

## SEQUENCE LISTING

<110> MEDIMMUNE, LLC

<120> HUMANIZED ANTI-OX40 ANTIBODIES AND USES THEREOF

<130> OX40H-100W01

<140>

<141>

<150> 62/062,431

<151> 2014-10-10

<160> 98

<170> PatentIn version 3.5

<210> 1

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 1

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

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Asn | Trp | Tyr | Gln | Gln | Lys | Pro | Asp | Gly | Thr | Val | Lys | Leu | Leu | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Tyr | Thr | Ser | Lys | Leu | His | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asp | Ile | Ala | Thr | Tyr | Phe | Cys | Gln | Gln | Gly | Ser | Ala | Leu | Pro | Trp |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

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

<210> 2  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 2  
Arg Ala Ser Gln Asp Ile Ser Asn Tyr Leu Asn  
1 5 10

<210> 3  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 3  
Tyr Thr Ser Lys Leu His Ser  
1 5

<210> 4  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 4  
Gln Gln Gly Ser Ala Leu Pro Trp Thr  
1 5

<210> 5  
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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 5

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

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

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

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

Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn His Tyr Tyr Leu  
65 70 75 80

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 6

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 6

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

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

<210> 7

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 7

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

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

<210> 8

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 8

Ser Gly Tyr Trp Asn  
1 5

<210> 9

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<220>  
<221> MOD\_RES  
<222> (4)..(4)  
<223> Gln or Lys

<220>  
<221> MOD\_RES  
<222> (12)..(12)  
<223> Trp or Tyr

<220>  
<221> MOD\_RES  
<222> (13)..(13)  
<223> Ile or Met

<400> 9  
Trp Ile Arg Xaa His Pro Gly Lys Gly Leu Glu Xaa Xaa Gly  
1 5 10

<210> 10  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 10  
Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly  
1 5 10

<210> 11  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 11  
Trp Ile Arg Lys His Pro Gly Lys Gly Leu Glu Tyr Met Gly  
1 5 10

<210> 12  
<211> 14

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 12  
Trp Ile Arg Lys His Pro Gly Lys Gly Leu Glu Trp Ile Gly  
1                  5                  10

<210> 13  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 13  
Trp Ile Arg Lys His Pro Gly Lys Gly Leu Glu Tyr Ile Gly  
1                  5                  10

<210> 14  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 14  
Tyr Ile Ser Tyr Asn Gly Ile Thr Tyr His Asn Pro Ser Leu Lys Ser  
1                  5                  10                  15

<210> 15  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 15

Tyr Ile Ser Tyr Asn Ala Ile Thr Tyr His Asn Pro Ser Leu Lys Ser  
1 5 10 15

<210> 16

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 16

Tyr Ile Ser Tyr Ser Gly Ile Thr Tyr His Asn Pro Ser Leu Lys Ser  
1 5 10 15

<210> 17

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<220>

<221> MOD\_RES

<222> (6)..(6)

<223> Pro or Arg

<220>

<221> MOD\_RES

<222> (13)..(13)

<223> Phe or Tyr

<220>

<221> MOD\_RES

<222> (29)..(29)

<223> Tyr or Phe

<400> 17

Arg Ile Thr Ile Asn Xaa Asp Thr Ser Lys Asn Gln Xaa Ser Leu Gln  
1 5 10 15

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

<210> 18  
<211> 32  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 18  
Arg Ile Thr Ile Asn Pro Asp Thr Ser Lys Asn Gln Phe Ser Leu Gln  
1 5 10 15

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

<210> 19  
<211> 32  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 19  
Arg Ile Thr Ile Asn Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Gln  
1 5 10 15

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

<210> 20  
<211> 32  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 20  
Arg Ile Thr Ile Asn Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Gln  
1 5 10 15

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

<210> 21

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 21

Arg Ile Thr Ile Asn Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Gln  
1 5 10 15

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

<210> 22

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 22

Arg Ile Thr Ile Asn Arg Asp Thr Ser Lys Asn Gln Tyr Ser Leu Gln  
1 5 10 15

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

<210> 23

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 23

Arg Ile Thr Ile Asn Pro Asp Thr Ser Lys Asn Gln Tyr Ser Leu Gln  
1 5 10 15

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

<210> 24

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 24

Arg Ile Thr Ile Asn Pro Asp Thr Ser Lys Asn Gln Tyr Ser Leu Gln  
1 5 10 15

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

<210> 25

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 25

Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr  
1 5 10

<210> 26

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 26

Tyr Lys Tyr Asp Tyr Asp Ala Gly His Ala Met Asp Tyr  
1 5 10

<210> 27

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 27

Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr  
1 5 10

<210> 28

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 28

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

<210> 29

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 29

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 Asp Ile Ser Asn Tyr  
20 25 30

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

Tyr Tyr Thr Ser Lys Leu His Ser 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 Gln Gln Gly Ser Ala Leu Pro Trp  
85 90 95

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

<210> 30

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

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

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

Tyr Tyr Thr Ser Lys Leu His Ser 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 Gln Gln Gly Ser Ala Leu Pro Trp  
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> 642

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 31

gacatccaga tgacccagag ccccagcagc ctgagcgcca gcgtgggcga cagagtgacc

60

atcacctgtc gggccagcca ggacatcagc aactacctga actggtatca gcagaagccc 120  
 ggcaaggccc ccaagctgct gatctactac accagcaagc tgcacagcgg cgtgcccagc 180  
 agattcagcg gcagcggctc cggcaccgac tacaccctga ccatcagcag cctgcagccc 240  
 gaggacttcg ccacctacta ctgccagcag ggctccgccc tgccctggac ctttggccag 300  
 ggaccaagg tggaaatcaa gcgtacgggtg gctgcaccat ctgtcttcat cttcccgcca 360  
 tctgatgagc agttgaaatc tggaactgcc tctgttgtgt gcctgctgaa taacttctat 420  
 cccagagagg ccaaagtaca gtggaagggtg gataacgccc tccaatcggg taactcccag 480  
 gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg 540  
 ctgagcaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc 600  
 ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gt 642

<210> 32

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<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 | Arg | Ala | Ser | Gln | Asp | Ile | Ser | Asn | Tyr |
|     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |     |

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Tyr | Thr | Ser | Lys | Leu | His | Ser | Gly | Val | Pro | Ser | Arg | Phe | Ser | Gly |
| 50  |     |     |     |     | 55  |     |     |     | 60  |     |     |     |     |     |     |

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

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

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

<210> 33

<211> 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 33

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

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 34  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polynucleotide

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acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggcagcac 120  
cccggcaagg gcctggaatg gatcggtac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cccgacacca gcaagaacca gttctccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360  
tct 363

<210> 35  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 36  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

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caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
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cccggcaagg gcctggaatg gatcggctac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gttctccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccg gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360  
tct 363

<210> 37  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

# polypeptide

<400> 37

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

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

Tyr Trp Asn Trp Ile Arg Lys His Pro Gly Lys Gly Leu Glu Tyr Met  
35 40 45

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 38

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 38

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acctgtgccg tgtacggcga cagcttcagc agcggctact ggaactggat ccggaagcac 120

cccggcaagg gcctggaata catgggctac atcagctaca acggcatcac ctaccacaac 180

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cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg      240
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact tctgcgcccg gtacagatac      300
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc      360
tct                                                                           363

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<210> 39  
 <211> 121  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 39  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
 1                      5                      10                      15

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
                     100                      105                      110

Gln Gly Thr Leu Val Thr Val Ser Ser  
                     115                      120

<210> 40  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 40  
cagggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcga cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggtac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact tctgcgcccg gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360  
tct 363

<210> 41  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 41  
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15  
  
Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Phe Ser Ser Gly  
20 25 30  
  
Tyr Trp Asn Trp Ile Arg Lys His Pro Gly Lys Gly Leu Glu Tyr Ile  
35 40 45  
  
Gly Tyr Ile Ser Tyr Asn Gly Ile Thr Tyr His Asn Pro Ser Leu Lys

50

55

60

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

&lt;210&gt; 42

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

&lt;400&gt; 42

caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60

acctgtgccg tgtacggcga cagcttcagc agcggctact ggaactggat ccggaagcac 120

cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180

cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gttctccctg 240

cagctgaaca gcgtgacccc cgaggacacc gccgtgtact tctgcgcccgtgtacagatac 300

gactacgacg gcggccacgc catggactac tggggccagg gcaccctgggt caccgtgtcc 360

tct 363

&lt;210&gt; 43

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 43

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

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 44

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 44

cagggtgcagc tgcaggaaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60

acctgtgccg tgtacggcga cagcttcagc agcggctact ggaactggat ccggaagcac 120

```

cccggaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180
cccagcctga agtccccgat caccatcaac cgggacacca gcaagaacca gtactccctg 240
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacagatac 300
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360
tct 363

```

<210> 45  
 <211> 121  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polypeptide

<400> 45  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
 1 5 10 15

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser

<210> 46  
 <211> 363  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polynucleotide

<400> 46  
 cagggtgcagc tgcaggaaag cggccctggc ctgggtcaagc ccagccagac cctgagcctg 60  
 acctgtgccg tgtacggcga cagcttcagc agcgggtact ggaactggat ccggaagcac 120  
 cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180  
 cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gttctccctg 240  
 cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacagatac 300  
 gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360  
 tct 363

<210> 47  
 <211> 121  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 48  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 48  
caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cccgacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact tctgcgcccc gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggc caccgtgtcc 360  
tct 363

<210> 49  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 49

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

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 50

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 50

cagggtgcagc tgcaggaaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60

acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120

```

cccggaagg gcctggaata catcggtac atcagctaca acggcatcac ctaccacaac 180
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact tctgcgcccgt gtacagatac 300
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360
tct 363

```

```

<210> 51
<211> 121
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Description of Artificial Sequence: Synthetic
      polypeptide

```

```

<400> 51
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1           5           10           15

```

```

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

```

```

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

```

```

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

```

```

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

```

```

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

```

```

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly
      100          105          110

```

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 52  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 52  
cagggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccg gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360  
tct 363

<210> 53  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 53  
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 54  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 54  
caggtgcagc tgcaggaaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cccgacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360  
tct 363

<210> 55  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 55

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Ala Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 56

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 56

cagggtgcagc tgcaggaaag cggccctggc ctgggtcaagc ccagccagac cctgagcctg

60

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| acctgtgccg | tgtacggcgg | cagcttcagc | agcggctact | ggaactggat | ccggaagcac | 120 |
| cccggcaagg | gcctggaata | catcggctac | atcagctaca | acgccatcac | ctaccacaac | 180 |
| cccagcctga | agtcccggat | caccatcaac | cgggacacca | gcaagaacca | gtactccctg | 240 |
| cagctgaaca | gcgtgacccc | cgaggacacc | gccgtgtact | actgcgcccg | gtacaaatac | 300 |
| gactacgacg | ccggccacgc | catggactac | tggggccagg | gcaccctggg | caccgtgtcc | 360 |
| tct        |            |            |            |            |            | 363 |

<210> 57

$\langle 211 \rangle$  121

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Description of Artificial Sequence: Synthetic polypeptide

&lt;400&gt; 57

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

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 58  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 58  
caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca acgccatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacagatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360  
tct 363

<210> 59  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 59  
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
1 5 10 15

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 60  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 60  
caggtgcagc tgcaggaaag cggccctggc ctgggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggc caccgtgtcc 360  
tct 363

<210> 61  
<211> 121  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 61

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

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

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

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

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

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 62

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 62

cagggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg

60

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| acctgtgccg | tgtacggcgg | cagcttcagc | agcggctact | ggaactggat | ccggaagcac | 120 |
| cccggcaagg | gcctggaata | catcggctac | atcagctaca | gcggcatcac | ctaccacaac | 180 |
| cccagcctga | agtcccggat | caccatcaac | cgggacacca | gcaagaacca | gtactccctg | 240 |
| cagctgaaca | gcgtgacccc | cgaggacacc | gccgtgtact | actgcgcccc | gtacagatac | 300 |
| gactacgacg | gcggccacgc | catggactac | tggggccagg | gcaccctggg | caccgtgtcc | 360 |
| tct        |            |            |            |            |            | 363 |

<210> 63

**<211> 121**

&lt;212&gt; PRT

### <213> Artificial Sequence

 $\langle 220 \rangle$ 

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 63

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 64  
<211> 363  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 64  
caggtgcagc tgcaggaaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggctac atcagctaca gcggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc 360  
tct 363

<210> 65  
<211> 121  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 65  
Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln  
1 5 10 15

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

Tyr Trp Asn Trp Ile Arg Lys Phe Pro Gly Asn Arg Leu Glu Tyr Met

35

40

45

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

Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn His Tyr Tyr Leu  
 65 70 75 80

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

Arg Tyr Arg Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
 100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
 115 120

&lt;210&gt; 66

&lt;211&gt; 363

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polynucleotide

&lt;400&gt; 66

gaggtgcagc tgcaggaaag cggccccagc ctggtcaagc ccagccagac cctgagcctg 60

acctgcagcg tgaccggcga cagcttcacc agcggctact ggaactggat ccggaagtgc 120

cccggcaacc ggctcgagta catgggctac atcagctaca acgccatcac ctaccacaac 180

cccagcctga agtcccggat cagcatcacc cgggacacca gcaagaacca ctactacctg 240

cagctgaaca gcgtgaccac cgaggacacc gccacctact tttgcgcccgtacagatac 300

gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360

tct 363

&lt;210&gt; 67

&lt;211&gt; 121

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 67

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 68

<211> 363

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 68

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg | 60  |
| acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac | 120 |
| cccggcaagg gcctggaata catcggctac atcagctaca acgccatcac ctaccacaac | 180 |
| cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg | 240 |
| cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccg gtacaaatac | 300 |
| gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc | 360 |
| tct                                                               | 363 |

<210> 69  
 <211> 330  
 <212> PRT  
 <213> Homo sapiens

<400> 69  
 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

Arg Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys  
 100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser 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 Ala Leu Pro Ala Pro 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 Met His Glu Ala Leu His Asn His Tyr Thr  
 305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
325 330

<210> 70  
<211> 990  
<212> DNA  
<213> Homo sapiens

<400> 70  
gcgtcgacca agggcccatc cgtcttcccc ctggcaccct cctccaagag cacctctggg 60  
ggcacagcgg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgtcc 120  
tggaactcag gcgctctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca 180  
ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg caccagacc 240  
tacatctgca acgtgaatca caagcccagc aacaccaagg tggacaagag agttgagccc 300  
aaatcttgtg aaaaaactca cacatgcccc ccgtgcccag cacctgaact cctggggggga 360  
ccgtcagtct tcctcttccc cccaaaaccc aaggacaccc tcatgatctc ccggaccctt 420  
gaggtcacat gcgtgggtgg ggacgtgagc cacgaagacc ctgaggtcaa gttcaactgg 480  
tacgtggacg gcgtggaggt gcataatgcc aagacaaagc cgcgggagga gcagtacaac 540  
agcacgtacc gtgtggtcag cgtcctcacc gtcctgcacc aggactggct gaatggcaag 600  
gagtacaagt gcaaggcttc caacaaagcc ctcccagccc ccatcgagaa aaccatctcc 660  
aaagccaaag ggcagccccg agaaccacag gtctacaccc tgcccccatc ccgggaggag 720  
atgaccaaga accaggtcag cctgacctgc ctgggtcaaag gcttctatcc cagcgacatc 780  
gccgtggagt gggagagcaa tgggcagccg gagaacaact acaagaccac gcctcccgtg 840  
ctggactccg acggctcctt cttcctctat agcaagctca ccgtggacaa gagcaggtgg 900  
cagcagggga acgtcttctc atgctccgtg atgcatgagg ctctgcacaa ccactacacg 960  
cagaagagct taagcctgtc tccgggtaaa 990

<210> 71  
<211> 451  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 71

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala  
130 135 140

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

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

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

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His  
195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly  
225 230 235 240

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

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His  
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val  
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr  
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly  
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile  
325 330 335

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser  
435 440 445

Pro Gly Lys  
450

<210> 72

<211> 1353

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 72

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| cagggtgcagc tgcaggaaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg | 60  |
| acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac   | 120 |
| cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac   | 180 |
| cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg   | 240 |
| cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac   | 300 |
| gactacgacg gcggccacgc catggactac tggggccagg gcaccctggc caccgtgtcc   | 360 |
| tctgcgtcga ccaaggcccc atccgtcttc cccctggcac cctcctcaa gagcacctct    | 420 |
| gggggcacag cggccctggg ctgcctggtc aaggactact tccccgaacc ggtgacggtg   | 480 |
| tcctggaact caggcgctct gaccagcggc gtgcacacct tcccggctgt cctacagtcc   | 540 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tcaggactct actccctcag cagcgtggtg accgtgccct ccagcagctt gggcaccag   | 600  |
| acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gagagttgag  | 660  |
| cccaaactct gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga actcctgggg  | 720  |
| ggaccgtcag tcttctctt cccccaaaa cccaaggaca ccctcatgat ctcccggacc    | 780  |
| cctgagggtca catgcgtggt ggtggacgtg agccacgaag accctgaggt caagttcaac | 840  |
| tggtacgtgg acggcgtgga ggtgcataat gccaaagacaa agccgcggga ggagcagtac | 900  |
| aacagcacgt accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaatggc  | 960  |
| aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc   | 1020 |
| tccaaagcca aagggcagcc ccgagaacca caggctctaca ccctgcccc atcccgggag  | 1080 |
| gagatgacca agaaccaggt cagcctgacc tgcctggtca aaggcttcta tcccagcgac  | 1140 |
| atgcccggtg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc   | 1200 |
| gtgctggact ccgacggctc cttcttcctc tatagcaagc tcaccgtgga caagagcagg  | 1260 |
| tggcagcagg ggaacgtctt ctcattgctcc gtgatgcatg aggctctgca caaccactac | 1320 |
| acgcagaaga gcttaagcct gtctccgggt aaa                               | 1353 |

<210> 73

<211> 448

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 73

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

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Trp | Asn | Trp | Ile | Arg | Lys | His | Pro | Gly | Lys | Gly | Leu | Glu | Tyr | Ile |
|     |     | 35  |     |     |     | 40  |     |     |     |     | 45  |     |     |     |     |

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

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

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

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

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

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

Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His  
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly  
210 215 220

Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly 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> 74  
<211> 1344  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 74  
caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60  
acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120  
cccggcaagg gcctggaata catcggtac atcagctaca acggcatcac ctaccacaac 180  
cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240  
cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac 300  
gactacgacg gcggccacgc catggactac tggggccagg gcaccctggt caccgtgtcc 360  
tctgcgtcga ccaagggtccc cagcgtgttc cccctggccc cttgcagcag aagcaccagc 420  
gagagcacag ccgccctggg ctgcctgggtg aaggactact tccccgagcc cgtgaccgtg 480  
tcctggaaca gcggcgctct gaccagcggc gtgcatacct tccccgccgt gctccagagc 540  
agcggactgt actccctgag cagcgtgggtg accgtgcctt ccagcagcct gggcaccaag 600  
acctacacct gcaacgtgga ccacaagccc agcaacacca aggtggacaa gagagtggag 660  
agcaagtacg gccctccctg ccccccttgc cctgcccccg agttcctggg cggacctagc 720  
gtgttcctgt tccccccaa gcccaaggac accctgatga tcagcagaac ccccgagggtg 780  
acctgcgtgg tgggtggacgt gtcccaggag gaccccgagg tccagtttaa ttggtacgtg 840  
gacggcgtgg aagtgcataa cgccaagacc aagcccagag aggagcagtt caacagcacc 900  
tacagagtgg tgtccgtgct gaccgtgctg caccaggact ggctgaacgg caaggaatac 960  
aagtgcagg tctccaacaa gggcctgcct agcagcatcg agaagaccat cagcaaggcc 1020  
aagggccagc cacgggagcc ccaggcttac accctgccac ctagccaaga ggagatgacc 1080  
aagaaccagg tgtccctgac ctgtctgggtg aaaggcttct atcccagcga tatcgccgtg 1140  
gagtgggaga gcaacggcca gcccgagaac aactacaaga ccaccccccc tgtgctggac 1200

agcgacggca gcttcttcct gtactccaga ctgaccgtgg acaagtccag atggcaggag 1260  
 ggcaacgtct tcagctgctc cgtgatgcac gaggccctgc acaaccacta cacccagaag 1320  
 tccctgagcc tgagcctggg caag 1344

<210> 75  
 <211> 451  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polypeptide

<400> 75  
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln  
 1 5 10 15

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
 100 105 110

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala  
130 135 140

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

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

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

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His  
195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Phe Glu Gly  
225 230 235 240

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

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His  
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val  
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr  
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly  
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Ser Ile  
325 330 335

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser  
435 440 445

Pro Gly Lys  
450

<210> 76

<211> 1353

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 76

caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60

acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120

cccggcaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180

|                                                                    |      |
|--------------------------------------------------------------------|------|
| cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg  | 240  |
| cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac  | 300  |
| gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc  | 360  |
| tctgcgtcga ccaagggccc atccgtcttc cccctggcac cctcctccaa gagcacctct  | 420  |
| gggggcacag cggccctggg ctgcctgggt aaggactact tccccgaacc ggtgacgggtg | 480  |
| tcctggaact caggcgctct gaccagcggc gtgcacacct tcccggtgt cctacagtcc   | 540  |
| tcaggactct actccctcag cagcgtgggt accgtgccct ccagcagctt gggcacccag  | 600  |
| acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gagagttgag  | 660  |
| cccaaattct gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga attcgagggg  | 720  |
| ggaccgtcag tcttctctt cccccaaaa cccaaggaca cctcatgat ctcccggacc     | 780  |
| cctgagggtca catgcgtggg ggtggacgtg agccacgaag accctgaggt caagttcaac | 840  |
| tggtagctgg acggcgtgga ggtgcataat gccaaagacaa agccgcggga ggagcagtac | 900  |
| aacagcacgt accgtgtggg cagcgtcctc accgtcctgc accaggactg gctgaatggc  | 960  |
| aaggagtaca agtgcaaggt ctccaacaaa gccctcccag cctccatcga gaaaaccatc  | 1020 |
| tcaaagcca aagggcagcc ccgagaacca caggtctaca ccctgcccc atcccgggag    | 1080 |
| gagatgacca agaaccaggt cagcctgacc tgcctgggtca aaggcttcta tcccagcgac | 1140 |
| atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cacgcctccc  | 1200 |
| gtgctggact ccgacggctc cttcttcctc tatagcaagc tcaccgtgga caagagcagg  | 1260 |
| tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggctctgca caaccactac  | 1320 |
| acgcagaaga gcctctccct gtctccgggt aaa                               | 1353 |

<210> 77

<211> 448

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 77

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

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

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

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

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

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

Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His

195

200

205

Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly  
 210 215 220

Pro Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly 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> 78

<211> 1344

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 78

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg  | 60  |
| acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac  | 120 |
| cccggcaagg gcctggaata catcggctac atcagctaca acgccatcac ctaccacaac  | 180 |
| cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg  | 240 |
| cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac  | 300 |
| gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc  | 360 |
| tctgcgtcga ccaagggccc cagcgtgttc cccctggccc cttgcagcag aagcaccagc  | 420 |
| gagagcacag ccgccctggg ctgcctgggtg aaggactact tccccgagcc cgtgaccgtg | 480 |
| tcctggaaca gcggcgctct gaccagcggc gtgcatacct tccccgccgt gctccagagc  | 540 |
| agcggactgt actccctgag cagcgtgggtg accgtgcctt ccagcagcct gggcaccaag | 600 |
| acctacacct gcaacgtgga ccacaagccc agcaacacca aggtggacaa gagagtggag  | 660 |
| agcaagtacg gccctccctg ccccccttgc cctgcccccg agttcctggg cggacctagc  | 720 |
| gtgttcctgt tcccccccaa gcccaaggac accctgatga tcagcagaac ccccagggtg  | 780 |
| acctgcgtgg tgggtggacgt gtcccaggag gaccccgagg tccagtttaa ttggtacgtg | 840 |



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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

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

Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala  
130 135 140

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

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

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

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His  
195 200 205

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

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Phe Glu Gly  
225 230 235 240

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

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His  
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val  
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr  
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly  
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Ser Ile  
325 330 335

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

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

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

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro  
385 390 395 400

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

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met  
420 425 430

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser  
435 440 445

Pro Gly Lys  
450

<210> 80

<211> 1353

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 80

|                                                                   |      |
|-------------------------------------------------------------------|------|
| caggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg | 60   |
| acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac | 120  |
| cccggcaagg gcctggaata catcggctac atcagctaca acgccatcac ctaccacaac | 180  |
| cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg | 240  |
| cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccg gtacaaatac | 300  |
| gactacgacg gcggccacgc catggactac tggggccagg gcaccctggg caccgtgtcc | 360  |
| tctgcgtcga ccaaggggcc atccgtcttc cccctggcac cctcctccaa gagcacctct | 420  |
| gggggcacag cggccctggg ctgcctgggc aaggactact tccccgaacc ggtgacggtg | 480  |
| tcctggaact caggcgctct gaccagcggc gtgcacacct tcccggctgt cctacagtcc | 540  |
| tcaggactct actccctcag cagcgtgggt accgtgccct ccagcagctt gggcacccag | 600  |
| acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gagagttgag | 660  |
| cccaaattct gtgacaaaac tcacacatgc ccaccgtgcc cagcacctga attcgagggg | 720  |
| ggaccgtcag tcttcctctt cccccaaaa cccaaggaca ccctcatgat ctccggacc   | 780  |
| cctgaggtca catgcgtggg ggtggacgtg agccacgaag accctgaggt caagttcaac | 840  |
| tgggtacgtg acggcgtgga ggtgcataat gccaagacaa agccgcggga ggagcagtac | 900  |
| aacagcacgt accgtgtggg cagcgtcctc accgtcctgc accaggactg gctgaatggc | 960  |
| aaggagtaca agtgcaaggt ctccaacaaa gccctcccag cctccatcga gaaaaccatc | 1020 |
| tccaaagcca aagggcagcc ccgagaacca caggtctaca ccctgcccc atcccgggag  | 1080 |
| gagatgacca agaaccaggg cagcctgacc tgcctgggtc aaggcttcta tcccagcgac | 1140 |
| atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cacgcctccc | 1200 |
| gtgctggact ccgacggctc cttcttcctc tatagcaagc tcaccgtgga caagagcagg | 1260 |
| tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggctctgca caaccactac | 1320 |

acgcagaaga gcctctccct gtctccgggt aaa

1353

<210> 81

<211> 445

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 81

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

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

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

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

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

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

Arg Tyr Lys Tyr Asp Tyr Asp Gly Gly His Ala Met Asp Tyr Trp Gly  
100 105 110

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

Val Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val  
130 135 140

Thr Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Thr | Trp | Asn | Ser | Gly | Ser | Leu | Ser | Ser | Gly | Val | His | Thr | Phe | Pro | Ala |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Leu | Gln | Ser | Asp | Leu | Tyr | Thr | Leu | Ser | Ser | Ser | Val | Thr | Val | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ser | Thr | Trp | Pro | Ser | Glu | Thr | Val | Thr | Cys | Asn | Val | Ala | His | Pro |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Ala | Ser | Ser | Thr | Lys | Val | Asp | Lys | Lys | Ile | Val | Pro | Arg | Asp | Cys | Gly |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Cys | Lys | Pro | Cys | Ile | Cys | Thr | Val | Pro | Glu | Val | Ser | Ser | Val | Phe | Ile |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Phe | Pro | Pro | Lys | Pro | Lys | Asp | Val | Leu | Thr | Ile | Thr | Leu | Thr | Pro | Lys |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Val | Thr | Cys | Val | Val | Val | Asp | Ile | Ser | Lys | Asp | Asp | Pro | Glu | Val | Gln |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Phe | Ser | Trp | Phe | Val | Asp | Asp | Val | Glu | Val | His | Thr | Ala | Gln | Thr | Gln |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Phe | Arg | Ser | Val | Ser | Glu | Leu |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Pro | Ile | Met | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Phe | Lys | Cys | Arg |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Val | Asn | Ser | Ala | Ala | Phe | Pro | Ala | Pro | Ile | Glu | Lys | Thr | Ile | Ser | Lys |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Thr | Lys | Gly | Arg | Pro | Lys | Ala | Pro | Gln | Val | Tyr | Thr | Ile | Pro | Pro | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |

Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr  
355 360 365

Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln  
370 375 380

Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly  
385 390 395 400

Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu  
405 410 415

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

His His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys  
435 440 445

<210> 82

<211> 1335

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 82

cagggtgcagc tgcaggaaag cggccctggc ctggtcaagc ccagccagac cctgagcctg 60

acctgtgccg tgtacggcgg cagcttcagc agcggctact ggaactggat ccggaagcac 120

cccggaagg gcctggaata catcggctac atcagctaca acggcatcac ctaccacaac 180

cccagcctga agtcccggat caccatcaac cgggacacca gcaagaacca gtactccctg 240

cagctgaaca gcgtgacccc cgaggacacc gccgtgtact actgcgcccc gtacaaatac 300

gactacgacg gcggccacgc catggactac tggggccagg gcaccctggc caccgtgtcc 360

tctgcgaaga cgacaccccc atctgtctat cacttgcccc ctggatctgc tgcccaaact 420

aactccatgg tgaccctggg atgcctggtc aagggtatt tccctgagcc agtgacagtg 480

|                                                                   |      |
|-------------------------------------------------------------------|------|
| acctggaact ctggatccct gtccagcggc gtgcacacct tcccagctgt cctgcagtct | 540  |
| gacctctaca ctctgagcag ctccagtact gtccctcca gcacctggcc cagcgagacc  | 600  |
| gtcacctgca acgttgccca cccggccagc agcaccaagg tggacaagaa aattgtgccc | 660  |
| agggattgtg gttgtaagcc ttgcatatgt accgtcccag aagtatcatc tgtcttcatc | 720  |
| ttcccccaa agcccaagga tgtgctcacc attactctga ctccaaaggc cacgtgtgtt  | 780  |
| gtggtagaca tcagcaagga tgatcccagc gtccagttca gctggtttgt agatgatgtg | 840  |
| gaggtgcaca cagctcagac gcaaccccgaggaggagcagt tcaacagcac tttccgctca | 900  |
| gtcagtgaac ttcccatcat gcaccaggac tggctcaatg gcaaggagtt caaatgcagg | 960  |
| gtcaacagtg cagctttccc tgcccccatc gagaaaacca tctccaaaac caaaggcaga | 1020 |
| ccgaaggctc cacaggtgta taccattcca cctcccaagg agcagatggc caaggataaa | 1080 |
| gtcagtctga cctgcatgat aacagacttc ttccctgaag acattactgt ggagtggcag | 1140 |
| tggaatgggc agccagcggg gaactacaag aacactcagc ccatcatgga cacagatggc | 1200 |
| tcttacttcg tctacagcaa gctcaatgtg cagaagagca actgggaggc aggaaatact | 1260 |
| ttcacctgct ctgtgttaca tgagggcctg cacaaccacc atactgagaa ggcctctcc  | 1320 |
| cactctcctg gtaaa                                                  | 1335 |

<210> 83

<211> 214

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 83

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 | Asp | Ile | Ser | Asn | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

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

Tyr Tyr Thr Ser Lys Leu His Ser 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 Gln Gln Gly Ser Ala Leu Pro Trp  
85 90 95

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

Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu Gln Leu Thr Ser Gly  
115 120 125

Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe Tyr Pro Lys Asp Ile  
130 135 140

Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg Gln Asn Gly Val Leu  
145 150 155 160

Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser Thr Tyr Ser Met Ser  
165 170 175

Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu Arg His Asn Ser Tyr  
180 185 190

Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser Pro Ile Val Lys Ser  
195 200 205

Phe Asn Arg Asn Glu Cys  
210

<210> 84

<211> 642

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 84  
gacatccaga tgacccagag ccccagcagc ctgagcgcca gcgtgggcga cagagtgacc 60  
atcacctgtc gggccagcca ggacatcagc aactacctga actggtatca gcagaagccc 120  
ggcaaggccc ccaagctgct gatctactac accagcaagc tgcacagcgg cgtgcccagc 180  
agattcagcg gcagcggctc cggcaccgac tacaccctga ccatcagcag cctgcagccc 240  
gaggacttcg ccacctacta ctgccagcag ggctccgccc tgccctggac ctttggccag 300  
ggcaccaagg tggaaatcaa gcgggctgat gcggcgccaa ctgtatccat cttcccacca 360  
tccagtgagc agttaacatc tggaggtgcc tcagtcgtgt gcttcttgaa caacttctac 420  
cccaaagaca tcaatgtcaa gtggaagatt gatggcagtg aacgacaaaa tggcgtcctg 480  
aacagttgga ctgatcagga cagcaaagac agcacctaca gcatgagcag caccctcacg 540  
ttgaccaagg acgagtatga acgacataac agctatacct gtgaggccac tcacaagaca 600  
tcaacttcac ccattgtcaa gagcttcaac aggaatgagt gt 642

<210> 85  
<211> 117  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 85  
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Gln Pro Ser Gln  
1 5 10 15  
  
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Phe Ser Leu Thr Gly Tyr  
20 25 30  
  
Asn Leu His Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Met

35

40

45

Gly Arg Met Arg Tyr Asp Gly Asp Thr Tyr Tyr Asn Ser Val Leu Lys  
 50 55 60

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

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

Arg Asp Gly Arg Gly Asp Ser Phe Asp Tyr Trp Gly Gln Gly Val Met  
 100 105 110

Val Thr Val Ser Ser  
 115

<210> 86

<211> 441

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 86

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

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

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

Gly Arg Met Arg Tyr Asp Gly Asp Thr Tyr Tyr Asn Ser Val Leu Lys  
 50 55 60

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

|                                                                 |                                                 |     |     |     |     |     |
|-----------------------------------------------------------------|-------------------------------------------------|-----|-----|-----|-----|-----|
| 65                                                              |                                                 | 70  |     | 75  |     | 80  |
| Lys Met Asn Ser                                                 | Leu Gln Thr Asp Asp Thr Ala Ile Tyr Tyr Cys Thr |     |     |     |     |     |
|                                                                 | 85                                              |     | 90  |     | 95  |     |
| Arg Asp Gly Arg Gly Asp Ser Phe Asp Tyr Trp Gly Gln Gly Val Met |                                                 |     |     |     |     |     |
|                                                                 | 100                                             |     | 105 |     | 110 |     |
| Val Thr Val Ser Ser Ala Ser Thr Thr Pro Pro Ser Val Tyr Pro Leu |                                                 |     |     |     |     |     |
|                                                                 | 115                                             |     | 120 |     | 125 |     |
| Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr Leu Gly Cys |                                                 |     |     |     |     |     |
|                                                                 | 130                                             |     | 135 |     | 140 |     |
| Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr Trp Asn Ser |                                                 |     |     |     |     |     |
| 145                                                             |                                                 | 150 |     | 155 |     | 160 |
| Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser |                                                 |     |     |     |     |     |
|                                                                 | 165                                             |     | 170 |     | 175 |     |
| Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser Ser Thr Trp |                                                 |     |     |     |     |     |
|                                                                 | 180                                             |     | 185 |     | 190 |     |
| Pro Ser Glu Thr Val Thr Cys Asn Val Ala His Pro Ala Ser Ser Thr |                                                 |     |     |     |     |     |
|                                                                 | 195                                             |     | 200 |     | 205 |     |
| Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly Cys Lys Pro Cys |                                                 |     |     |     |     |     |
|                                                                 | 210                                             |     | 215 |     | 220 |     |
| Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys |                                                 |     |     |     |     |     |
| 225                                                             |                                                 | 230 |     | 235 |     | 240 |
| Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val |                                                 |     |     |     |     |     |
|                                                                 | 245                                             |     | 250 |     | 255 |     |
| Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp Phe |                                                 |     |     |     |     |     |
|                                                                 | 260                                             |     | 265 |     | 270 |     |

Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg Glu Glu  
275 280 285

Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile Met His  
290 295 300

Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val Asn Ser Ala  
305 310 315 320

Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Arg  
325 330 335

Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys Glu Gln Met  
340 345 350

Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asp Phe Phe Pro  
355 360 365

Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro Ala Glu Asn  
370 375 380

Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser Tyr Phe Val  
385 390 395 400

Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr  
405 410 415

Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His Thr Glu  
420 425 430

Lys Ser Leu Ser His Ser Pro Gly Lys  
435 440

<210> 87

<211> 1323

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 87

|                                                                      |      |
|----------------------------------------------------------------------|------|
| cagggtgcagc tgaaggagtc aggacctggt ctgggtgcagc cctcacagac cctgtccctc  | 60   |
| acctgcactg tctctggggt ctcactaacc ggttacaatt tacactgggt tcgccagcct    | 120  |
| ccaggaaaagg gtctggagtg gatgggaaga atgaggatat atggagacac atattataat   | 180  |
| tcagtttctca aatccccgact gagcatcagc agggacacct ccaagaacca agttttcttg  | 240  |
| aaaatgaaca gtctgcaaac ggatgacaca gccatttact attgtaccag agacgggcgt    | 300  |
| ggtgactcct ttgattactg gggccaagga gtcattgtca cagtctcctc cgcgtcgacg    | 360  |
| acacccccat ctgtctatcc actggccccct ggatctgtctg cccaaactaa ctccatgggtg | 420  |
| accctgggat gcctgggtcaa gggctatttc cctgagccag tgacagtgc ctggaactct    | 480  |
| ggatccctgt ccagcgggtg gcacaccttc ccagctgtcc tgcagtctga cctctacact    | 540  |
| ctgagcagct cagtgcactgt cccctccagc acctggccca gcgagaccgt cacctgcaac   | 600  |
| gttgcccacc cggccagcag caccaagggtg gacaagaaaa ttgtgcccag ggattgtggt   | 660  |
| tgtaagcctt gcatatgtac cgtcccagaa gtatcatctg tcttcatctt ccccccaaag    | 720  |
| cccaaggatg tgctcaccat tactctgact cctaagggtca cgtgtgttgt ggtagacatc   | 780  |
| agcaaggatg atcccagggt ccagttcagc tggttttag atgatgtgga ggtgcacaca     | 840  |
| gctcagacgc aaccccggga ggagcagttc aacagcactt tccgctcagt cagtgaactt    | 900  |
| cccatcatgc accaggactg gctcaatggc aaggagttca aatgcagggt caacagtgc     | 960  |
| gctttccctg ccccatcga gaaaaccatc tccaaaacca aaggcagacc gaaggctcca     | 1020 |
| cagggtgtata ccattccacc tccaaggag cagatggcca aggataaagt cagtctgacc    | 1080 |
| tgcatgataa cagacttctt ccctgaagac attactgtgg agtggcagtg gaatgggcag    | 1140 |
| ccagcggaga actacaagaa cactcagccc atcatggaca cagatggctc ttacttcgtc    | 1200 |
| tacagcaagc tcaatgtgca gaagagcaac tgggaggcag gaaatacttt cacctgctct    | 1260 |
| gtgttacatg agggcctgca caaccacat actgagaaga gcctctccca ctctcctggt     | 1320 |
| aaa                                                                  | 1323 |

<210> 88  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 88  
Asp Ile Val Met Thr Gln Gly Ala Leu Pro Asn Pro Val Pro Ser Gly  
1 5 10 15

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

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

Pro Gln Leu Leu Thr Tyr Trp Met Ser Thr Arg Ala Ser Gly Val Ser  
50 55 60

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

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

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

<210> 89  
<211> 219  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 89

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

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

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

Pro Gln Leu Leu Thr Tyr Trp Met Ser Thr Arg Ala Ser Gly Val Ser  
50 55 60

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

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

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

Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro Ser Ser Glu  
115 120 125

Gln Leu Thr Ser Gly Gly Ala Ser Val Val Cys Phe Leu Asn Asn Phe  
130 135 140

Tyr Pro Lys Asp Ile Asn Val Lys Trp Lys Ile Asp Gly Ser Glu Arg  
145 150 155 160

Gln Asn Gly Val Leu Asn Ser Trp Thr Asp Gln Asp Ser Lys Asp Ser  
165 170 175

Thr Tyr Ser Met Ser Ser Thr Leu Thr Leu Thr Lys Asp Glu Tyr Glu  
180 185 190

Arg His Asn Ser Tyr Thr Cys Glu Ala Thr His Lys Thr Ser Thr Ser  
195 200 205

Pro Ile Val Lys Ser Phe Asn Arg Asn Glu Cys  
210 215

<210> 90  
<211> 657  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 90  
gatattgtga tgacccaggg tgcactcccc aatcctgtcc cttctggaga gtcagcttcc 60  
atcacctgca ggtctagtca gagtctggta tacaaagacg gccagacata cttgaattgg 120  
tttctgcaga ggccaggaca gtctcctcag cttctgacct attggatgtc taccctgtgca 180  
tcaggagtct cagacagggt cagtggcagt gggtcaggaa catatttcac actgaaaatc 240  
agtagagtga gggctgagga tgcgggtgtg tattactgtc agcaagttcg agagtatcct 300  
ttcactttcg gctcaggac gaagttggaa ataaaacggg ctgatgcggc gccaactgta 360  
tccatcttcc caccatccag tgagcagtta acatctggag gtgcctcagt cgtgtgcttc 420  
ttgaacaact tctaccccaa agacatcaat gtcaagtgga agattgatgg cagtgaacga 480  
caaaatggcg tcctgaacag ttggactgat caggacagca aagacagcac ctacagcatg 540  
agcagcacc tcacgttgac caaggacgag tatgaacgac ataacagcta tacctgtgag 600  
gccactcaca agacatcaac ttcacccatt gtcaagagct tcaacaggaa tgagtgt 657

<210> 91  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 91  
Met Cys Val Gly Ala Arg Arg Leu Gly Arg Gly Pro Cys Ala Ala Leu  
1 5 10 15

Leu Leu Leu Gly Leu Gly Leu Ser Thr Val Thr Gly Leu His Cys Val

20

25

30

Gly Asp Thr Tyr Pro Ser Asn Asp Arg Cys Cys His Glu Cys Arg Pro  
 35 40 45

Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln Asn Thr Val Cys  
 50 55 60

Arg Pro Cys Gly Pro Gly Phe Tyr Asn Asp Val Val Ser Ser Lys Pro  
 65 70 75 80

Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly Ser Glu Arg Lys  
 85 90 95

Gln Leu Cys Thr Ala Thr Gln Asp Thr Val Cys Arg Cys Arg Ala Gly  
 100 105 110

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

Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp  
 130 135 140

Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln Pro Ala Ser Asn  
 145 150 155 160

Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro Ala Thr Gln Pro  
 165 170 175

Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr Val Gln Pro Thr  
 180 185 190

Glu Ala Trp Pro Arg Thr Ser Gln Gly Pro Ser Thr Arg Pro Val Glu  
 195 200 205

Val Pro Gly Gly Arg Ala Val Ala Ala Ile Leu Gly Leu Gly Leu Val  
 210 215 220

Leu Gly Leu Leu Gly Pro Leu Ala Ile Leu Leu Ala Leu Tyr Leu Leu  
225 230 235 240

Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly  
245 250 255

Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp Ala His Ser  
260 265 270

Thr Leu Ala Lys Ile  
275

<210> 92

<211> 272

<212> PRT

<213> Mus musculus

<400> 92

Met Tyr Val Trp Val Gln Gln Pro Thr Ala Leu Leu Leu Leu Gly Leu  
1 5 10 15

Thr Leu Gly Val Thr Ala Arg Arg Leu Asn Cys Val Lys His Thr Tyr  
20 25 30

Pro Ser Gly His Lys Cys Cys Arg Glu Cys Gln Pro Gly His Gly Met  
35 40 45

Val Ser Arg Cys Asp His Thr Arg Asp Thr Leu Cys His Pro Cys Glu  
50 55 60

Thr Gly Phe Tyr Asn Glu Ala Val Asn Tyr Asp Thr Cys Lys Gln Cys  
65 70 75 80

Thr Gln Cys Asn His Arg Ser Gly Ser Glu Leu Lys Gln Asn Cys Thr  
85 90 95

Pro Thr Gln Asp Thr Val Cys Arg Cys Arg Pro Gly Thr Gln Pro Arg  
100 105 110

Gln Asp Ser Gly Tyr Lys Leu Gly Val Asp Cys Val Pro Cys Pro Pro  
115 120 125

Gly His Phe Ser Pro Gly Asn Asn Gln Ala Cys Lys Pro Trp Thr Asn  
130 135 140

Cys Thr Leu Ser Gly Lys Gln Thr Arg His Pro Ala Ser Asp Ser Leu  
145 150 155 160

Asp Ala Val Cys Glu Asp Arg Ser Leu Leu Ala Thr Leu Leu Trp Glu  
165 170 175

Thr Gln Arg Pro Thr Phe Arg Pro Thr Thr Val Gln Ser Thr Thr Val  
180 185 190

Trp Pro Arg Thr Ser Glu Leu Pro Ser Pro Pro Thr Leu Val Thr Pro  
195 200 205

Glu Gly Pro Ala Phe Ala Val Leu Leu Gly Leu Gly Leu Gly Leu Leu  
210 215 220

Ala Pro Leu Thr Val Leu Leu Ala Leu Tyr Leu Leu Arg Lys Ala Trp  
225 230 235 240

Arg Leu Pro Asn Thr Pro Lys Pro Cys Trp Gly Asn Ser Phe Arg Thr  
245 250 255

Pro Ile Gln Glu Glu His Thr Asp Ala His Phe Thr Leu Ala Lys Ile  
260 265 270

<210> 93

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 93

Arg Tyr Asp Tyr Asp Gly  
1 5

<210> 94

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 94

Lys Tyr Asp Tyr Asp Ala  
1 5

<210> 95

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 95

Lys Tyr Asp Tyr Asp Gly  
1 5

<210> 96

<211> 177

<212> PRT

<213> Homo sapiens

<400> 96

Met Cys Val Gly Ala Arg Arg Leu Gly Arg Gly Pro Cys Ala Ala Leu  
1 5 10 15

Leu Leu Leu Gly Leu Gly Leu Ser Thr Val Thr Gly Leu His Cys Val  
20 25 30

Gly Asp Thr Tyr Pro Ser Asn Asp Arg Cys Cys His Glu Cys Arg Pro  
35 40 45

Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln Asn Thr Val Cys  
50 55 60

Arg Pro Cys Gly Pro Gly Phe Tyr Asn Asp Val Val Ser Ser Lys Pro  
65 70 75 80

Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly Ser Glu Arg Lys  
85 90 95

Gln Leu Cys Thr Ala Thr Gln Asp Thr Val Cys Arg Cys Arg Ala Gly  
100 105 110

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

Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp  
130 135 140

Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln Pro Ala Ser Asn  
145 150 155 160

Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro Ala Thr Gln Pro  
165 170 175

Gln

<210> 97

<211> 175

<212> PRT

<213> Mus musculus

<400> 97

Met Tyr Val Trp Val Gln Gln Pro Thr Ala Leu Leu Leu Leu Ala Leu  
1 5 10 15

Thr Leu Gly Val Thr Ala Arg Arg Leu Asn Cys Val Lys His Thr Tyr  
20 25 30

Pro Ser Gly His Lys Cys Cys Arg Glu Cys Gln Pro Gly His Gly Met  
35 40 45

Val Ser Arg Cys Asp His Thr Arg Asp Thr Leu Cys His Pro Cys Glu  
50 55 60

Thr Gly Phe Tyr Asn Glu Ala Val Asn Tyr Asp Thr Cys Lys Gln Cys  
65 70 75 80

Thr Gln Cys Asn His Arg Ser Gly Ser Glu Leu Lys Gln Asn Cys Thr  
85 90 95

Pro Thr Gln Asp Thr Val Cys Arg Cys Arg Pro Gly Thr Gln Pro Arg  
100 105 110

Gln Asp Ser Gly Tyr Lys Leu Gly Val Asp Cys Val Pro Cys Pro Pro  
115 120 125

Gly His Phe Ser Pro Gly Asn Asn Gln Ala Cys Lys Pro Trp Thr Asn  
130 135 140

Cys Thr Leu Ser Gly Lys Gln Thr Arg His Pro Ala Ser Asp Ser Leu  
145 150 155 160

Asp Ala Val Cys Glu Asp Arg Ser Leu Leu Ala Thr Leu Leu Trp  
165 170 175

<210> 98

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
6xHis tag

<400> 98

His His His His His His  
1 5

