SEQUENCE LISTING

<110> Ganymed Pharmaceuticals AG; and
Johannes Gutenberg-Universität Mainz

<120> MONOCLONAL ANTIBODIES FOR TREATMENT OF CANCER

<130> SG1323B

<150> EP07005258.4
<151> 2007-03-14

<150> US60/894,860
<151> 2007-03-14

<160> 79

<170> PatentIn version 3.3

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<212> DNA
<213> Homo sapiens

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acagcaagtt ccttcttccc tttggaaatt tggcagctgc cttcaccagt gagcacaaag 180

ccacatttca aaggaaactg acaaattatc cccagctgcc agaagaagaa atcctcactg 240

gacggcttcc tgtttcctgt ggttcattat ctgattggct gcagggatga aagtttttaa 300

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aatgactgtg ctgtgctcca tagactggtt catggtcaca gtgcaccccc tcatgctaaa 420

caacgatgtg tgtgtacact ttcatgaact acacttgggc ctgggttgcc ccccaaacca 480

tgttcagcca cacgcctacc agttcaccta ccgtgttact gaatgtggca tcagggccaa 540

agctgtctct caggacatgg ttatctacag cactgagata cactactctt ctaagggcac 600

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tagaattagt atatagtgta caaatgtctg acaaataagt gctcttgtga ccctcatgtg 1020

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Phe Ser Ala Gly Ser Gly Gln Ser Pro Met Thr Val Leu Cys Ser Ile
20 25 30

Asp Trp Phe Met Val Thr Val His Pro Phe Met Leu Asn Asn Asp Val
35 40 45

Cys Val His Phe His Glu Leu His Leu Gly Leu Gly Cys Pro Pro Asn
50 55 60

His Val Gln Pro His Ala Tyr Gln Phe Thr Tyr Arg Val Thr Glu Cys
65 70 75 80

Gly Ile Arg Ala Lys Ala Val Ser Gln Asp Met Val Ile Tyr Ser Thr
85 90 95

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

Val Ser Cys Ala Ala Pro Gln Lys Ser Pro Trp Leu Thr Lys Pro Cys
115 120 125

Ser Met Arg Val Ala Ser Lys Ser Arg Ala Thr Ala Gln Lys Asp Glu
130 135 140

Lys Cys Tyr Glu Val Phe Ser Leu Ser Gln Ser Ser Gln Arg Pro Asn
145 150 155 160

Cys Asp Cys Pro Pro Cys Val Phe Ser Glu Glu Glu His Thr Gln Val
165 170 175

Pro Cys His Gln Ala Gly Ala Gln Glu Ala Gln Pro Leu Gln Pro Ser
180 185 190

His Phe Leu Asp Ile Ser Glu Asp Trp Ser Leu His Thr Asp Asp Met
195 200 205

Ile Gly Ser Met
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<210> 3
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<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Immunization

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Ala Pro Gln Lys Ser Pro Trp Leu Thr Lys Pro Cys
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<210> 4
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Immunization

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Pro Leu Gln Pro Ser His Phe Leu Asp Ile Ser Glu Asp
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<212> PRT
<213> Artificial

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<400> 5

Ile Tyr Ser Thr Glu Ile His Tyr Ser Ser Lys
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<210> 6
<211> 12
<212> PRT
<213> Artificial

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Trp Ser Leu His Thr Asp Asp Met Ile Gly Ser Met
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<212> PRT
<213> Artificial

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1 5 10 15

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<212> PRT
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<220>
<223> Description of artificial sequence: Peptide for Immunization

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Cys Val His Phe His Glu Leu His Leu Gly Leu Gly
1 5 10

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<212> PRT
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<220>
<223> Description of artificial sequence: Peptide for Immunization

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Ser Ser Lys Gly Thr Pro Ser Lys Phe Val Ile Pro Val Ser Cys
1 5 10 15

<210> 10
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Immunization

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Val Phe Ser Leu Ser Gln Ser Ser Gln Arg Pro Asn Cys
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<223> Description of artificial sequence: siRNA

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<223> Description of artificial sequence: Oligonucleotide

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<210> 17
<211> 326
<212> PRT
<213> Artificial

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<223> Description of artificial sequence: Translation of PCR product

<400> 17

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

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
        35                  40                  45

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

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

Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro
                85                  90                  95

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
            100                 105                 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        115                 120                 125

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

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
145                 150                 155                 160

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

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

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

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

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn
225                 230                 235                 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
                245                 250                 255
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Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
            260                 265                 270

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

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

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

Ser Leu Ser Pro Gly Lys
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<210> 18
<211> 107
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Translation of PCR product

<400> 18

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

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

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

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

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

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
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<210> 19
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<213> Artificial

<220>

<223> Description of artificial sequence: PCR product

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ggaactgcct ctgttgtgtg cctgctgaat aacttctatc ccagagaggc caaagtacag 120

tggaaggtgg ataacgccct ccaatcgggt aactcccagg agagtgtcac agagcaggac 180

agcaaggaca gcacctacag cctcagcagc accctgacgc tgagcaaagc agactacgag 240

aaacacaaag tctacgcctg cgaagtcacc catcagggcc tgagctcgcc cgtcacaaag 300

agcttcaaca ggggagagtg ttag 324

<210> 20
<211> 981
<212> DNA
<213> Artificial

<220>
<223> Description of artificial sequence: PCR product

<400> 20
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gccctgacca gcggcgtgca caccttcccg gctgtcctac agtcctcagg actctactcc 180

ctcagcagcg tggtgaccgt gccctccagc agcttgggca cccagaccta catctgcaac 240

gtgaatcaca agcccagcaa caccaaggtg gacaagaaag ttgagcccaa atcttgtgac 300

aaaactcaca catgcccacc gtgcccagca cctgaactcc tgggggggacc gtcagtcttc 360

ctcttccccc caaaacccaa ggacaccctc atgatctccc ggacccctga ggtcacatgc 420

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gtggtcagcg tcctcaccgt cctgcaccag gactggctga atggcaagga gtacaagtgc 600

aaggtctcca acaaagccct cccagccccc atcgagaaaa ccatctccaa agccaaaggg 660

cagccccgag aaccacaggt gtacaccctg cccccatccc gggatgagct gaccaagaac 720

caggtcagcc tgacctgcct ggtcaaaggc ttctatccca gcgacatcgc cgtggagtgg 780

gagagcaatg ggcagccgga gaacaactac aagaccacgc ctcccgtgct ggactccgac 840

ggctccttct tcctctatag caagctcacc gtggacaaga gcaggtggca gcaggggaac 900

gtcttctcat gctccgtgat gcatgaggct ctgcacaacc actacacgca gaagagcctc 960

tccctgtctc cgggtaaatg a 981

<210> 21
<211> 324
<212> DNA
<213> Artificial

<220>
<223> Description of artificial sequence: codon optimized nucleic acid

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ggcaccgcca gcgtggtgtg cctgctgaac aacttctacc cccgggaggc caaggtgcag 120

tggaaggtgg acaacgccct gcagagcggc aacagccagg agagcgtcac cgagcaggac 180

agcaaggact ccacctacag cctgagcagc accctgaccc tgagcaaggc cgactacgag 240

aagcacaagg tgtacgcctg cgaggtgacc caccagggcc tgtccagccc cgtgaccaag 300

agcttcaaca ggggcgagtg ctag 324

<210> 22
<211> 107
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: codon optimized protein

<400> 22

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

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

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

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

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

<210> 23
<211> 981
<212> DNA
<213> Artificial

<220>
<223> Description of artificial sequence: codon optimized nucleic acid

<400> 23
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gtgaaccaca agcccagcaa caccaaggtg gacaagagag tggagcccaa gagctgcgac 300

aagacccaca cctgcccccc ctgcccagcc ccagagctgc tgggcggacc cagcgtgttc 360

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aaggtctcca acaaggccct gccagccccc atcgaaaaga ccatcagcaa ggccaagggc 660

cagccacggg agccccaggt gtacaccctg ccccccagcc gggaggagat gaccaagaac 720

caggtgtccc tgacctgtct ggtgaagggc ttctacccca gcgacatcgc cgtggagtgg 780

gagagcaacg gccagcccga gaacaactac aagaccaccc ccccagtgct ggacagcgac 840

ggcagcttct tcctgtacag caagctgacc gtggacaagt ccaggtggca gcagggcaac 900

gtgttcagct gcagcgtgat gcacgaggcc ctgcacaacc actacaccca gaagtccctg 960

agcctgagcc ccggcaagta g 981

<210> 24
<211> 326
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: codon optimized protein

<400> 24

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

Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
35 40 45

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

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

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Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Pro
                85                  90                  95

Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu
            100                 105                 110

Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
        115                 120                 125

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

Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly
145                 150                 155                 160

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

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

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

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

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

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

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

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

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

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

Ser Leu Ser Pro Gly Lys
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<210> 25
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<223> Description of artificial sequence: Oligonucleotide

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<210> 26
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<212> DNA
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<220>
<223> Description of artificial sequence: Oligonucleotide

<400> 26
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<210> 27
<211> 21
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<220>
<223> Description of artificial sequence: siRNA

<400> 27
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<210> 28
<211> 21
<212> DNA
<213> Artificial

<220>
<223> Description of artificial sequence: siRNA

<400> 28
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<210> 29
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 29

Met Lys Val Phe Lys Phe Ile Gly Leu Met Ile Leu Leu Thr Ser
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<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

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Lys Phe Ile Gly Leu Met Ile Leu Leu Thr Ser Ala Phe Ser Ala
1 5 10 15

<210> 31
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 31

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

<210> 32
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 32

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

<210> 33
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 33

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

<210> 34
<211> 15
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<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 34

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

<210> 35
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 35

Pro Met Thr Val Leu Cys Ser Ile Asp Trp Phe Met Val Thr Val
1 5 10 15

<210> 36
<211> 15
<212> PRT
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<223> Description of artificial sequence: Peptide for Screening

<400> 36

Leu Cys Ser Ile Asp Trp Phe Met Val Thr Val His Pro Phe Met
1 5 10 15

<210> 37
<211> 15
<212> PRT
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<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 37

Asp Trp Phe Met Val Thr Val His Pro Phe Met Leu Asn Asn Asp
1 5 10 15

<210> 38
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 38

Val Thr Val His Pro Phe Met Leu Asn Asn Asp Val Cys Val His
1 5 10 15

<210> 39
<211> 15

<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 39

Pro Phe Met Leu Asn Asn Asp Val Cys Val His Phe His Glu Leu
1 5 10 15

<210> 40
<211> 15
<212> PRT
<213> Artificial

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<223> Description of artificial sequence: Peptide for Screening

<400> 40

Asn Asn Asp Val Cys Val His Phe His Glu Leu His Leu Gly Leu
1 5 10 15

<210> 41
<211> 15
<212> PRT
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<223> Description of artificial sequence: Peptide for Screening

<400> 41

Cys Val His Phe His Glu Leu His Leu Gly Leu Gly Cys Pro Pro
1 5 10 15

<210> 42
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 42

His Glu Leu His Leu Gly Leu Gly Cys Pro Pro Asn His Val Gln
1 5 10 15

<210> 43
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 43

Leu Gly Leu Gly Cys Pro Pro Asn His Val Gln Pro His Ala Tyr
1 5 10 15

<210> 44
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 44

Cys Pro Pro Asn His Val Gln Pro His Ala Tyr Gln Phe Thr Tyr
1 5 10 15

<210> 45
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 45

His Val Gln Pro His Ala Tyr Gln Phe Thr Tyr Arg Val Thr Glu
1 5 10 15

<210> 46
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 46

His Ala Tyr Gln Phe Thr Tyr Arg Val Thr Glu Cys Gly Ile Arg
1 5 10 15

<210> 47
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 47

Phe Thr Tyr Arg Val Thr Glu Cys Gly Ile Arg Ala Lys Ala Val
1 5 10 15

<210> 48
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 48

Val Thr Glu Cys Gly Ile Arg Ala Lys Ala Val Ser Gln Asp Met
1 5 10 15

<210> 49
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 49

Gly Ile Arg Ala Lys Ala Val Ser Gln Asp Met Val Ile Tyr Ser
1 5 10 15

<210> 50
<211> 15
<212> PRT
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<223> Description of artificial sequence: Peptide for Screening

<400> 50

Lys Ala Val Ser Gln Asp Met Val Ile Tyr Ser Thr Glu Ile His
1 5 10 15

<210> 51
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 51

Gln Asp Met Val Ile Tyr Ser Thr Glu Ile His Tyr Ser Ser Lys
1 5 10 15

<210> 52
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 52

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

<210> 53
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 53

Glu Ile His Tyr Ser Ser Lys Gly Thr Pro Ser Lys Phe Val Ile
1 5 10 15

<210> 54
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 54

Ser Ser Lys Gly Thr Pro Ser Lys Phe Val Ile Pro Val Ser Cys
1 5 10 15

<210> 55
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Description of artificial sequence: Peptide for Screening

<400> 55

Thr Pro Ser Lys Phe Val Ile Pro Val Ser Cys Ala Ala Pro Gln
1 5 10 15

<210> 56
<211> 15
<212> PRT
<213> Artificial

<220>
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Ala Ser Lys Ser Arg Ala Thr Ala Gln Lys Asp Glu Lys Cys Tyr
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Arg Ala Thr Ala Gln Lys Asp Glu Lys Cys Tyr Glu Val Phe Ser
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Gln Lys Asp Glu Lys Cys Tyr Glu Val Phe Ser Leu Ser Gln Ser
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Lys Cys Tyr Glu Val Phe Ser Leu Ser Gln Ser Ser Gln Arg Pro
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Val Phe Ser Leu Ser Gln Ser Ser Gln Arg Pro Asn Cys Asp Cys
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Ser Gln Ser Ser Gln Arg Pro Asn Cys Asp Cys Pro Pro Cys Val
1 5 10 15

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Gln Arg Pro Asn Cys Asp Cys Pro Pro Cys Val Phe Ser Glu Glu
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Cys Asp Cys Pro Pro Cys Val Phe Ser Glu Glu Glu His Thr Gln
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Pro Cys Val Phe Ser Glu Glu Glu His Thr Gln Val Pro Cys His
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<400> 71

Ser Glu Glu Glu His Thr Gln Val Pro Cys His Gln Ala Gly Ala
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His Thr Gln Val Pro Cys His Gln Ala Gly Ala Gln Glu Ala Gln
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Glu Ala Gln Pro Leu Gln Pro Ser His Phe Leu Asp Ile Ser Glu
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Leu Gln Pro Ser His Phe Leu Asp Ile Ser Glu Asp Trp Ser Leu
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1 5 10 15

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1 5 10 15

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Ser Glu Asp Trp Ser Leu His Thr Asp Asp Met Ile Gly Ser Met
1 5 10 15