu Val
65                  70                  75                  80

His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp Glu Met
                85                  90                  95

Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn
            100                 105                 110

Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
        115                 120                 125

Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu
    130                 135                 140
```

```
Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn
145                 150                 155                 160

Ala Ser Ser Glu Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
                165                 170                 175

Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
            180                 185                 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
        195                 200                 205

Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
    210                 215                 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225                 230                 235                 240

Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn Ser
                245                 250                 255

Lys Ala Ser Leu Cys Val Ser Ser Phe Leu Ala Ile Ser Trp Ala Leu
            260                 265                 270

Leu Pro Leu Ala Pro Tyr Leu Met Leu Lys
        275                 280
```

<210> 76
<211> 254
<212> PRT
<213> Macaca fascicularis

<400> 76

```
Phe Gly Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser
1               5                   10                  15

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

Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val
        35                  40                  45

Ile Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu
    50                  55                  60

Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val
65                  70                  75                  80

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

Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn
```

100 105 110

Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn
115 120 125

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

Trp Phe Pro Gln Pro Thr Val Val Trp Ala Ser Gln Val Asp Gln Gly
145 150 155 160

Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu
165 170 175

Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn
180 185 190

Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly
195 200 205

Asp Ile Lys Val Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln
210 215 220

Leu Leu Asn Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Leu Ala Ile
225 230 235 240

Ser Trp Ala Leu Leu Pro Leu Ala Pro Tyr Leu Met Leu Lys
245 250

<210> 77
<211> 282
<212> PRT
<213> Rattus norvegicus

<400> 77

Met Ala Ser Leu Gly Gln Ile Ile Phe Trp Ser Ile Ile Asn Val Ile
1 5 10 15

Ile Ile Leu Ala Gly Ala Ile Val Leu Ile Ile Gly Phe Gly Ile Ser
20 25 30

Gly Lys His Phe Ile Thr Val Thr Thr Phe Thr Ser Ala Gly Asn Ile
35 40 45

Gly Glu Asp Gly Thr Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
50 55 60

Asn Gly Ile Val Ile Gln Trp Leu Lys Glu Gly Ile Lys Gly Leu Val
65 70 75 80

His Glu Phe Lys Glu Gly Lys Asp Asp Leu Ser Gln Gln His Glu Met
85 90 95

```
Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Val Val Gly Asn
            100                 105                 110

Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
        115                 120                 125

Thr Cys Tyr Ile His Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu
    130                 135                 140

Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Ile Asn Val Asp Tyr Asn
145                 150                 155                 160

Ala Ser Ser Glu Ser Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
                165                 170                 175

Pro Thr Val Ala Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
            180                 185                 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
        195                 200                 205

Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
    210                 215                 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225                 230                 235                 240

Thr Asp Ser Glu Val Lys Arg Arg Ser Gln Leu Glu Leu Leu Asn Ser
                245                 250                 255

Gly Pro Ser Pro Cys Val Ser Ser Val Ser Ala Ala Gly Trp Ala Leu
            260                 265                 270

Leu Ser Leu Ser Cys Cys Leu Met Leu Arg
        275                 280
```

<210> 78
<211> 254
<212> PRT
<213> Rattus norvegicus

<400> 78

```
Phe Gly Ile Ser Gly Lys His Phe Ile Thr Val Thr Thr Phe Thr Ser
1               5                   10                  15

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

Asp Ile Lys Leu Asn Gly Ile Val Ile Gln Trp Leu Lys Glu Gly Ile
        35                  40                  45
```

```
Lys Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Asp Leu Ser Gln
    50                  55                  60

Gln His Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val
65                  70                  75                  80

Val Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp
                85                  90                  95

Ala Gly Thr Tyr Thr Cys Tyr Ile His Thr Ser Lys Gly Lys Gly Asn
            100                 105                 110

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

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

Trp Phe Pro Gln Pro Thr Val Ala Trp Ala Ser Gln Val Asp Gln Gly
145                 150                 155                 160

Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu
                165                 170                 175

Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn
            180                 185                 190

Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly
        195                 200                 205

Asp Ile Lys Val Thr Asp Ser Glu Val Lys Arg Arg Ser Gln Leu Glu
    210                 215                 220

Leu Leu Asn Ser Gly Pro Ser Pro Cys Val Ser Ser Val Ser Ala Ala
225                 230                 235                 240

Gly Trp Ala Leu Leu Ser Leu Ser Cys Cys Leu Met Leu Arg
                245                 250
```

<210> 79
<211> 283
<212> PRT
<213> Mus musculus

<400> 79

```
Met Ala Ser Leu Gly Gln Ile Ile Phe Trp Ser Ile Ile Asn Ile Ile
1               5                   10                  15

Ile Ile Leu Ala Gly Ala Ile Ala Leu Ile Ile Gly Phe Gly Ile Ser
            20                  25                  30
```

```
Gly Lys His Phe Ile Thr Val Thr Thr Phe Thr Ser Ala Gly Asn Ile
        35                  40                  45

Gly Glu Asp Gly Thr Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu
    50                  55                  60

Asn Gly Ile Val Ile Gln Trp Leu Lys Glu Gly Ile Lys Gly Leu Val
65                  70                  75                  80

His Glu Phe Lys Glu Gly Lys Asp Asp Leu Ser Gln Gln His Glu Met
                85                  90                  95

Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val Val Val Gly Asn
            100                 105                 110

Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr
        115                 120                 125

Thr Cys Tyr Ile Arg Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu
    130                 135                 140

Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Ile Asn Val Asp Tyr Asn
145                 150                 155                 160

Ala Ser Ser Glu Ser Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln
                165                 170                 175

Pro Thr Val Ala Trp Ala Ser Gln Val Asp Gln Gly Ala Asn Phe Ser
            180                 185                 190

Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met
        195                 200                 205

Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn Asn Thr Tyr Ser
    210                 215                 220

Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val
225                 230                 235                 240

Thr Asp Ser Glu Val Lys Arg Arg Ser Gln Leu Gln Leu Leu Asn Ser
                245                 250                 255

Gly Pro Ser Pro Cys Val Phe Ser Ser Ala Phe Ala Ala Gly Trp Ala
            260                 265                 270

Leu Leu Ser Leu Ser Cys Cys Leu Met Leu Arg
        275                 280
```

<210> 80
<211> 255
<212> PRT
<213> Mus musculus

<400> 80

```
Phe Gly Ile Ser Gly Lys His Phe Ile Thr Val Thr Thr Phe Thr Ser
1               5                  10                  15

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

Asp Ile Lys Leu Asn Gly Ile Val Ile Gln Trp Leu Lys Glu Gly Ile
        35                  40                  45

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

Gln His Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val
65                  70                  75                  80

Val Val Gly Asn Ala Ser Leu Arg Leu Lys Asn Val Gln Leu Thr Asp
                85                  90                  95

Ala Gly Thr Tyr Thr Cys Tyr Ile Arg Thr Ser Lys Gly Lys Gly Asn
            100                 105                 110

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

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

Trp Phe Pro Gln Pro Thr Val Ala Trp Ala Ser Gln Val Asp Gln Gly
145                 150                 155                 160

Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu
                165                 170                 175

Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn Val Thr Ile Asn
            180                 185                 190

Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly
        195                 200                 205

Asp Ile Lys Val Thr Asp Ser Glu Val Lys Arg Arg Ser Gln Leu Gln
    210                 215                 220

Leu Leu Asn Ser Gly Pro Ser Pro Cys Val Phe Ser Ser Ala Phe Ala
225                 230                 235                 240

Ala Gly Trp Ala Leu Leu Ser Leu Ser Cys Cys Leu Met Leu Arg
                245                 250                 255
```

<210> 81

<211> 278
<212> PRT
<213> Pan troglodytes

<400> 81

```
Met Lys Pro Leu Thr Ser Arg Ile Ile Ser Ile Ile Ile Ile Leu Ala
1               5                  10                  15

Gly Ala Ile Arg Leu Ile Ile Gly Phe Gly Ile Ser Gly Arg His Ser
            20                  25                  30

Ile Thr Val Thr Thr Val Ala Ser Ala Gly Asn Ile Gly Glu Asp Gly
        35                  40                  45

Ile Leu Ser Cys Thr Phe Glu Pro Asp Ile Lys Leu Ser Asp Ile Val
    50                  55                  60

Ile Gln Trp Leu Lys Glu Gly Val Leu Gly Leu Val His Glu Phe Lys
65                  70                  75                  80

Glu Gly Lys Asp Glu Leu Ser Glu Gln Asp Glu Met Phe Arg Gly Arg
                85                  90                  95

Thr Ala Val Phe Ala Asp Gln Val Ile Val Gly Asn Ala Ser Leu Arg
            100                 105                 110

Leu Lys Asn Val Gln Leu Thr Asp Ala Gly Thr Tyr Lys Cys Tyr Ile
        115                 120                 125

Ile Thr Ser Lys Gly Lys Gly Asn Ala Asn Leu Glu Tyr Lys Thr Gly
    130                 135                 140

Ala Phe Ser Met Pro Glu Val Asn Val Asp Tyr Asn Ala Ser Ser Glu
145                 150                 155                 160

Thr Leu Arg Cys Glu Ala Pro Arg Trp Phe Pro Gln Pro Thr Val Val
                165                 170                 175

Trp Ala Ser Gln Ile Asp Gln Gly Ala Asn Phe Ser Glu Val Ser Asn
            180                 185                 190

Thr Ser Phe Glu Leu Asn Ser Glu Asn Val Thr Met Lys Val Val Ser
        195                 200                 205

Val Leu Tyr Asn Ala Thr Ile Asn Asn Thr Tyr Ser Cys Met Ile Glu
    210                 215                 220

Asn Asp Ile Ala Lys Ala Thr Gly Asp Ile Lys Val Thr Glu Ser Glu
225                 230                 235                 240

Ile Lys Arg Arg Ser His Leu Gln Leu Leu Asn Ser Lys Ala Ser Leu
                245                 250                 255
```

```
Cys Val Ser Ser Phe Phe Ala Ile Ser Trp Ala Leu Leu Pro Leu Ser
            260                 265                 270


Pro Tyr Leu Met Leu Lys
        275


<210>  82
<211>  254
<212>  PRT
<213>  Pan troglodytes

<400>  82

Phe Gly Ile Ser Gly Arg His Ser Ile Thr Val Thr Thr Val Ala Ser
1               5                   10                  15


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


Asp Ile Lys Leu Ser Asp Ile Val Ile Gln Trp Leu Lys Glu Gly Val
        35                  40                  45


Leu Gly Leu Val His Glu Phe Lys Glu Gly Lys Asp Glu Leu Ser Glu
    50                  55                  60


Gln Asp Glu Met Phe Arg Gly Arg Thr Ala Val Phe Ala Asp Gln Val
65                  70                  75                  80


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


Ala Gly Thr Tyr Lys Cys Tyr Ile Ile Thr Ser Lys Gly Lys Gly Asn
            100                 105                 110


Ala Asn Leu Glu Tyr Lys Thr Gly Ala Phe Ser Met Pro Glu Val Asn
        115                 120                 125


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


Trp Phe Pro Gln Pro Thr Val Val Trp Ala Ser Gln Ile Asp Gln Gly
145                 150                 155                 160


Ala Asn Phe Ser Glu Val Ser Asn Thr Ser Phe Glu Leu Asn Ser Glu
                165                 170                 175


Asn Val Thr Met Lys Val Val Ser Val Leu Tyr Asn Ala Thr Ile Asn
            180                 185                 190


Asn Thr Tyr Ser Cys Met Ile Glu Asn Asp Ile Ala Lys Ala Thr Gly
        195                 200                 205
```

```
Asp Ile Lys Val Thr Glu Ser Glu Ile Lys Arg Arg Ser His Leu Gln
    210                 215                 220


Leu Leu Asn Ser Lys Ala Ser Leu Cys Val Ser Ser Phe Phe Ala Ile
225                 230                 235                 240


Ser Trp Ala Leu Leu Pro Leu Ser Pro Tyr Leu Met Leu Lys
                245                 250


<210>  83
<211>  15
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic

<400>  83

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile His
1               5                   10                  15


<210>  84
<211>  32
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic

<400>  84

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>  85
<211>  32
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic

<400>  85

Gly Ile Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Arg Asp Tyr 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>  86
<211>  32
<212>  PRT
<213>  Artificial sequence
```

<220>
<223> Synthetic

<400> 86

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr 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> 87
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 87

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Arg 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> 88
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 88

Arg Ala Thr Leu Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 89
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 89

Arg Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 90

<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 90

Arg Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 91
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 91

Arg Val Thr Leu Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 92
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 92

Arg Ala Thr Ile Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 93
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 93

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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr

20 25 30

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

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

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

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

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

<210> 94
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 94

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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
20 25 30

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

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

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

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

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

<210> 95
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 95

```
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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
            20                  25                  30

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

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

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

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

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

<210> 96
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 96

```
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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
            20                  25                  30

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

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

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

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

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

<210> 97
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 97

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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
20 25 30

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

His Tyr Thr Ser Thr Leu Gln Pro 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 Leu Gln Tyr Gly Asn Leu Leu Tyr
85 90 95

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

<210> 98
<211> 108
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 98

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 Lys Ala Ser Gln Gly Phe Asn Lys Tyr
20 25 30

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

His Tyr Thr Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
50 55 60

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

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

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

<210> 99
<211> 121
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 99

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 100
<211> 121
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 100

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

Lys Gly Arg Val Thr Leu Thr Ala Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 101
<211> 121
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 101

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Glu 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 Thr Phe Thr Ser Tyr
            20                  25                  30

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

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
            100                 105                 110

Gln Gly Thr Leu Val Thr Val Ser Ser
        115                 120
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<210> 102

<211> 121
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 102

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

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

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 103
<211> 121
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 103

Glu 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 Thr Phe Thr Ser Tyr
20 25 30

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

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

Lys Gly Arg Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

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

Ala Arg Leu Asp Gly Ser Ser Tyr Arg Gly Ala Met Asp Ser Trp Gly
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 104
<211> 106
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 104

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 Ser Ala Thr Ser Ser Ile Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

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

<210> 105
<211> 106
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 105

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 Ser Ala Thr Ser Ser Ile Ser Tyr Met

20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

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

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

<220>
<223> Synthetic

<400> 106

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 Ser Ala Thr Ser Ser Ile Ser Tyr Met
20 25 30

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

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

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

Asp Phe Ala Thr Tyr Tyr Cys His Gln Arg Arg Ser Tyr Pro Phe Thr
85 90 95

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

<210> 107
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 107

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

Lys Gly Arg Ala Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

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

Thr Val Ser Ser
115

<210> 108
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 108

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

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

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

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

Thr Val Ser Ser
115

<210> 109
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 109

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

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

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

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

Thr Val Ser Ser
115

<210> 110
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 110

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

Lys Gly Arg Val Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

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

Thr Val Ser Ser
        115


<210>  111
<211>  116
<212>  PRT
<213>  Artificial sequence

<220>
<223>  Synthetic

<400>  111

Glu 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 Thr Phe Thr Asn Phe
            20                  25                  30

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

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

Lys Gly Arg Ala Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80

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

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

Thr Val Ser Ser
        115


<210>  112
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<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 112

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

Lys Gly Arg Ala Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr
65 70 75 80

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

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

Thr Val Ser Ser
115

<210> 113
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 113

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

Lys Gly Arg Ala Thr Leu Thr Val Asp Lys Ser Thr Asn Thr Ala Tyr

65 70 75 80

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

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

Thr Val Ser Ser
115

<210> 114
<211> 116
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 114

Glu 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 Thr Phe Thr Asn Phe
20 25 30

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

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

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

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

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

Thr Val Ser Ser
115

<210> 115
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 115

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

1 5 10 15

<210> 116
<211> 15
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 116

Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Gly Leu Ile Tyr
1 5 10 15

<210> 117
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 117

Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr 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> 118
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 118

Arg Ala Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

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

<220>
<223> Synthetic

<400> 119

Arg Ala Thr Leu Thr Arg Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ser Arg

20 25 30

<210> 120
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 120

Arg Ala Thr Ile Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 121
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 121

Arg Val Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 122
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 122

Arg Ala Thr Leu Thr Val Asp Thr Ser Thr Ser Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 123
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 123

Arg Ala Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Leu Glu

1 5 10 15

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

<210> 124
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 124

Arg Ala Thr Leu Thr Val Asp Lys Ser Thr Asn Thr Ala Tyr Leu Glu
1 5 10 15

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

<210> 125
<211> 32
<212> PRT
<213> Artificial sequence

<220>
<223> Synthetic

<400> 125

Arg Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Tyr Leu Glu
1 5 10 15

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