

# SEQUENCE LISTING

<110> Regeneron Pharmaceuticals, Inc

<120> Anti-GITR Antibodies and Uses Thereof

<130> 238811-34.4 (10206W001)

<150> 62/348,353

<151> 2016-06-10

<150> 62/500,312

<151> 2017-05-02

<150> 62/432,023

<151> 2016-12-09

<150> 62/256,922

<151> 2015-11-18

<160> 413

<170> PatentIn version 3.5

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ccaggcaagg ggctggagtg ggtggcagtt atatggtatc ctggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccgtc tccagagaca attccaagaa cacgctgtat 240

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

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

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

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

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

Ala Arg Asp Gly Glu Leu Gly Leu Asp Tyr Tyr Ser Gly Met Asp Val  
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
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gggaaagccc ctaagcgcct gatcaatggg gcatccagtt tgcaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttactctca caatcagcag cctgcagcct 240  
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Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp  
20 25 30

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

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

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

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

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
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Gly Ala Ser  
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Leu Gln Leu Asn Ser Tyr Pro Arg Thr  
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ccaggcaagg ggctggagtg ggtggcagtt atatggtatc ctggaagtaa taagttctat 180  
acagactccg tggagggccg attcaccatc tccagagaca attccaagaa cacggtatat 240  
ctacaaatgg acagcctgag agccgaagac acggctgtgt attactgtgc gagagggggg 300  
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr  
20 25 30

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

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

Glu Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Val Tyr  
65 70 75 80

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

Ala Arg Gly Gly Ala Leu Gly Val Asp Tyr Tyr Tyr Gly Met Asp Val  
100 105 110

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
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Gly Phe Thr Phe Ser Asn Tyr Gly  
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Ile Trp Tyr Pro Gly Ser Asn Lys  
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gggaaagccc ctaatttcct gatctattct gcatccagtt tacaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tggcacagat ttactctca ccatcagcag cctacagcct 240  
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Ala Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
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Asp Arg Val Thr Leu Thr Cys Arg Ala Ser Gln Gly Ile Arg Asn Asp  
20 25 30

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

Tyr Ser 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 Leu Gln Asn Tyr Asn Tyr Pro Trp  
85 90 95

Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
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Gln Gly Ile Arg Asn Asp  
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Ser Ala Ser  
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120

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ctgcaaatga acagtctgaa agccgaagac acggctgagt attattgtgc gaaagatggg 300  
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Ser Leu Arg Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asp Tyr  
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Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
35 40 45

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

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

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

Ala Lys Asp Gly Gly Gln Leu Ala Tyr Gln Tyr Tyr Tyr Gly Met Asp  
100 105 110

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

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Gly Phe Thr Phe Ser Asp Tyr Gly  
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ctcacttgcc gggcaagtca gggcattaga aatgatttag gctggatatca gcagaaacca 120

ggaaaagccc ctaagagcct gatctatgct gcttccaatt tacaaagtgg agtcccttca 180

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcag cctgcagcct | 240 |
| gaggattctg caacttatta ctgtctacaa gactacaatt accctcggac gttcggccaa | 300 |
| gggaccaagg tggaaatcaa a                                           | 321 |

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

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

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ala | Ala | Ser | Asn | 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 | Ser | Ala | Thr | Tyr | Tyr | Cys | Leu | Gln | Asp | Tyr | Asn | Tyr | Pro | Arg |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Phe | Gly | Gln | Gly | Thr | Lys | Val | Glu | Ile | Lys |
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Gln Gly Ile Arg Asn Asp

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Leu Gln Asp Tyr Asn Tyr Pro Arg Thr  
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ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatattat 180  
gcagactccg tgaagggccg attcaccatc tccagagaca gttccaggga cagctgttt 240  
ctgcaaatga acagcctgag agccggggac acggctgtgt attactgtgc gagaggaggt 300  
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1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Asn Phe Arg Ser Tyr  
20 25 30

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

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

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

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

Ala Arg Gly Gly Met Leu Gly Arg Asp Tyr Tyr Tyr Gly Met Asp Val  
100 105 110

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

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Gly Phe Asn Phe Arg Ser Tyr Gly  
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atatggtatg atggaagtaa taaa

24

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Ile Trp Tyr Asp Gly Ser Asn Lys  
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gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttactctca caatcagcag cctgcagcct 240  
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Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly  
1 5 10 15

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

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg 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 Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

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

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

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18

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Gln Gly Ile Arg Asn Asp  
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Ala Ala Ser  
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Leu Gln His Asn Ser Tyr Pro Asn Thr  
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<400> 65

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ccaggcaagg ggctggagtg ggtgtcagtt atatggtatg aggggagtaa taaatattat 180  
gcagattcag tgaagggccg attcaccatc tccagagaca attccagaaa cacgctgagt 240  
ctgcaaatgg acagcctgag agtcgaggac acggctgtgt attactgtgc gagaggtggg 300  
gaactgggag tcaactacta ttacgatatg gacgtctggg gccaaaggac cacggtcacc 360  
gtctcctca 369

<210> 66

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

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<400> 66

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

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

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

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

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

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

Ala Arg Gly Gly Glu Leu Gly Val Asn Tyr Tyr Tyr Asp Met Asp Val  
100 105 110

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

<210> 67  
<211> 24  
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<400> 67  
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24

<210> 68  
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<400> 68

Gly Phe Thr Phe Ser Ser Phe Gly  
1 5

<210> 69  
<211> 24

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<400> 69  
atatggtatg aggggagtaa taaa

24

<210> 70  
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<400> 70

Ile Trp Tyr Glu Gly Ser Asn Lys  
1 5

<210> 71  
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<400> 71  
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48

<210> 72  
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<400> 72

Ala Arg Gly Gly Glu Leu Gly Val Asn Tyr Tyr Tyr Asp Met Asp Val  
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<210> 73  
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<212> DNA  
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<400> 73  
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atcacttgcc gggcaagtca ggacattaaa aatgatttag gctggtttca gcagaaggca 120  
ggtaaagccc ctaagcgcct gttctatgct acatccagtt tgcaaagtgg ggtcccatca 180  
cggttcagcg gcagtggatc tgggacagaa ttactctca caatcagcag cctgcagcct 240  
gaagattttg caacttatta ctgtctacag gttcatagtt accctcggac gttcggccaa 300  
gggaccaagg tggaaatcaa a 321

<210> 74  
<211> 107  
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<220>  
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<400> 74

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 Lys Asn Asp  
20 25 30

Leu Gly Trp Phe Gln Gln Lys Ala Gly Lys Ala Pro Lys Arg Leu Phe  
35 40 45

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

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

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

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

<210> 75  
<211> 18  
<212> DNA  
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<220>  
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<400> 75  
caggacatta aaaatgat

18

<210> 76  
<211> 6  
<212> PRT  
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<220>  
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<400> 76

Gln Asp Ile Lys Asn Asp  
1 5

<210> 77  
<211> 9  
<212> DNA  
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<400> 77  
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9

<210> 78  
<211> 3

<212> PRT  
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<223> synthetic

<400> 78

Ala Thr Ser  
1

<210> 79  
<211> 27  
<212> DNA  
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27

<210> 80  
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<400> 80

Leu Gln Val His Ser Tyr Pro Arg Thr  
1 5

<210> 81  
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<400> 81  
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60

tcctgtgaag cgtctggatt caccttcagc aactatggct ttcactgggt ccgccaggct

120

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| ccaggcaagg ggctggattg ggtggcagtt atatggtatg ctggaagtaa taagttctat | 180 |
| gtagactccg tgcagggccg attcaccatc tccagagaca attccaaaca aatattgttt | 240 |
| cttcaaatga acagcctgag agccgaggac tcggctgttt attactgtgt gagagggggg | 300 |
| atactgggca tagactacta ctccggtatg gacgtctggg gccaaaggac cacggtcacc | 360 |
| gtctcctca                                                         | 369 |

|                       |                     |
|-----------------------|---------------------|
| $\langle 210 \rangle$ | 82                  |
| $\langle 211 \rangle$ | 123                 |
| $\langle 212 \rangle$ | PRT                 |
| $\langle 213 \rangle$ | Artificial Sequence |

<220>  
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<400> 82

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

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

Gly Phe His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Asp Trp Val  
35 40 45

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

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

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Arg | Gly | Gly | Ile | Leu | Gly | Ile | Asp | Tyr | Tyr | Ser | Gly | Met | Asp | Val |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

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

<210> 83  
<211> 24  
<212> DNA  
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<400> 83  
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24

<210> 84  
<211> 8  
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<220>  
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<400> 84

Gly Phe Thr Phe Ser Asn Tyr Gly  
1 5

<210> 85  
<211> 24  
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<400> 85  
atatggtatg ctggaagtaa taag

24

<210> 86  
<211> 8  
<212> PRT  
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<220>  
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<400> 86

Ile Trp Tyr Ala Gly Ser Asn Lys  
1 5

<210> 87

<211> 48

<212> DNA

<213> Artificial Sequence

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<223> synthetic

<400> 87

gtgagagggg ggatactggg catagactac tactccggta tggacgtc 48

<210> 88

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 88

Val Arg Gly Gly Ile Leu Gly Ile Asp Tyr Tyr Ser Gly Met Asp Val  
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<210> 89

<211> 321

<212> DNA

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<220>

<223> synthetic

<400> 89

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gggaaggccc ctaagttcct gatctattct acatccagtt tacaaagtgg ggtcccatca 180

agattcagcg gcagtggatc tggcacagat ttcatctca ccatcagcag cctgcagcct 240

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gggaccaagg tggaaatcaa a

321

<210> 90  
<211> 107  
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<400> 90

Ala 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 Arg Asn Asp  
20 25 30

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

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

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

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

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

<210> 91  
<211> 18  
<212> DNA  
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<400> 91  
caggacatta gaaatgat

18

<210> 92  
<211> 6  
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<400> 92

Gln Asp Ile Arg Asn Asp  
1 5

<210> 93  
<211> 9  
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<400> 93  
tctacatcc

9

<210> 94  
<211> 3  
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<220>  
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<400> 94

Ser Thr Ser  
1

<210> 95  
<211> 27  
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<223> synthetic

<400> 95

ctacaaagtc acaattatcc gtggacg

27

<210> 96

<211> 9

<212> PRT

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<223> synthetic

<400> 96

Leu Gln Ser His Asn Tyr Pro Trp Thr

1

5

<210> 97

<211> 369

<212> DNA

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<400> 97

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ccaggcaagg ggctggagtg ggtggcagtt atatggtatg acggaagtaa taaatactat 180

tcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacactgttt 240

ctgcaaatga acagcctgag agccgacgac acggctgtgt attattgtgc gagagacggg 300

gaactgggac tggactacta ctccggtatg gacgtctggg gccaagggac cacggtcacc 360

gtctcctca 369

<210> 98

<211> 123

<212> PRT

<213> Artificial Sequence

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<400> 98

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

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

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

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

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

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

Ala Arg Asp Gly Glu Leu Gly Leu Asp Tyr Tyr Ser Gly Met Asp Val  
100 105 110

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

<210> 99

<211> 24

<212> DNA

<213> Artificial Sequence

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<400> 99

ggattcaccc tcagtagtta tggc

24

<210> 100

<211> 8

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<400> 100

Gly Phe Thr Leu Ser Ser Tyr Gly  
1 5

<210> 101  
<211> 24  
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24

<210> 102  
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<400> 102

Ile Trp Tyr Asp Gly Ser Asn Lys  
1 5

<210> 103  
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<400> 103  
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48

<210> 104  
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<220>  
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<400> 104

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Asp | Gly | Glu | Leu | Gly | Leu | Asp | Tyr | Tyr | Ser | Gly | Met | Asp | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     |     | 15  |     |

<210> 105  
<211> 321  
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<400> 105

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| gacatccaga | tgacccagtc | tccatcctcc | ctgtctgcat | ctgtaggaga | cagagtcacc | 60  |
| atcacttgcc | gggcaagtca | ggacattaga | aatgatttag | gctggtatca | gcagaaacca | 120 |
| gggaaagccc | ctaagcgcct | gatctatggc | gcatccagtt | tgcaaagtgg | tgtcccatca | 180 |
| aggttcagcg | gcagtggatc | tgggacagag | ttcactctca | caatcagcag | cctgcagcct | 240 |
| gaagattttg | caacttatta | ttgtctacag | cttaatagtt | accctcggac | gttcggccaa | 300 |
| gggaccaagg | tggaatatca | a          |            |            |            | 321 |

<210> 106  
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<400> 106

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 Arg Asn Asp  
20 25 30

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

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

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

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

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

<210> 107  
<211> 18  
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<220>  
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<400> 107  
caggacatta gaaatgat

18

<210> 108  
<211> 6  
<212> PRT  
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<220>  
<223> synthetic

<400> 108

Gln Asp Ile Arg Asn Asp  
1 5

<210> 109  
<211> 9  
<212> DNA  
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<400> 109  
ggtgcatcc

9

<210> 110  
<211> 3  
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<220>  
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<400> 110

Gly Ala Ser  
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<210> 111  
<211> 27  
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<400> 111  
ctacagctta atagttaccc tcggacg

27

<210> 112  
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<212> PRT  
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<400> 112

Leu Gln Leu Asn Ser Tyr Pro Arg Thr  
1 5

<210> 113  
<211> 354  
<212> DNA  
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<400> 113  
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ccaggcaagg ggctggagtg ggtggcagtg atatcatatg atggaagaaa tagatactat 180  
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240  
ctgcaaatga acagtctgag cgctgaggac acggctatgt tttactgtgc gaaagatggc 300  
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<210> 114  
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<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 114

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

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

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

Ala Val Ile Ser Tyr Asp Gly Arg Asn Arg Tyr Tyr Ala Asp Ser Val  
50 55 60

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

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

Ala Lys Asp Gly Phe Gly Asn Ser Phe Asp Tyr Trp Gly Gln Gly Thr  
100 105 110

Leu Val Thr Val Ser Ser  
115

<210> 115  
<211> 24  
<212> DNA  
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<400> 115  
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24

<210> 116  
<211> 8  
<212> PRT  
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<220>  
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<400> 116

Gly Phe Thr Phe Ser Ser Phe Gly  
1 5

<210> 117  
<211> 24  
<212> DNA  
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<220>  
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<400> 117  
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24

<210> 118  
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<220>  
<223> synthetic

<400> 118

Ile Ser Tyr Asp Gly Arg Asn Arg  
1 5

<210> 119  
<211> 33  
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<400> 119  
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33

<210> 120  
<211> 11  
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<220>  
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<400> 120

Ala Lys Asp Gly Phe Gly Asn Ser Phe Asp Tyr  
1 5 10

<210> 121  
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<400> 121

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tttcagcaga ggccaggcca atctccaagg cgcctaattt ataaggtttc taaccgggac      180
tctgggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgacaatc      240
agcaggggtgg aggctgagga tgttgggatt tattactgca tgcaaggcac acactggccg      300
tggacgtttg gccaaaggac caaggtggaa atcaaa                                336
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<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 122

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

```
Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu Tyr Ser
      20              25              30
```

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

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

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

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

<210> 123  
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<212> DNA  
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<220>  
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<400> 123  
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33

<210> 124  
<211> 11  
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<220>  
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<400> 124

Gln Ser Leu Leu Tyr Ser Asp Gly Asn Thr Tyr  
1 5 10

<210> 125  
<211> 9  
<212> DNA  
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<220>  
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<400> 125  
aaggtttct

9

<210> 126  
<211> 3  
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<400> 126

Lys Val Ser  
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<210> 127

<211> 27

<212> DNA

<213> Artificial Sequence

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<223> synthetic

<400> 127

atgcaaggca cacactggcc gtggacg

27

<210> 128

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 128

Met Gln Gly Thr His Trp Pro Trp Thr  
1 5

<210> 129

<211> 369

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 129

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tcctgtgaag cgtctggatt caccttcagt agctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtaca gtgaaagtaa taaatactat 180

acagactcca tgaagggccg actcaccatc tccagagaca attccaagaa cacgctgtat 240

ttgcaaataga acagcctgag agccgaggac acggctgtgt attattgtgc gagagggggg 300

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 gtctcctca 369

<210> 130  
 <211> 123  
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<220>  
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<400> 130

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

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

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

Ala Val Ile Trp Tyr Ser Glu Ser Asn Lys Tyr Tyr Thr Asp Ser Met  
 50 55 60

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

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

Ala Arg Gly Gly Leu Leu Gly Lys Tyr Tyr Tyr Tyr Gly Met Asp Val  
 100 105 110

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

<210> 131  
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24

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<400> 132

Gly Phe Thr Phe Ser Ser Tyr Gly  
1 5

<210> 133  
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<400> 133  
atatggtaca gtgaaagtaa taaa

24

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<220>  
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<400> 134

Ile Trp Tyr Ser Glu Ser Asn Lys  
1 5

<210> 135  
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<400> 135  
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<210> 136  
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<400> 136  
Ala Arg Gly Gly Leu Leu Gly Lys Tyr Tyr Tyr Tyr Gly Met Asp Val  
1 5 10 15

<210> 137  
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<400> 137  
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gggaaagccc ctaagcgcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240  
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<210> 138  
<211> 107

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<400> 138

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

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

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg 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 Glu Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
65 70 75 80

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

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

<210> 139  
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<400> 139

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18

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<400> 140

Gln Asp Ile Arg Asn Asp  
1 5

<210> 141  
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<400> 141  
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9

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Ala Ala Ser  
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27

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<400> 144

Leu Gln Leu Asn Ser Tyr Pro Tyr Thr  
1 5

<210> 145  
<211> 369  
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<400> 145

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ccaggcaagg ggctggagtg ggtggcggtt atttggtatg ctggaagtaa taaatattat 180  
gcagactctg tgaaggaccg atttaccatc tccagagaca attccaagaa cacgctgtat 240  
ctgcagatgc gcagcctgag agtcgaggac acggctgtat attactgtgc gagagggggg 300  
gaattgcgtc ttgactacta ctccggtttg gacgtctggg gccaaaggac cacggtcacc 360  
gtctcctca 369

<210> 146  
<211> 123  
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<220>  
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<400> 146

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

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

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

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

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

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

Ala Arg Gly Gly Glu Leu Arg Leu Asp Tyr Tyr Ser Gly Leu Asp Val  
100 105 110

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

<210> 147  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 147  
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24

<210> 148  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 148

Gly Phe Thr Phe Ser Asp Tyr Gly  
1 5

<210> 149

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 149

atttggtatg ctggaagtaa taaa

24

<210> 150

<211> 8

<212> PRT

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<220>

<223> synthetic

<400> 150

Ile Trp Tyr Ala Gly Ser Asn Lys  
1 5

<210> 151

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 151

gcgagagggg ggggaattgcg tcttgactac tactccggtt tggacgtc

48

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<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 152

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

<210> 153

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 153

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gtcacttgcc gggcaagtca gggcattaga agtgatttag gctggtatca gcagaaacca 120  
ggaaaagccc ctaagcgcct gatctatgct gcatccagtt tccaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttactctca caatcagcag cctgcaccct 240  
gaagattttg ctacttatta ctgtctacag tctaataatt acccgtggac gttcggccaa 300  
gggaccaagg tggaaatcaa a 321

<210> 154

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 154

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

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

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

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

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

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

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

<210> 155  
<211> 18  
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<213> Artificial Sequence

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<400> 155  
cagggcatta gaagtgat

18

<210> 156  
<211> 6  
<212> PRT  
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<220>  
<223> synthetic

<400> 156

Gln Gly Ile Arg Ser Asp  
1 5

<210> 157  
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<220>

<223> synthetic

<400> 157

gctgcatcc

9

<210> 158

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 158

Ala Ala Ser

1

<210> 159

<211> 27

<212> DNA

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27

<210> 160

<211> 9

<212> PRT

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<220>

<223> synthetic

<400> 160

Leu Gln Ser Asn Asn Tyr Pro Trp Thr

1

5

<210> 161

<211> 372

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 161

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ccaggcgcgg  ggctggagtg  ggtggcagtt  atttactatg  aaggaagtaa  caaatactat      180
gcagactccg  tgaagggccg  attcaccatc  tccagagaca  attccaagaa  cacgctgtat      240
ctgcaaatga  acagcctgag  agtcgaggac  acgtctatgt  atttctgtgc  gagaggcccc      300
cttctcggcg  ggaacttcta  ctcttacctt  atggacgtct  ggggccaggg  gaccacggtc      360
accgtctcct  ca                                     372
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<210> 162

<211> 124

<212> PRT

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<220>

<223> synthetic

<400> 162

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1           5           10          15
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Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Phe Thr Phe Ser Asp Tyr
          20          25          30
```

```
Gly Met His Trp Val Arg Gln Val Pro Gly Ala Gly Leu Glu Trp Val
          35          40          45
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```
Ala Val Ile Tyr Tyr Glu Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
          50          55          60
```

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

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

Ala Arg Gly Pro Leu Leu Gly Gly Asn Phe Tyr Ser Tyr Leu Met Asp  
100 105 110

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

<210> 163  
<211> 24  
<212> DNA  
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<400> 163  
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24

<210> 164  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 164

Gly Phe Thr Phe Ser Asp Tyr Gly  
1 5

<210> 165  
<211> 24  
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<220>  
<223> synthetic

<400> 165  
atttactatg aaggaagtaa caaa

24

<210> 166  
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<220>  
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<400> 166

Ile Tyr Tyr Glu Gly Ser Asn Lys  
1 5

<210> 167  
<211> 51  
<212> DNA  
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<220>  
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<400> 167

gcgagaggcc cccttctcgg cgggaacttc tactcttacc ttatggacgt c 51

<210> 168  
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<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 168

Ala Arg Gly Pro Leu Leu Gly Gly Asn Phe Tyr Ser Tyr Leu Met Asp  
1 5 10 15

Val

<210> 169  
<211> 321  
<212> DNA  
<213> Artificial Sequence

<220>

<223> synthetic

<400> 169

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gggaaagccc ctaaactcct gatctatact gcatccagtt tacaaagtgg agtcccatca      180
agattcagcg gcagtggatc tggcacagac ttcactctca ccatcagcag cctgcagcct      240
gaagattttg caacttatta ctgtctacaa gattacaatt accctttcag tttcggccct      300
gggaccaaag tggatatcaa a                                              321
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<210> 170

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 170

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

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

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

Tyr Thr 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 Leu Gln Asp Tyr Asn Tyr Pro Phe
          85           90           95
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Ser Phe Gly Pro Gly Thr Lys Val Asp Ile Lys  
100 105

<210> 171  
<211> 18  
<212> DNA  
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<220>  
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<400> 171  
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18

<210> 172  
<211> 6  
<212> PRT  
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<220>  
<223> synthetic

<400> 172

Gln Gly Ile Arg Asn Gly  
1 5

<210> 173  
<211> 9  
<212> DNA  
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<220>  
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<400> 173  
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9

<210> 174  
<211> 3  
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<220>  
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<400> 174

Thr Ala Ser  
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<210> 175

<211> 27

<212> DNA

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<223> synthetic

<400> 175

ctacaagatt acaattaccc tttcagt

27

<210> 176

<211> 9

<212> PRT

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<220>

<223> synthetic

<400> 176

Leu Gln Asp Tyr Asn Tyr Pro Phe Ser  
1 5

<210> 177

<211> 372

<212> DNA

<213> Artificial Sequence

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<223> synthetic

<400> 177

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ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgttt 240

ctgcaaataga acagcctgag agccgaggac acggctgtgt attactgtgc gagagggggga 300

gagctgggtac gtgggggacta ctactacggt atggacgtct ggggccaagg gaccacggtc 360  
accgtctcct ca 372

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<211> 124  
<212> PRT  
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<220>  
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<400> 178

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

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

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

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

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

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

Ala Arg Gly Gly Glu Leu Val Arg Gly Asp Tyr Tyr Tyr Gly Met Asp  
100 105 110

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

<210> 179  
<211> 24

<212> DNA  
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<400> 179  
ggatttaccg tcagaaacta tggc

24

<210> 180  
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<220>  
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<400> 180

Gly Phe Thr Val Arg Asn Tyr Gly  
1 5

<210> 181  
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<400> 181  
atatggtatg atggaagtaa taaa

24

<210> 182  
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<400> 182

Ile Trp Tyr Asp Gly Ser Asn Lys  
1 5

<210> 183  
<211> 51  
<212> DNA  
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<400> 183  
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<210> 184  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 184  
Ala Arg Gly Gly Glu Leu Val Arg Gly Asp Tyr Tyr Tyr Gly Met Asp  
1 5 10 15

Val

<210> 185  
<211> 321  
<212> DNA  
<213> Artificial Sequence

<220>  
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<400> 185  
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gggaaagccc ctaagcgctt gatctatggg gcatccagtt tgcaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttactctca caatcagcag cctgcagcct 240  
gaagattttg caacttatta ctgtctacag cataatagtt acccgtagac ttttggccag 300  
gggaccaagc tggagatcaa a 321

<210> 186  
<211> 107  
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<400> 186

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

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

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

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

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

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

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

<210> 187  
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<400> 187  
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<210> 188  
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<220>  
<223> synthetic

<400> 188

Gln Gly Ile Arg Asn Asp  
1 5

<210> 189  
<211> 9  
<212> DNA  
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<220>  
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<400> 189  
ggtgcatcc

9

<210> 190  
<211> 3  
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<220>  
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<400> 190

Gly Ala Ser  
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<210> 191  
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ctacagcata atagttaccc gtacact

27

<210> 192  
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<212> PRT  
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<220>  
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<400> 192

Leu Gln His Asn Ser Tyr Pro Tyr Thr  
1 5

<210> 193  
<211> 351  
<212> DNA  
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<400> 193  
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ccaggcaagg ggctggagtg ggtggcagtt atatcatatg atggaaataa gaagtactat 180  
gcaggctccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240  
ctgcaaataa acgacgttag atctgaggac acggctgttt atcactgtac gacagatatt 300  
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<210> 194  
<211> 117  
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<220>  
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<400> 194

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

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

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

Ala Val Ile Ser Tyr Asp Gly Asn Lys Lys Tyr Tyr Ala Gly Ser Val  
50 55 60

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

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

Thr Thr Asp Ile Thr Gly Ile Thr Asp Tyr Trp Gly Gln Gly Thr Leu  
100 105 110

Val Thr Val Ser Ser  
115

<210> 195  
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<212> DNA  
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<220>  
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<400> 195  
ggaactatct tcagtaccca tggc

24

<210> 196  
<211> 8  
<212> PRT  
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<400> 196

Gly Thr Ile Phe Ser Thr His Gly  
1 5

<210> 197

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 197

atatcatatg atggaaataa gaag

24

<210> 198

<211> 8

<212> PRT

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<220>

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<400> 198

Ile Ser Tyr Asp Gly Asn Lys Lys  
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<210> 199

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 199

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30

<210> 200

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 200

Thr Thr Asp Ile Thr Gly Ile Thr Asp Tyr  
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<210> 201

<211> 318

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 201

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gggaaggccc ctaagcgcct gatctatgct gcatccagtt tggagagtgg ggtcccatca 180

aggttcagcg gcagtggatc cgggacagaa ttcattctca caatcagcag cctgcaggct 240

gaagattttg caacttacta ctgtctacag cataatggtt tcccgcggtt cggccaaggg 300

accaaggtgg aaatcaaa 318

<210> 202

<211> 106

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 202

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

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

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

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

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

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

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

<210> 203  
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<400> 203  
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18

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<220>  
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<400> 204

Gln Gly Ile Gly Asn Asp  
1 5

<210> 205  
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<400> 205  
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9

<210> 206  
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<400> 206

Ala Ala Ser  
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<212> DNA  
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<400> 207  
ctacagcata atggtttccc gacg

24

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<211> 8  
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<220>  
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<400> 208

Leu Gln His Asn Gly Phe Pro Thr  
1 5

<210> 209  
<211> 363

<212> DNA  
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<400> 209  
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tcctgtgcag cgtctggatt caccttcagt aactatggca ttacttgggt ccgccagcct 120  
ccaggccagg gcctggagtg ggtggcagtt atatggtatg ctggaagtaa taagttttat 180  
gcagattccg tgaagggccg attcaccatc tccagagaca attccaagaa ctcggcgtat 240  
ctgcaaatga acagcctgag agccgaggat acggctgtgt attactgtgc gagagcccc 300  
ctgggttatt actactacgg tatggacgtc tggggccaag ggaccacggt caccgtctcc 360  
tca 363

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

<220>  
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<400> 210

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

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

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

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

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

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

Ala Arg Ala Pro Leu Gly Tyr Tyr Tyr Tyr Gly Met Asp Val Trp Gly  
100 105 110

Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 211  
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<212> DNA  
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<400> 211  
ggattcacct tcagtaacta tggc

24

<210> 212  
<211> 8  
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<220>  
<223> synthetic

<400> 212

Gly Phe Thr Phe Ser Asn Tyr Gly  
1 5

<210> 213  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 213  
atatggtatg ctggaagtaa taag

24

<210> 214  
<211> 8  
<212> PRT  
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<220>  
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<400> 214

Ile Trp Tyr Ala Gly Ser Asn Lys  
1 5

<210> 215  
<211> 42  
<212> DNA  
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<400> 215  
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42

<210> 216  
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<400> 216

Ala Arg Ala Pro Leu Gly Tyr Tyr Tyr Tyr Gly Met Asp Val  
1 5 10

<210> 217  
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<400> 217  
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atcacttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120  
gggaaagccc ctaagcgcct gatctatgat gcatccagtt tggaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct 240  
gaagattttg caacttatta ctgtctacag cataatagtt acccgtggac gttcggccaa 300  
gggaccaagg tggaaatcaa a 321

<210> 218  
<211> 107  
<212> PRT  
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<220>  
<223> synthetic

<400> 218

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

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

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

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

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

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

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

<210> 219  
<211> 18  
<212> DNA  
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<220>  
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<400> 219  
cagggcatta gaaatgat

18

<210> 220  
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<212> PRT  
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<220>  
<223> synthetic

<400> 220

Gln Gly Ile Arg Asn Asp  
1 5

<210> 221  
<211> 9  
<212> DNA  
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<220>  
<223> synthetic

<400> 221  
gatgcatcc

9

<210> 222  
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<400> 222

Asp Ala Ser  
1

<210> 223  
<211> 27  
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<400> 223  
ctacagcata atagttaccc gtggacg

27

<210> 224  
<211> 9  
<212> PRT  
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<220>  
<223> synthetic

<400> 224

Leu Gln His Asn Ser Tyr Pro Trp Thr  
1 5

<210> 225  
<211> 375  
<212> DNA  
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<400> 225  
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tcctgtgcag cgtctggact caccgtcagt agttatgtca tgcactgggt ccgccaggct 120  
ccaggcaagg ggctggagtg ggtggcaatt atatggtatg atggaagtaa taaatactat 180  
ggagactccg tgaagggccg attcaccatc tccagagaca attccaagaa aacgctgtat 240  
ctgcaaatga acagcctgag agccgaggac acggctgtgt attactgtgc gagaggccgc 300  
cccctgtcta gtagttcgtc cgattattac ggtttggacg tctggggcca agggaccacg 360

gtcaccgtct cctca

375

<210> 226  
<211> 125  
<212> PRT  
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<220>  
<223> synthetic

<400> 226

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

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

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

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

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

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

Ala Arg Gly Arg Pro Leu Ser Ser Ser Ser Ser Asp Tyr Tyr Gly Leu  
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 227  
<211> 24  
<212> DNA  
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<220>

<223> synthetic

<400> 227

ggactcaccg tcagtagtta tgtc

24

<210> 228

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 228

Gly Leu Thr Val Ser Ser Tyr Val

1 5

<210> 229

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 229

atatggtatg atggaagtaa taaa

24

<210> 230

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 230

Ile Trp Tyr Asp Gly Ser Asn Lys

1 5

<210> 231

<211> 54

<212> DNA  
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<220>  
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<400> 231  
gcgagaggcc gccccctgtc tagtagttcg tccgattatt acggtttgga cgtc 54

<210> 232  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 232

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Gly | Arg | Pro | Leu | Ser | Ser | Ser | Ser | Ser | Asp | Tyr | Tyr | Gly | Leu |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

Asp Val

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<211> 321  
<212> DNA  
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<220>  
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<400> 233  
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atcatttgcc gggcaagtca gggcattaga aatgatttag gctggtatca gcagaaacca 120  
gggaaagccc ctaacctcct gatctatgct gcatccagtt tacaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tggcacagat ttcactctca ccatcagcag cctgcagcct 240  
gaagattttg caacttatta ctgtctacaa gattacaatt atccgtggac gttcggccaa 300  
gggaccaagg tggaatatcaa a 321

<210> 234  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 234

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

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

Leu Gly Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Asn 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 Leu Gln Asp Tyr Asn Tyr Pro Trp  
85 90 95

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

<210> 235  
<211> 18  
<212> DNA  
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<220>  
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<400> 235

cagggcatta gaaatgat

<210> 236  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 236

Gln Gly Ile Arg Asn Asp  
1 5

<210> 237  
<211> 9  
<212> DNA  
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<220>  
<223> synthetic

<400> 237  
gctgcatcc

9

<210> 238  
<211> 3  
<212> PRT  
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<220>  
<223> synthetic

<400> 238

Ala Ala Ser  
1

<210> 239  
<211> 27  
<212> DNA  
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<400> 239  
ctacaagatt acaattatcc gtggacg

27

<210> 240  
<211> 9  
<212> PRT  
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<220>  
<223> synthetic

<400> 240

Leu Gln Asp Tyr Asn Tyr Pro Trp Thr  
1 5

<210> 241  
<211> 360  
<212> DNA  
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<400> 241  
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tcctgtgcag cctctggatt caccttcagt aattatgaaa tgtattgggt ccgccaggct 120  
ccagggaagg ggctggaatg ggtttcatac attagtagta gtggtactac catatactac 180  
gcagactctg tgaagggccg attcagtgtc tccagagaaa acgccaggag ctactgtat 240  
ctgcaaatga acagtctgag agtcgaggac tcggctgttt acttctgtgc gaagtataac 300  
tggaactcct tctatggttt ggacgtctgg ggccaaggga ccacggtcac cgtctcctca 360

<210> 242  
<211> 120  
<212> PRT  
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<220>  
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<400> 242

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

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

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

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

Lys Gly Arg Phe Ser Val Ser Arg Glu Asn Ala Arg Ser Ser Leu Tyr  
65 70 75 80

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

Ala Lys Tyr Asn Trp Asn Ser Phe Tyr Gly Leu Asp Val Trp Gly Gln  
100 105 110

Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 243  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 243  
ggattcacct tcagtaatta tgaa

24

<210> 244  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
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<400> 244

Gly Phe Thr Phe Ser Asn Tyr Glu  
1 5

<210> 245

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 245

attagtagta gtgtactac cata

24

<210> 246

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 246

Ile Ser Ser Ser Gly Thr Thr Ile  
1 5

<210> 247

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 247

gcgaagtata actggaactc cttctatggt ttggacgtc

39

<210> 248

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

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<400> 248

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

<210> 249

<211> 321

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 249

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atcacttgcc gggcaagtca ggacattaga aatgatttag gctggtatca gcagaaacca 120  
gggaaagccc ctaagctcct gatctctgct gcatccagtt tacagggtgg ggtcccatca 180  
aggttcagcg gcagtggatc tggcacagat ttactctca ccattagcag cctgcagcct 240  
gcagattttg caacttatta ctgtctacaa gagtacaatt atgcactcac tttcggcgga 300  
gggaccaagg tggagatcaa a 321

<210> 250

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 250

Ala 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 Arg Asn Asp  
20 25 30

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

Ser Ala Ala Ser Ser Leu Gln Gly 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

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

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

<210> 251  
<211> 18  
<212> DNA  
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<220>  
<223> synthetic

<400> 251  
caggacatta gaaatgat

18

<210> 252  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 252

Gln Asp Ile Arg Asn Asp  
1 5

<210> 253  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>

<223> synthetic

<400> 253  
gctgcatcc

9

<210> 254  
<211> 3  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 254

Ala Ala Ser  
1

<210> 255  
<211> 27  
<212> DNA  
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<220>  
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<400> 255  
ctacaagagt acaattatgc actcact

27

<210> 256  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 256

Leu Gln Glu Tyr Asn Tyr Ala Leu Thr  
1 5

<210> 257  
<211> 369  
<212> DNA  
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<220>

<223> synthetic

<400> 257

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tcctgtgcag  cctctggatt  caccttcagg  gtttatgaaa  tgaactgggt  ccgccaggct     120
ccagggaagg  ggctggagtg  gatttcatac  attggcagta  gtggttttac  catatactac     180
gcagactctg  tgaagggccg  attcaccatc  tccagagaca  acgccaagaa  ctactgttt      240
ctgcagctga  acagcctgag  agccgaggac  acggctgttt  attactgtgc  gagagggtgg     300
aacgacggag  ttcctaacta  tttgggtatg  gacgtctggg  gccaaaggcac  cacggtcacc     360
gtctcctca                                     369
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<210> 258

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 258

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

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

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

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

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

Ala Arg Gly Trp Asn Asp Gly Val Pro Asn Tyr Leu Gly Met Asp Val  
100 105 110

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

<210> 259  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 259  
ggattcacct tcagggttta tgaa

24

<210> 260  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 260

Gly Phe Thr Phe Arg Val Tyr Glu  
1 5

<210> 261  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 261  
attggcagta gtggttttac cata

24

<210> 262  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 262

Ile Gly Ser Ser Gly Phe Thr Ile  
1 5

<210> 263  
<211> 48  
<212> DNA  
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<220>  
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<400> 263

gcgagaggggt ggaacgacgg agttcctaac tatttgggta tggacgtc 48

<210> 264  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 264

Ala Arg Gly Trp Asn Asp Gly Val Pro Asn Tyr Leu Gly Met Asp Val  
1 5 10 15

<210> 265  
<211> 321  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 265

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| atcacttgcc aggcgagtca ggacattaac aaatatttaa attggtatca gcagaaacca  | 120 |
| ggaaaagccc ctaaactcct gatctacgat gcatccaatt tggaacagg ggtcccatca   | 180 |
| aggttcagtg gaagtggatc tgggacagat ttctactttca ccatcagcag cctgcagcct | 240 |
| gaagatattg caagatatca ctgtcaacag tatgataaaa tcccgtcac tttcggcgga   | 300 |
| gggaccaagg tggagatcaa a                                            | 321 |

<210> 266  
 <211> 107  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic

<400> 266

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

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

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

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

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Glu | Asp | Ile | Ala | Arg | Tyr | His | Cys | Gln | Gln | Tyr | Asp | Lys | Ile | Pro | Leu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Phe | Gly | Gly | Gly | Thr | Lys | Val | Glu | Ile | Lys |
|     |     | 100 |     |     |     |     |     | 105 |     |     |

<210> 267  
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<220>  
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<400> 267  
caggacatta acaaatat

18

<210> 268  
<211> 6  
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<220>  
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<400> 268

Gln Asp Ile Asn Lys Tyr  
1 5

<210> 269  
<211> 9  
<212> DNA  
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<220>  
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<400> 269  
gatgcatcc

9

<210> 270  
<211> 3  
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<213> Artificial Sequence

<220>  
<223> synthetic

<400> 270

Asp Ala Ser  
1

<210> 271  
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<400> 271  
caacagtatg ataaaatccc gctcact

27

<210> 272  
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<220>  
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<400> 272

Gln Gln Tyr Asp Lys Ile Pro Leu Thr  
1 5

<210> 273  
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<212> DNA  
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<400> 273  
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tcctgtgcag cgtctggatt caccttcagc agctatggca tgcactgggt ccgccaggct 120  
ccaggcaagg ggctggagtg ggtggcagtt atctggtatg ttggaagtaa taaatactat 180  
ggagagtccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240  
ttgcaaatga acagcctgag agacgaggac acggctatat attactgtgc gagaggggggt 300  
caactgggct ccttctacta ttacgggtatg gacgtctggg gcccaaggac cacggtcacc 360  
gtctcctca 369

<210> 274  
<211> 123  
<212> PRT  
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<220>  
<223> synthetic

<400> 274

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

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

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

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

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

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

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

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

<210> 275  
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<220>

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<400> 275

ggattcacct tcagcagcta tggc

24

<210> 276

<211> 8

<212> PRT

<213> Artificial Sequence

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<223> synthetic

<400> 276

Gly Phe Thr Phe Ser Ser Tyr Gly

1 5

<210> 277

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

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<400> 277

atctggtatg ttggaagtaa taaa

24

<210> 278

<211> 8

<212> PRT

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<220>

<223> synthetic

<400> 278

Ile Trp Tyr Val Gly Ser Asn Lys

1 5

<210> 279

<211> 48

<212> DNA

<213> Artificial Sequence

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<400> 279

gcgagagggg gtcaactggg ctccttctac tattacggta tggacgtc

48

<210> 280

<211> 16

<212> PRT

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<400> 280

Ala Arg Gly Gly Gln Leu Gly Ser Phe Tyr Tyr Tyr Gly Met Asp Val

1

5

10

15

<210> 281

<211> 321

<212> DNA

<213> Artificial Sequence

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<400> 281

gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc

60

atcacttgcc gggcaagtca gggcattaga aatgatttag gctggatatca gcagaaacca

120

gggaaagccc ctaagcgcct gatctatgat gtatccagtt tacaaagtgg ggtcccatca

180

aggttcagcg gcagtggatc tgggacagaa ttcactctca caatcagcag cctgcagcct

240

gaagatcttg caacttatta ctgtctacag cataatagtt acccgtggac gttcggccaa

300

gggaccaagg tggaaatcaa a

321

<210> 282

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 282

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

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

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

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

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

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

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

<210> 283

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 283

cagggcatta gaaatgat

18

<210> 284

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 284

Gln Gly Ile Arg Asn Asp  
1 5

<210> 285

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 285

gatgtatcc

9

<210> 286

<211> 3

<212> PRT

<213> Artificial Sequence

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<223> synthetic

<400> 286

Asp Val Ser

1

<210> 287

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 287

ctacagcata atagttaccc gtggacg

27

<210> 288

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 288

Leu Gln His Asn Ser Tyr Pro Trp Thr  
1 5

<210> 289

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 289

cagggtgcagc tgggtggagtc tggggggaggc gtgggtccagc ctgggagggtc cctgagaatt 60

tcctgtgcag cgtcaggatt caccttcaat aactatggct tccactgggt cgcaggct 120

ccaggcaggg ggctggagtg ggtggcagtt atttggatt ctggaagtaa taaatactat 180

ggagactccg tgaagggccg attcaccatc tccagagaca attccaaaaa tatattgtat 240

ctgcaaatga acagtctgag agccgaggac acggctatat attactgtgc gagatttccg 300

tttagcagca gttggctctt ggactactgg ggccaggga ccctgggtcac cgtctcctca 360

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<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 290

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

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

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

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

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

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

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

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 291  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 291  
ggattcacct tcaataacta tggc

24

<210> 292  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 292

Gly Phe Thr Phe Asn Asn Tyr Gly  
1 5

<210> 293  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 293  
atttggtatt ctggaagtaa taaa

24

<210> 294  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 294

Ile Trp Tyr Ser Gly Ser Asn Lys  
1 5

<210> 295  
<211> 39  
<212> DNA  
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<220>  
<223> synthetic

<400> 295  
gcgagatttc cgttttagcag cagttggctc ttggactac

39

<210> 296  
<211> 13  
<212> PRT  
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<220>  
<223> synthetic

<400> 296

Ala Arg Phe Pro Phe Ser Ser Ser Trp Leu Leu Asp Tyr  
1 5 10

<210> 297  
<211> 321  
<212> DNA  
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<220>  
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<400> 297  
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ttcacttgct gggccagtca gggcattagt gattatttag cctggatatca acaaaaacca 120  
gggaaagccc ctaaactcct gatctatgct gcatccgctt tgcaaagtgg ggtcccatca 180  
aggttcagcg gcagtggatc tgggacagaa ttactctca cagtcagcag cctacagcct 240  
gaagattttg caacttatta ctgtcaacag cttaatagtt atccattcac tttcggccct 300  
gggaccaaag tggatatcaa a 321

<210> 298  
<211> 107  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 298

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

Asp Arg Val Thr Phe Thr Cys Trp Ala Ser Gln Gly Ile Ser Asp Tyr  
20 25 30

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

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

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

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

Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys  
100 105

<210> 299  
<211> 18  
<212> DNA  
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<220>  
<223> synthetic

<400> 299  
cagggcatta gtgattat

18

<210> 300  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 300

Gln Gly Ile Ser Asp Tyr  
1 5

<210> 301  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 301  
gctgcatcc

9

<210> 302  
<211> 3  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 302

Ala Ala Ser  
1

<210> 303  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 303  
caacagctta atagttatcc attcact

27

<210> 304  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 304

Gln Gln Leu Asn Ser Tyr Pro Phe Thr  
1 5

<210> 305  
<211> 357  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 305  
cagctgcagc tgcaggagtc gggcccagga ctggtgaagc cttcggagac cctgtccctc

60

|                                                                      |     |
|----------------------------------------------------------------------|-----|
| acctgcactg tctctggtgg ctccatcagc agtactaatc actactgggg ctggatccgc    | 120 |
| cagccccccag ggaagggcct ggagtggatc ggtaatgtct attatatattgg gaacgcctac | 180 |
| tacaacccgt ccctcaagac tggagtcacc ttttccgtag acacgtccaa gaaccagttc    | 240 |
| tccctgaacc tgaggtctgt gaccgccgca gacacggcta tgtattactg tgcgagactt    | 300 |
| tctaactgga atttcttgga cttgtggggc cagggaaccc tggtcaccgt ctcctca       | 357 |

<210> 306  
 <211> 119  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> synthetic

<400> 306

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Leu | Ser | Leu | Thr | Cys | Thr | Val | Ser | Gly | Gly | Ser | Ile | Ser | Ser | Thr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Trp | Ile | Gly | Asn | Val | Tyr | Tyr | Ile | Gly | Asn | Ala | Tyr | Tyr | Asn | Pro | Ser |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Lys | Thr | Gly | Val | Thr | Phe | Ser | Val | Asp | Thr | Ser | Lys | Asn | Gln | Phe |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Leu | Asn | Leu | Arg | Ser | Val | Thr | Ala | Ala | Asp | Thr | Ala | Met | Tyr | Tyr |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Cys | Ala | Arg | Leu | Ser | Asn | Trp | Asn | Phe | Leu | Asp | Leu | Trp | Gly | Gln | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

Thr Leu Val Thr Val Ser Ser  
115

<210> 307  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 307  
ggtggctcca tcagcagtac taatcactac

30

<210> 308  
<211> 10  
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<220>  
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<400> 308

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

<210> 309  
<211> 21  
<212> DNA  
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<220>  
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<400> 309  
gtctattata ttgggaacgc c

21

<210> 310  
<211> 7  
<212> PRT  
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<220>  
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<400> 310

Val Tyr Tyr Ile Gly Asn Ala  
1 5

<210> 311

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

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<400> 311

gcgagacttt ctaactggaa tttcttggac ttg 33

<210> 312

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 312

Ala Arg Leu Ser Asn Trp Asn Phe Leu Asp Leu  
1 5 10

<210> 313

<211> 318

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 313

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ctctcctgca gggccagtca gagtattagc agcaacttag cctggtacca gcagaaacct 120

ggccaggctc ccaggctcct catctatggc gcatccacca gggccactgg tatcccagcc 180

aggttcagtg gcagtgggtc tgggacagag ttactctca ccatcagcag cctgcagtct 240

gaagattttg cagtttatta ctgtcagcaa ttttaataact ggctctcttt cggcggaggg 300

accaaggtgg agatcaaa

318

<210> 314  
<211> 106  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 314

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

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Ile Ser Ser Asn  
20 25 30

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

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

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

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

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

<210> 315  
<211> 18  
<212> DNA  
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<220>  
<223> synthetic

<400> 315  
cagagtatta gcagcaac

18

<210> 316  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 316

Gln Ser Ile Ser Ser Asn  
1 5

<210> 317  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 317  
ggtgcatcc

9

<210> 318  
<211> 3  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 318

Gly Ala Ser  
1

<210> 319  
<211> 24  
<212> DNA  
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<220>

<223> synthetic

<400> 319

cagcaatttta ataactggct ctct

24

<210> 320

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 320

Gln Gln Phe Asn Asn Trp Leu Ser

1

5

<210> 321

<211> 366

<212> DNA

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<400> 321

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tcctgtgcag cgtctggatt caccttcagt acctatggca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg ttggaagtaa taaattctat 180

gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240

ctgcaaatgg acagcctgag agccgaggac acgggtgtgt atcactgtgc gagagacagt 300

atggttcggc cctattatta cggtatggac gtctggggcc aagggaccac ggtcaccgtc 360

tcctca 366

<210> 322

<211> 122

<212> PRT

<213> Artificial Sequence

<220>

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<400> 322

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

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

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

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

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

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

Ala Arg Asp Ser Met Val Arg Pro Tyr Tyr Tyr Gly Met Asp Val Trp  
100 105 110

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

<210> 323

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 323

ggattcacct tcagtaccta tggc

24

<210> 324

<211> 8

<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 324

Gly Phe Thr Phe Ser Thr Tyr Gly  
1 5

<210> 325  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 325  
atatggtatg ttggaagtaa taaa

24

<210> 326  
<211> 8  
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<220>  
<223> synthetic

<400> 326

Ile Trp Tyr Val Gly Ser Asn Lys  
1 5

<210> 327  
<211> 45  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 327  
gcgagagaca gtatggttcg gccctattat tacggtatgg acgtc

45

<210> 328  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 328

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Asp | Ser | Met | Val | Arg | Pro | Tyr | Tyr | Tyr | Gly | Met | Asp | Val |
| 1   |     |     |     | 5   |     |     |     | 10  |     |     |     |     | 15  |     |

<210> 329  
<211> 375  
<212> DNA  
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<220>  
<223> synthetic

<400> 329

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| caggtgcagc | tgggtggagtc | tggggggaggc | gtgggtccaac | ctgggagggtc | cctgagactc  | 60  |
| tcctgttcag | cgtctggatt  | caccctcagt  | aattttgtca  | tgcattgggt  | ccgccaggct  | 120 |
| ccaggcaagg | ggctggagtg  | ggtggcagtc  | atattatatg  | atggaagtaa  | taaataattat | 180 |
| gcggactccg | tgaagggccg  | attcaccatc  | tccagagaca  | attccaacaa  | caggctgtat  | 240 |
| ctgcaaatga | acagcctgag  | agccgaggac  | acggctcttt  | attactgtgc  | gagaggagag  | 300 |
| tccttgggat | cacctatcta  | ttattactac  | ggtttggacg  | tctggggcca  | agggaccacg  | 360 |
| gtcaccgtct | cctca       |             |             |             |             | 375 |

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<400> 330

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

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

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

Ala Val Ile Leu Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val  
50 55 60

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

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

Ala Arg Gly Glu Ser Leu Gly Ser Pro Ile Tyr Tyr Tyr Tyr Gly Leu  
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 331  
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<220>  
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<400> 331  
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24

<210> 332  
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<400> 332

Gly Phe Thr Leu Ser Asn Phe Val  
1 5

<210> 333

<211> 24

<212> DNA

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<400> 333

atattatatg atggaagtaa taaa

24

<210> 334

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

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<400> 334

Ile Leu Tyr Asp Gly Ser Asn Lys  
1 5

<210> 335

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

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<400> 335

gcgagaggag agtccttggg atcacctatc tattattact acggtttgga cgtc

54

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<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 336

Ala Arg Gly Glu Ser Leu Gly Ser Pro Ile Tyr Tyr Tyr Tyr Gly Leu  
1 5 10 15

Asp Val

<210> 337

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 337

cagggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcggagac cctgtccctc 60  
acctgcattg tctctggtgg ctccatcagt ggttacttct ggaactggat ccggcagccc 120  
ccagggaagg gacttgaatg gattggttat atctattaca gtgggaccac catctacaac 180  
ccctccctca agagtcgatt caccatatca ctagacacgt ccaagaacca gttctcccta 240  
aagctgacct ctgtgaccgc tgcggacacg gccgtatatt actgtgcgag agagtcgtat 300  
aatccctcgc cgcgatattt tgaccactgg ggccagggaa ccctgggtcac cgtctcctca 360

<210> 338

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 338

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

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

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

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

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

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

Arg Glu Ser Tyr Asn Pro Ser Pro Arg Tyr Phe Asp His Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 339  
<211> 24  
<212> DNA  
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<400> 339  
ggtaggctcca tcagtgggta cttc

24

<210> 340  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 340

Gly Gly Ser Ile Ser Gly Tyr Phe  
1 5

<210> 341  
<211> 21  
<212> DNA  
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<220>  
<223> synthetic

<400> 341  
atctattaca gtgggaccac c

21

<210> 342  
<211> 7  
<212> PRT  
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<220>  
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<400> 342

Ile Tyr Tyr Ser Gly Thr Thr  
1 5

<210> 343  
<211> 42  
<212> DNA  
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<400> 343  
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42

<210> 344  
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<212> PRT  
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<400> 344

Ala Arg Glu Ser Tyr Asn Pro Ser Pro Arg Tyr Phe Asp His  
1 5 10

<210> 345  
<211> 375  
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<400> 345  
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ccaggcaagg ggctggagtg gatggcagtt atatggtatg ctggaagtaa taaattctat 180  
gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240  
ctgcaaatac acagcctgac agccgaggac acggctgtat attactgtgc gagagggtcg 300  
agtctagcag ctccagacct ctacaagtac ggaatggacg tctggggcca ggggaccacg 360  
gtcaccgtct cctca 375

<210> 346  
<211> 125  
<212> PRT  
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<220>  
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<400> 346

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

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

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

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

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

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

Ala Arg Gly Ser Ser Leu Ala Ala Pro Asp Leu Tyr Lys Tyr Gly Met  
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 347  
<211> 24  
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<220>  
<223> synthetic

<400> 347  
ggattcagct tcagtagtta tggc

24

<210> 348  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 348

Gly Phe Ser Phe Ser Ser Tyr Gly  
1 5

<210> 349  
<211> 24  
<212> DNA  
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<220>

<223> synthetic

<400> 349

atatggtatg ctggaagtaa taaa

24

<210> 350

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 350

Ile Trp Tyr Ala Gly Ser Asn Lys

1 5

<210> 351

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 351

gcgagagggt cgagtctagc agctccagac ctctacaagt acggaatgga cgtc

54

<210> 352

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 352

Ala Arg Gly Ser Ser Leu Ala Ala Pro Asp Leu Tyr Lys Tyr Gly Met

1 5 10 15

Asp Val

<210> 353  
<211> 351  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 353  
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ccagggaagg gactggagtg gattggatat atctatcacc ggggaaacac tgattccaat 180  
ccctccctca agagtcgagt caccatctca acagaccctg ccaagaatca gttctccctg 240  
accctgcact ctgtgaccgc cgcagactcg gccatatatt actgtgcgcg gggacaattt 300  
atggagtggg ttgacttctg gggccaggga accctgggtca ccgtctcctc a 351

<210> 354  
<211> 117  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 354

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

Thr Leu Ser Leu Thr Cys Thr Ile Ser Gly Gly Ser Ile Ser Asn Ser  
20 25 30

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

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

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

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

Arg Gly Gln Phe Met Glu Trp Phe Asp Phe Trp Gly Gln Gly Thr Leu  
100 105 110

Val Thr Val Ser Ser  
115

<210> 355  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
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<400> 355  
ggtggctcca tcagtaattc cttc

24

<210> 356  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 356

Gly Gly Ser Ile Ser Asn Ser Phe  
1 5

<210> 357  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 357  
atctatcacc ggggaaacac t 21

<210> 358  
<211> 7  
<212> PRT  
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<220>  
<223> synthetic

<400> 358

Ile Tyr His Arg Gly Asn Thr  
1 5

<210> 359  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 359  
gcgcggggac aatttatgga gtggtttgac ttc 33

<210> 360  
<211> 11  
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<220>  
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<400> 360

Ala Arg Gly Gln Phe Met Glu Trp Phe Asp Phe  
1 5 10

<210> 361  
<211> 375  
<212> DNA  
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<220>

<223> synthetic

<400> 361

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ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaatactat      180
tcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat      240
ctgcaaatga acggcctgag agacgatgac acggctgtgt attactgtgc gagagggggag      300
cagctcggct ctcatgtcta ttattactat ggaatggacg tctggggcca agggaccacg      360
gtcaccgtct cctca                                          375
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<210> 362

<211> 125

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 362

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

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

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

```
Ala Val Ile Trp Tyr Asp Gly Ser Asn Lys Tyr Tyr Ser Asp Ser Val
50              55              60
```

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

```
Leu Gln Met Asn Gly Leu Arg Asp Asp Asp Thr Ala Val Tyr Tyr Cys
85              90              95
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Ala Arg Gly Glu Gln Leu Gly Ser His Val Tyr Tyr Tyr Tyr Gly Met  
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 363  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 363  
ggattcaccc tcagtagtta tggc

24

<210> 364  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 364

Gly Phe Thr Leu Ser Ser Tyr Gly  
1 5

<210> 365  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 365  
atatggtatg atggaagtaa taaa

24

<210> 366  
<211> 8

<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 366

Ile Trp Tyr Asp Gly Ser Asn Lys  
1 5

<210> 367  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 367  
gcgagagggg agcagctcgg ctctcatgtc tattattact atggaatgga cgtc 54

<210> 368  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 368

Ala Arg Gly Glu Gln Leu Gly Ser His Val Tyr Tyr Tyr Tyr Gly Met  
1 5 10 15

Asp Val

<210> 369  
<211> 375  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 369  
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tcctgtgcag cgtctggatt caccttcagt aactatgtca tgcactgggt ccgccagact 120  
ccaggcaagg ggctggagtg ggtggcgatt attttatttc ctggaagtaa taaatactat 180  
gtagactccg tgcagggccg attcaccatc tccagagaca attccaagaa cacgctgtct 240  
ctgcaaatga acagcctgag agccgaagac acggctgtat attactgtgc gaggggctcg 300  
agtttgacag ctcttgacta ctactactac ggtctggacg tctggggcca agggaccacg 360  
gtcaccgtct cctca 375

<210> 370  
<211> 125  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 370

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

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

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

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

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

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

Ala Arg Gly Ser Ser Leu Thr Ala Leu Asp Tyr Tyr Tyr Tyr Gly Leu  
100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 371  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 371  
ggattcacct tcagtaacta tgtc

24

<210> 372  
<211> 8  
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<220>  
<223> synthetic

<400> 372

Gly Phe Thr Phe Ser Asn Tyr Val  
1 5

<210> 373  
<211> 24  
<212> DNA  
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<220>  
<223> synthetic

<400> 373  
attttatttc ctggaagtaa taaa

24

<210> 374  
<211> 8  
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<220>

<223> synthetic

<400> 374

Ile Leu Phe Pro Gly Ser Asn Lys  
1 5

<210> 375

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 375

gcgaggggct cgagtttgac agctcttgac tactactact acggtctgga cgtc 54

<210> 376

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 376

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

Asp Val

<210> 377

<211> 375

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 377

caggtgcagc tgggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| tcctgtgcag cgtctggatt caccttcagt aactatgtca tgcactgggt ccgccaggct | 120 |
| ccaggcaagg ggctggagtg ggtggcaatt atatggtatg atggaactaa tgaagactat | 180 |
| gcagactccg tgaaggtccg attcaccatc tccagagaca tttccaagaa cacgctgtat | 240 |
| ctgcaaatac acagcctgag agccgaggac acggctgtat attactgtgc gagagattgg | 300 |
| tttgattgta gtagtaccag ctgctatagg tacttcgatc tctggggccg tggcaccctg | 360 |
| gtcactgtct cctca                                                  | 375 |

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

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

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

Ala Arg Asp Trp Phe Asp Cys Ser Ser Thr Ser Cys Tyr Arg Tyr Phe  
100 105 110

Asp Leu Trp Gly Arg Gly Thr Leu Val Thr Val Ser Ser  
115 120 125

<210> 379  
<211> 24  
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<220>  
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<400> 379  
ggattcacct tcagtaacta tgtc

24

<210> 380  
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<220>  
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<400> 380

Gly Phe Thr Phe Ser Asn Tyr Val  
1 5

<210> 381  
<211> 24  
<212> DNA  
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<220>  
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<400> 381  
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24

<210> 382  
<211> 8  
<212> PRT  
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<220>

<223> synthetic

<400> 382

Ile Trp Tyr Asp Gly Thr Asn Glu  
1 5

<210> 383

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 383

gcgagagatt ggtttgattg tagtagtacc agctgctata ggtacttcga tctc 54

<210> 384

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 384

Ala Arg Asp Trp Phe Asp Cys Ser Ser Thr Ser Cys Tyr Arg Tyr Phe  
1 5 10 15

Asp Leu

<210> 385

<211> 375

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 385

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tcctgtgcag cgtctggatt caccttcagt aataataaca tgcactgggt ccgccaggct 120

ccaggcaagg ggctggagtg ggtggcagtt atatggtatg atggaagtaa taaagattat 180  
 gtagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240  
 ctgcaaatga acagtttgag agccgaggat acggctgtgt attattgtgc gagatttgta 300  
 gtagcgccag ctacgtactc ctactactac attatagacg tctggggcca agggaccacg 360  
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<210> 386  
 <211> 125  
 <212> PRT  
 <213> Artificial Sequence

<220>  
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<400> 386

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

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

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

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

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

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

Ala Arg Phe Val Val Ala Pro Ala Thr Tyr Ser Tyr Tyr Tyr Ile Ile  
 100 105 110

Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
115 120 125

<210> 387  
<211> 24  
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<220>  
<223> synthetic

<400> 387  
ggattcacct tcagtaataa taac

24

<210> 388  
<211> 8  
<212> PRT  
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<220>  
<223> synthetic

<400> 388

Gly Phe Thr Phe Ser Asn Asn Asn  
1 5

<210> 389  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 389  
atatggtatg atggaagtaa taaa

24

<210> 390  
<211> 8  
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<220>  
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<400> 390

Ile Trp Tyr Asp Gly Ser Asn Lys  
1 5

<210> 391

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 391

gcgagatttg tagtagcgcc agctacgtac tcctactact acattataga cgtc 54

<210> 392

<211> 18

<212> PRT

<213> Artificial Sequence

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<400> 392

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

Asp Val

<210> 393

<211> 378

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 393

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ccaggcaagg ggctggagtg ggtggcagtt atttcatatg atggaagaat taaatactat 180

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| gaagactccg tgaagggccg attcatcata tccagagaca actccaagaa cacactgtat | 240 |
| ctgcaagtga acaccctgag agctgaggac acggctgtgt attactgtgc gaaagagagg | 300 |
| agatattgta gtgatactaa tacctgctct gatgtttttg atgtctgggg ccaggggaca | 360 |
| atggtcaccg tctcttca                                               | 378 |

<210> 394  
 <211> 126  
 <212> PRT  
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<220>  
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<400> 394

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

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

|                                                                 |  |
|-----------------------------------------------------------------|--|
| Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val |  |
| 35                    40                    45                  |  |

|                                                                 |  |
|-----------------------------------------------------------------|--|
| Ala Val Ile Ser Tyr Asp Gly Arg Ile Lys Tyr Tyr Glu Asp Ser Val |  |
| 50                    55                    60                  |  |

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

|                                                                 |  |
|-----------------------------------------------------------------|--|
| Leu Gln Val Asn Thr Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys |  |
| 85                    90                    95                  |  |

|                                                                 |  |
|-----------------------------------------------------------------|--|
| Ala Lys Glu Arg Arg Tyr Cys Ser Asp Thr Asn Thr Cys Ser Asp Val |  |
| 100                    105                    110               |  |

|                                                         |  |
|---------------------------------------------------------|--|
| Phe Asp Val Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser |  |
| 115                    120                    125       |  |

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24

<210> 396  
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<220>  
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<400> 396

Gly Phe Thr Phe Ser Thr Tyr Gly  
1 5

<210> 397  
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atttcatatg atggaagaat taaa

24

<210> 398  
<211> 8  
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<400> 398

Ile Ser Tyr Asp Gly Arg Ile Lys  
1 5

<210> 399  
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<210> 400  
<211> 19  
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<220>  
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<400> 400

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

Phe Asp Val

<210> 401  
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<400> 401  
gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60  
atcacttgcc gggcaagtca gagcattagc agctatttaa attggtatca gcagaaacca 120  
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccgtca 180  
aggttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240

gaagattttg caacttacta ctgtcaacag agttacagta cccctccgat caccttcggc 300

caagggacac gactggagat taaa 324

<210> 402

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 402

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

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

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

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

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

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

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

<210> 403

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 403

cagagcatta gcagctat

18

<210> 404

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 404

Gln Ser Ile Ser Ser Tyr

1 5

<210> 405

<211> 9

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 405

gctgcatcc

9

<210> 406

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 406

Ala Ala Ser

1

<210> 407

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> synthetic

<400> 407

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30

<210> 408

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 408

Gln Gln Ser Tyr Ser Thr Pro Pro Ile Thr  
1 5 10

<210> 409

<211> 194

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 409

Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu  
1 5 10 15

Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Arg Pro  
20 25 30

Thr Gly Gly Pro Gly Cys Gly Pro Gly Arg Leu Leu Leu Gly Thr Gly  
35 40 45

Thr Asp Ala Arg Cys Cys Arg Val His Thr Thr Arg Cys Cys Arg Asp  
50 55 60

Tyr Pro Gly Glu Glu Cys Cys Ser Glu Trp Asp Cys Met Cys Val Gln  
65 70 75 80

Pro Glu Phe His Cys Gly Asp Pro Cys Cys Thr Thr Cys Arg His His  
85 90 95

Pro Cys Pro Pro Gly Gln Gly Val Gln Ser Gln Gly Lys Phe Ser Phe  
100 105 110

Gly Phe Gln Cys Ile Asp Cys Ala Ser Gly Thr Phe Ser Gly Gly His  
115 120 125

Glu Gly His Cys Lys Pro Trp Thr Asp Cys Thr Gln Phe Gly Phe Leu  
130 135 140

Thr Val Phe Pro Gly Asn Lys Thr His Asn Ala Val Cys Val Pro Gly  
145 150 155 160

Ser Pro Pro Ala Glu Pro Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu  
165 170 175

Gly Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu His His His His  
180 185 190

His His

<210> 410  
<211> 399  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 410

Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu  
1 5 10 15

Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Arg Pro  
20 25 30

Thr Gly Gly Pro Gly Cys Gly Pro Gly Arg Leu Leu Leu Gly Thr Gly  
35 40 45

Thr Asp Ala Arg Cys Cys Arg Val His Thr Thr Arg Cys Cys Arg Asp  
50 55 60

Tyr Pro Gly Glu Glu Cys Cys Ser Glu Trp Asp Cys Met Cys Val Gln  
65 70 75 80

Pro Glu Phe His Cys Gly Asp Pro Cys Cys Thr Thr Cys Arg His His  
85 90 95

Pro Cys Pro Pro Gly Gln Gly Val Gln Ser Gln Gly Lys Phe Ser Phe  
100 105 110

Gly Phe Gln Cys Ile Asp Cys Ala Ser Gly Thr Phe Ser Gly Gly His  
115 120 125

Glu Gly His Cys Lys Pro Trp Thr Asp Cys Thr Gln Phe Gly Phe Leu  
130 135 140

Thr Val Phe Pro Gly Asn Lys Thr His Asn Ala Val Cys Val Pro Gly  
145 150 155 160

Ser Pro Pro Ala Glu Pro Glu Pro Arg Gly Pro Thr Ile Lys Pro Cys  
165 170 175

Pro Pro Cys Lys Cys Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val  
180 185 190

Phe Ile Phe Pro Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser  
195 200 205

Pro Ile Val Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp  
210 215 220

Val Gln Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln  
225 230 235 240

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

Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe Lys  
260 265 270

Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg Thr Ile  
275 280 285

Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr Val Leu Pro  
290 295 300

Pro Pro Glu Glu Glu Met Thr Lys Lys Gln Val Thr Leu Thr Cys Met  
305 310 315 320

Val Thr Asp Phe Met Pro Glu Asp Ile Tyr Val Glu Trp Thr Asn Asn  
325 330 335

Gly Lys Thr Glu Leu Asn Tyr Lys Asn Thr Glu Pro Val Leu Asp Ser  
340 345 350

Asp Gly Ser Tyr Phe Met Tyr Ser Lys Leu Arg Val Glu Lys Lys Asn  
355 360 365

Trp Val Glu Arg Asn Ser Tyr Ser Cys Ser Val Val His Glu Gly Leu  
370 375 380

His Asn His His Thr Thr Lys Ser Phe Ser Arg Thr Pro Gly Lys  
385 390 395

<210> 411

<211> 393

<212> PRT

<213> Artificial Sequence

<220>

<223> synthetic

<400> 411

Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu  
1 5 10 15

Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Arg Pro  
20 25 30

Thr Gly Gly Pro Gly Cys Gly Pro Gly Arg Leu Leu Leu Gly Thr Gly  
35 40 45

Thr Asp Ala Arg Cys Cys Arg Val His Thr Thr Arg Cys Cys Arg Asp  
50 55 60

Tyr Pro Gly Glu Glu Cys Cys Ser Glu Trp Asp Cys Met Cys Val Gln  
65 70 75 80

Pro Glu Phe His Cys Gly Asp Pro Cys Cys Thr Thr Cys Arg His His  
85 90 95

Pro Cys Pro Pro Gly Gln Gly Val Gln Ser Gln Gly Lys Phe Ser Phe  
100 105 110

Gly Phe Gln Cys Ile Asp Cys Ala Ser Gly Thr Phe Ser Gly Gly His  
115 120 125

Glu Gly His Cys Lys Pro Trp Thr Asp Cys Thr Gln Phe Gly Phe Leu  
130 135 140

Thr Val Phe Pro Gly Asn Lys Thr His Asn Ala Val Cys Val Pro Gly  
145 150 155 160

Ser Pro Pro Ala Glu Pro Asp Lys Thr His Thr Cys Pro Pro Cys Pro  
165 170 175

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys  
180 185 190

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val  
195 200 205

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr  
210 215 220

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu  
225 230 235 240

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His  
245 250 255

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys  
260 265 270

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln  
275 280 285

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu  
290 295 300

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro  
305 310 315 320

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn  
325 330 335

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu  
340 345 350

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val  
355 360 365

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln  
370 375 380

Lys Ser Leu Ser Leu Ser Pro Gly Lys  
385 390

<210> 412  
<211> 194  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 412

Met His Arg Pro Arg Arg Arg Gly Thr Arg Pro Pro Pro Leu Ala Leu  
1 5 10 15

Leu Ala Ala Leu Leu Leu Ala Ala Arg Gly Ala Asp Ala Gln Arg Pro  
20 25 30

Thr Gly Gly Pro Gly Cys Gly Pro Gly Arg Leu Leu Leu Gly Thr Gly  
35 40 45

Lys Asp Ala Arg Cys Cys Arg Val His Pro Thr Arg Cys Cys Arg Asp  
50 55 60

Tyr Gln Gly Glu Glu Cys Cys Ser Glu Trp Asp Cys Val Cys Val Gln  
65 70 75 80

Pro Glu Phe His Cys Gly Asn Pro Cys Cys Thr Thr Cys Gln His His  
85 90 95

Pro Cys Pro Ser Gly Gln Gly Val Gln Pro Gln Gly Lys Phe Ser Phe  
100 105 110

Gly Phe Arg Cys Val Asp Cys Ala Leu Gly Thr Phe Ser Arg Gly His  
115 120 125

Asp Gly His Cys Lys Pro Trp Thr Asp Cys Thr Gln Phe Gly Phe Leu  
130 135 140

Thr Val Phe Pro Gly Asn Lys Thr His Asn Ala Val Cys Val Pro Gly  
145 150 155 160

Ser Pro Pro Ala Glu Pro Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu  
165 170 175

Gly Gly Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu His His His His  
180 185 190

His His

<210> 413  
<211> 241  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> synthetic

<400> 413

Met Ala Gln His Gly Ala Met Gly Ala Phe Arg Ala Leu Cys Gly Leu  
1 5 10 15

Ala Leu Leu Cys Ala Leu Ser Leu Gly Gln Arg Pro Thr Gly Gly Pro  
20 25 30

Gly Cys Gly Pro Gly Arg Leu Leu Leu Gly Thr Gly Thr Asp Ala Arg  
35 40 45

Cys Cys Arg Val His Thr Thr Arg Cys Cys Arg Asp Tyr Pro Gly Glu  
50 55 60

Glu Cys Cys Ser Glu Trp Asp Cys Met Cys Val Gln Pro Glu Phe His  
65 70 75 80

Cys Gly Asp Pro Cys Cys Thr Thr Cys Arg His His Pro Cys Pro Pro  
85 90 95

Gly Gln Gly Val Gln Ser Gln Gly Lys Phe Ser Phe Gly Phe Gln Cys  
100 105 110

Ile Asp Cys Ala Ser Gly Thr Phe Ser Gly Gly His Glu Gly His Cys  
115 120 125

Lys Pro Trp Thr Asp Cys Thr Gln Phe Gly Phe Leu Thr Val Phe Pro  
130 135 140

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

Glu Pro Leu Gly Trp Leu Thr Val Val Leu Leu Ala Val Ala Ala Cys  
165 170 175

Val Leu Leu Leu Thr Ser Ala Gln Leu Gly Leu His Ile Trp Gln Leu  
180 185 190

Arg Ser Gln Cys Met Trp Pro Arg Glu Thr Gln Leu Leu Leu Glu Val  
195 200 205

Pro Pro Ser Thr Glu Asp Ala Arg Ser Cys Gln Phe Pro Glu Glu Glu  
210 215 220

Arg Gly Glu Arg Ser Ala Glu Glu Lys Gly Arg Leu Gly Asp Leu Trp  
225 230 235 240

Val