SEQUENCE LISTING

<110> SENTI BIOSCIENCES, INC.

<120> METHOD AND COMPOSITIONS FOR REGULATED ARMORING OF CELLS

<130> STB-018WO

<140> PCT/US2020/064688
<141> 2020-12-11

<150> 63/116,103
<151> 2020-11-19

<150> 62/947,427
<151> 2019-12-12

<160> 177

<170> PatentIn version 3.5

<210> 1
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<213> Artificial Sequence

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

<400> 1
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<210> 2
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<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

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<210> 3
<211> 85
<212> DNA

<213> Artificial Sequence

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

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caccccattg acgtcaatgg gagaa 85

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<212> DNA
<213> Artificial Sequence

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

<400> 4
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ggaggaaaaa ctgtttcata cagaaggcgt 90

<210> 5
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<213> Artificial Sequence

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

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aggacatcta ggatgtccat attaggacat ctaggatgtc catattagga catct 115

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<212> DNA
<213> Artificial Sequence

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

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aggacatctt gtatgtccat attaggacat ctaaaatgtc catattagga catct 115

<210> 7
<211> 48
<212> DNA
<213> Artificial Sequence

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

<400> 7
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<210> 8
<211> 120
<212> DNA
<213> Artificial Sequence

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

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agatcaaagg gactaagatc aaagggttta agatcaaagg gcttaagatc aaagggccta 120

<210> 9
<211> 32
<212> DNA
<213> Artificial Sequence

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

<400> 9
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<210> 10
<211> 24

<212> DNA
<213> Artificial Sequence

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

<400> 10
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<210> 11
<211> 65
<212> DNA
<213> Artificial Sequence

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

<400> 11
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gccac 65

<210> 12
<211> 588
<212> DNA
<213> Artificial Sequence

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

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ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag 180

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cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg 360

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tttggcacca aaatcaacgg gactttccaa aatgtcgtaa caactccgcc ccattgacgc 540

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<210> 13
<211> 1179
<212> DNA
<213> Artificial Sequence

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

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gtggttcaaa gtttttttct tccatttcag gtgtcgtga 1179

<210> 14
<211> 544
<212> DNA
<213> Artificial Sequence

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

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agaagttggg gggaggggtc ggcaattgaa ccggtgccta gagaaggtgg cgcggggtaa 120

actgggaaag tgatgtcgtg tactggctcc gccttttcc cgagggtggg ggagaaccgt 180

atataagtgc agtagtcgcc gtgaacgttc tttttcgcaa cgggtttgcc gccagaacac 240

agctgaagct tcgaggggct cgcatctctc cttcacgcgc ccgccgccct acctgaggcc 300

gccatccacg ccggttgagt cgcgttctgc cgcctcccgc ctgtggtgcc tcctgaactg 360

cgtccgccgt ctaggtaagt ttaaagctca ggtcgagacc gggcctttgt ccggcgctcc 420

cttggagcct acctagactc agccggctct ccacgctttg cctgaccctg cttgctcaac 480

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ctac 544

<210> 15
<211> 399
<212> DNA
<213> Artificial Sequence

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

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aggatcaagg ttaggaacag agagacagca gaatatgggc caaacaggat atctgtggta 120

agcagttcct gccccggctc agggccaaga acagttggaa cagcagaata tgggccaaac 180

aggatatctg tggtaagcag ttcctgcccc ggctcagggc caagaacaga tggtccccag 240

atgcggtccc gccctcagca gtttctagag aaccatcaga tgtttccagg gtgccccaag 300

gacctgaaat gaccctgtgc cttatttgaa ctaaccaatc agttcgcttc tcgcttctgt 360

tcgcgcgctt ctgctccccg agctcaataa aagagccca 399

<210> 16
<211> 511
<212> DNA
<213> Artificial Sequence

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

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tgggcgtggt tccgggaaac gcagcggcgc cgaccctggg tctcgcacat tcttcacgtc 120

cgttcgcagc gtcacccgga tcttcgccgc taccttgtg ggcccccggg cgacgcttcc 180

tgctccgccc ctaagtcggg aaggttcctt gcggttcgcg gcgtgccgga cgtgacaaac 240

ggaagccgca cgtctcacta gtaccctcgc agacggacag cgccagggag caatggcagc 300

gcgccgaccg cgatgggctg tggccaatag cggctgctca gcggggcgcg ccgagagcag 360

cggccgggaa ggggcggtgc gggaggcggg gtgtggggcg gtagtgtggg ccctgttcct 420

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cgttgaccga atcaccgacc tctctcccca g 511

<210> 17
<211> 408
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 17
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agggcgggta catgaaaata gctaacgttg ggccaaacag gatatctgcg gtgagcagtt 120

tcggccccgg cccggggcca agaacagatg gtcaccgcag tttcggcccc ggcccgaggc 180

caagaacaga tggtccccag atatggccca accctcagca gtttcttaag acccatcaga 240

tgtttccagg ctcccccaag gacctgaaat gaccctgcgc cttatttgaa ttaaccaatc 300

agcctgcttc tcgcttctgt tcgcgcgctt ctgcttcccg agctctataa aagagctcac 360

aacccctcac tcggcgcgcc agtcctccga cagactgagt cgcccggg 408

<210> 18
<211> 344
<212> DNA
<213> Artificial Sequence

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

<400> 18
ctgtggaatg tgtgtcagtt agggtgtgga aagtccccag gctccccagc aggcagaagt 60

atgcaaagca tgcatctcaa ttagtcagca accaggtgtg gaaagtcccc aggctcccca 120

gcaggcagaa gtatgcaaag catgcatctc aattagtcag caaccatagt cccgccccta 180

actccgccca tcccgcccct aactccgccc agttccgccc attctccgcc ccatggctga 240

ctaatttttt ttatttatgc agaggccgag gccgcctctg cctctgagct attccagaag 300

tagtgaggag gctttttgg aggcctaggc ttttgcaaaa agct 344

<210> 19
<211> 1229
<212> DNA
<213> Artificial Sequence

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

<400> 19
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agacgaaggg cgcaggagcg ttcctgatcc ttccgcccgg acgctcagga cagcggcccg 120

ctgctcataa gactcggcct tagaacccca gtatcagcag aaggacattt taggacggga 180

cttgggtgac tctagggcac tggttttctt tccagagagc ggaacaggcg aggaaaagta 240

gtcccttctc ggcgattctg cggagggatc tccgtggggc ggtgaacgcc gatgattata 300

taaggacgcg ccgggtgtgg cacagctagt tccgtcgcag ccgggatttg ggtcgcggtt 360

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cgggaaagct cttattcggg tgagatgggc tggggcacca tctggggacc ctgacgtgaa 720

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ttttcagtgt tagactagta aagcttctgc aggtcgactc tagaaaattg tccgctaaat 1200

tctggccgtt tttggctttt ttgttagac 1229

<210> 20
<211> 1179
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

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ggaggggtcg gcaattgaac cggtgcctag agaaggtggc gcggggtaaa ctgggaaagt 120

gatgtcgtgt actggctccg cctttttccc gagggtgggg gagaaccgta tataagtgca 180

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acttccacct ggctgcagta cgtgattctt gatcccgagc ttcgggttgg aagtgggtgg 360

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tcctcagccg tcgcttcatg tgactccacg gagtaccggg cgccgtccag gcacctcgat 960

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<212> DNA
<213> Artificial Sequence

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

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ttgacgtcaa taatgacgta tgttcccata gtaacgccaa tagggacttt ccattgacgt 180

caatgggtgg agtatttacg gtaaactgcc cacttggcag tacatcaagt gtatcatatg 240

ccaagtacgc cccctattga cgtcaatgac ggtaaatggc ccgcctggca ttatgcccag 300

tacatgacct tatgggactt tcctacttgg cagtacatct acgtattagt catcgctatt 360

accatggtcg aggtgagccc cacgttctgc ttcactctcc ccatctcccc cccctcccca 420

ccccaatttt tgtatttatt tatttttaa ttattttgtg cagcgatggg ggcgggggg 480

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<210> 22
<211> 212
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<213> Artificial Sequence

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

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gccttttttcc cgagggtggg ggagaaccgt atataagtgc agtagtcgcc gtgaacgttc 180

tttttcgcaa cgggtttgcc gccagaacac ag 212

<210> 23
<211> 2379
<212> DNA
<213> Artificial Sequence

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

<400> 23
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acacctacta cgcgctgcaa agagccccgc aggcctgagg tgcccccacc tcaccactct 120

tcctattttt gtgtaaaaat ccagcttctt gtcaccacct ccaaggaggg ggaggaggag 180

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ggtgtggccg ctgcgtgcgc gcgcgccgac ccggcgctgt ttgaaccggg cggaggcggg 2160

gctggcgccc ggttgggagg gggttggggc ctggcttcct gccgcgcgcc gcggggacgc 2220

ctccgaccag tgtttgcctt ttatggtaat aacgcggccg gcccggcttc ctttgtcccc 2280

aatctgggcg cgcgccggcg ccccctggcg gcctaaggac tcggcgcgcc ggaagtggcc 2340

agggcggggg cgacctcggc tcacagcgcg cccggctat 2379

<210> 24
<211> 529
<212> DNA
<213> Artificial Sequence

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

<400> 24
gttgatttcc ttcatccctg gcacacgtcc aggcagtgtc gaatccatct ctgctacagg 60

ggaaaacaaa taacatttga gtccagtgga gaccgggagc agaagtaaag ggaagtgata 120

acccccagag cccggaagcc tctggaggct gagacctcgc ccccttgcg tgatagggcc 180

tacggagcca catgaccaag gcactgtcgc ctccgcacgt gtgagagtgc agggccccaa 240

gatggctgcc aggcctcgag gcctgactct tctatgtcac ttccgtaccg gcgagaaagg 300

cgggccctcc agccaatgag gctgcggggc gggccttcac cttgataggc actcgagtta 360

tccaatggtg cctgcgggcc ggagcgacta ggaactaacg tcatgccgag ttgctgagcg 420

ccggcaggcg gggccggggc ggccaaacca atgcgatggc cggggcggag tcgggcgctc 480

tataagttgt cgataggcgg gcactccgcc ctagtttcta aggaccatg 529

<210> 25
<211> 794
<212> DNA
<213> Artificial Sequence

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

<400> 25
agttccccaa ctttcccgcc tctcagcctt tgaaagaaag aaaggggagg gggcaggccg 60

cgtgcagtcg cgagcggtgc tgggctccgg ctccaattcc ccatctcagt cgctcccaaa 120

gtccttctgt ttcatccaag cgtgtaaggg tccccgtcct tgactcccta gtgtcctgct 180

gcccacagtc cagtcctggg aaccagcacc gatcacctcc catcgggcca atctcagtcc 240

cttccccccct acgtcggggc ccacacgctc ggtgcgtgcc cagttgaacc aggcggctgc 300

ggaaaaaaaa aagcggggag aaagtagggc ccggctacta gcggttttac gggcgcacgt 360

agctcaggcc tcaagacctt gggctgggac tggctgagcc tggcgggagg cggggtccga 420

gtcaccgcct gccgccgcgc ccccggtttc tataaattga gcccgcagcc tcccgcttcg 480

ctctctgctc ctcctgttcg acagtcagcc gcatcttctt ttgcgtcgcc aggtgaagac 540

gggcggagag aaacccggga ggctagggac ggcctgaagg cggcaggggc gggcgcaggc 600

cggatgtgtt cgcgccgctg cggggtgggc ccgggcggcc tccgcattgc aggggcgggc 660

ggaggacgtg atgcggcgcg ggctgggcat ggaggcctgg tgggggaggg gaggggaggc 720

gtgggtgtcg gccggggcca ctaggcgctc actgttctct ccctccgcgc agccgagcca 780

catcgctgag acac 794

<210> 26
<211> 532
<212> DNA
<213> Artificial Sequence

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

<400> 26
agtgcggtta ccagcggaaa tgcctcgggg tcagaagtcg caggagagat agacagctgc 60

tgaaccaatg ggaccagcgg atggggcgga tgttatctac cattggtgaa cgttagaaac 120

gaatagcagc caatgaatca gctgggggggg cggagcagtg acgtttattg cggagggggc 180

cgcttcgaat cggcggcggc cagcttggtg gcctgggcca atgaacggcc tccaacgagc 240

agggccttca ccaatcggcg gcctccacga cggggctggg ggagggtata taagccgagt 300

aggcgacggt gaggtcgacg ccggccaaga cagcacagac agattgacct attggggtgt 360

ttcgcgagtg tgagagggaa gcgccgcggc ctgtatttct agacctgccc ttcgcctggt 420

tcgtggcgcc ttgtgacccc gggcccctgc cgcctgcaag tcggaaattg cgctgtgctc 480

ctgtgctacg gcctgtggct ggactgcctg ctgctgccca actggctggc ac 532

<210> 27
<211> 701
<212> DNA
<213> Artificial Sequence

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

<400> 27
tagtttcatc accaccgcca ccccccccgcc cccccgccat ctgaaagggt tctaggggat 60

ttgcaacctc tctcgtgtgt ttcttctttc cgagaagcgc cgccacacga gaaagctggc 120

cgcgaaagtc gtgctggaat cacttccaac gaaaccccag gcatagatgg gaaagggtga 180

agaacacgtt gccatggcta ccgtttcccc ggtcacggaa taaacgctct ctaggatccg 240

gaagtagttc cgccgcgacc tctctaaaag gatggatgtg ttctctgctt acattcattg 300

gacgttttcc cttagaggcc aaggccgccc aggcaaaggg gcggtcccac gcgtgagggg 360

cccgcggagc catttgattg gagaaaagct gcaaaccctg accaatcgga aggagccacg 420

cttcgggcat cggtcaccgc acctggacag ctccgattgg tggacttccg ccccccctca 480

cgaatcctca ttgggtgccg tgggtgcgtg gtgcggcgcg attggtgggt tcatgtttcc 540

cgtcccccgc ccgcgagaag tgggggtgaa aagcggcccg acctgcttgg ggtgtagtgg 600

gcggaccgcg cggctggagg tgtgaggatc cgaacccagg ggtgggggggt ggaggcggct 660

cctgcgatcg aaggggactt gagactcacc ggccgcacgt c 701

<210> 28
<211> 465
<212> DNA
<213> Artificial Sequence

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

<400> 28
gggccgccca ctccccccttc ctctcagggt ccctgtcccc tccagtgaat cccagaagac 60

tctggagagt tctgagcagg gggcggcact ctggcctctg attggtccaa ggaaggctgg 120

ggggcaggac gggaggcgaa aaccctggaa tattcccgac ctggcagcct catcgagctc 180

ggtgattggc tcagaaggga aaaggcgggt ctccgtgacg acttataaaa gcccaggggc 240

aagcggtccg gataacggct agcctgagga gctgctgcga cagtccacta ccttttttcga 300

gagtgactcc cgttgtccca aggcttccca gagcgaacct gtgcggctgc aggcaccggc 360

gcgtcgagtt tccggcgtcc ggaaggaccg agctcttctc gcggatccag tgttccgttt 420

ccagccccca atctcagagc ggagccgaca gagagcaggg aaccc 465

<210> 29
<211> 538
<212> DNA
<213> Artificial Sequence

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

<400> 29
gccccacccc cgtccgcgtt acaaccggga ggcccgctgg gtcctgcacc gtcaccctcc 60

tccctgtgac cgcccacctg atacccaaac aactttctcg cccctccagt ccccagctcg 120

ccgagcgctt gcggggagcc acccagcctc agtttcccca gccccgggcg gggcgagggg 180

cgatgacgtc atgccggcgc gcggcattgt ggggcggggc gaggcggggc gccgggggga 240

gcaacactga gacgccattt tcggcggcgg gagcggcgca ggcggccgag cgggactggc 300

tgggtcggct gggctgctgg tgcgaggagc cgcggggctg tgctcggcgg ccaaggggac 360

agcgcgtggg tggccgagga tgctgcgggg cggtagctcc ggcgcccctc gctggtgact 420

gctgcgccgt gcctcacaca gccgaggcgg gctcggcgca cagtcgctgc tccgcgctcg 480

cgcccggcgg cgctccaggt gctgacagcg cgagagagcg cggcctcagg agcaacac 538

<210> 30
<211> 1091
<212> DNA
<213> Artificial Sequence

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

<400> 30
ttccagagct ttcgaggaag gtttcttcaa ctcaaattca tccgcctgat aattttctta 60

tattttccta aagaaggaag agaagcgcat agaggagaag ggaaataatt ttttaggagc 120

ctttcttacg gctatgagga atttggggct cagttgaaaa gcctaaactg cctctcggga 180

ggttgggcgc ggcgaactac tttcagcggc gcacggagac ggcgtctacg tgaggggtga 240

taagtgacgc aacactcgtt gcataaattt gcgctccgcc agcccggagc atttaggggc 300

ggttggcttt gttgggtgag cttgtttgtg tccctgtggg tggacgtggt tggtgattgg 360

caggatcctg gtatccgcta acaggtactg gcccacagcc gtaaagacct gcgggggcgt 420

gagaggggg aatgggtgag gtcaagctgg aggcttcttg gggttgggtg ggccgctgag 480

gggaggggag ggcgaggtga cgcgacaccc ggcctttctg ggagagtggg ccttgttgac 540

ctaaggggg cgagggcagt tggcacgcgc acgcgccgac agaaactaac agacattaac 600

caacagcgat tccgtcgcgt ttacttggga ggaaggcgga aaagaggtag tttgtgtggc 660

ttctggaaac cctaaatttg gaatcccagt atgagaatgg tgtcccttct tgtgtttcaa 720

tgggattttt acttcgcgag tcttgtgggt ttggttttgt tttcagtttg cctaacaccg 780

tgcttaggtt tgaggcagat tggagttcgg tcgggggagt ttgaatatcc ggaacagtta 840

gtggggaaag ctgtggacgc ttggtaagag agcgctctgg attttccgct gttgacgttg 900

aaaccttgaa tgacgaattt cgtattaagt gacttagcct tgtaaaattg aggggaggct 960

tgcggaatat taacgtattt aaggcatttt gaaggaatag ttgctaattt tgaagaatat 1020

taggtgtaaa agcaagaaat acaatgatcc tgaggtgaca cgcttatgtt ttacttttaa 1080

actaggtcac c 1091

<210> 31
<211> 66
<212> DNA
<213> Homo sapiens

<400> 31
atgtgtcacc agcagctcgt tatatcctgg tttagtttgg tgtttctcgc ttcacccctg 60

gtggca 66

<210> 32
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 32
atgtgccatc agcaactcgt catctcctgg ttctcccttg tgttcctcgc ttcccctctg 60

gtcgcc 66

<210> 33
<211> 42
<212> DNA
<213> Artificial Sequence

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

<400> 33
atgcaactgc tgtcatgtat cgcactcatc ctggcgctgg ta 42

<210> 34
<211> 60
<212> DNA
<213> Homo sapiens

<400> 34
atgtatcgga tgcaactttt gagctgcatc gcattgtctc tggcgctggt gacaaattcc 60

<210> 35
<211> 45
<212> DNA
<213> Homo sapiens

<400> 35
atgaatctct tgctcatact tacgtttgtc gctgctgccg ttgcg 45

<210> 36
<211> 51
<212> DNA
<213> Gaussia princeps

<400> 36
atgggcgtga aggtcttgtt tgcccttatc tgcatagctg ttgcggaggc g 51

<210> 37
<211> 72
<212> DNA
<213> Homo sapiens

<400> 37
atgccgatgg ggagccttca acctttggca acgctttatc ttctggggat gttggttgct 60

agttgccttg gg 72

<210> 38
<211> 63
<212> DNA
<213> Mus sp.

<400> 38
atggaaactg acacgttgtt gctgtgggta ttgctcttgt gggtcccagg atctacgggc 60

gac 63

<210> 39

<211> 66
<212> DNA
<213> Homo sapiens

<400> 39
atggatatga gggttcccgc ccagcttttg gggctgcttt tgttgtggct tcgaggggct 60

cggtgt 66

<210> 40
<211> 48
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown:
VSV-G sequence

<400> 40
atgaagtgtc tgttgtacct ggcgtttctg ttcattggtg taaactgt 48

<210> 41
<211> 84
<212> DNA
<213> Homo sapiens

<400> 41
atgaatatca aaggaagtcc gtggaagggt agtctcctgc tgctcctcgt atctaacctt 60

ctcctttgtc aatccgtggc accc 84

<210> 42
<211> 54
<212> DNA
<213> Homo sapiens

<400> 42
atgaaatggg taacattcat atcacttctc tttctgttca gctctgcgta ttct 54

<210> 43
<211> 57
<212> DNA
<213> Homo sapiens

<400> 43
atgacaaggc ttactgtttt ggctctcctc gctggactct tggcttcctc ccgagca 57

<210> 44
<211> 51
<212> DNA
<213> Homo sapiens

<400> 44
atgagggctt ggatttttt tctgctctgc cttgccggtc gagccctggc g 51

<210> 45
<211> 48
<212> DNA
<213> Homo sapiens

<400> 45
atgcctcttc tgcttttgct tcctcttttg tgggcaggtg ccctcgca 48

<210> 46
<211> 87
<212> DNA
<213> Homo sapiens

<400> 46
atgaactctt tctcaacctc tgcgtttggt ccggtcgctt tctcccttgg gctcctgctt 60

gtcttgccag cagcgtttcc tgcgcca 87

<210> 47
<211> 60
<212> DNA
<213> Homo sapiens

<400> 47
atgacaagta aactggcggt agccttgctc gcggcctttt tgatttccgc agccctttgt 60

<210> 48
<211> 69
<212> DNA
<213> Homo sapiens

<400> 48
atgaaggtaa gtgcagcgtt gctttgcctt ctcctcattg cagcgacctt tattcctcaa 60

gggctggcc 69

<210> 49
<211> 78
<212> DNA
<213> Homo sapiens

<400> 49
atgggagcgg cagctagaac acttcgactt gcccttgggc tcttgctcct tgcaaccctc 60

cttagacctg ccgacgca 78

<210> 50
<211> 63
<212> DNA
<213> Homo sapiens

<400> 50
atgtcaccgt tgttgcggag attgctgttg gccgcacttt tgcaactggc tcctgctcaa 60

gcc 63

<210> 51
<211> 63
<212> DNA
<213> Homo sapiens

<400> 51
atgaataacc tgctctgttg tgcgctcgtg ttcctggaca tttctataaa atggacaacg 60

caa 63

<210> 52
<211> 69
<212> DNA
<213> Homo sapiens

<400> 52
atgcaaatgt ctcctgccct tacctgtctc gtacttggtc ttgcgctcgt atttggagag 60

ggatcagcc 69

<210> 53
<211> 102
<212> DNA
<213> Homo sapiens

<400> 53
atggcaaggg ctgcactcag tgctgccccg tctaatccca gattgcttcg agttgcattg 60

cttcttctgt tgctggttgc agctggtagg agagcagcgg gt 102

<210> 54
<211> 63
<212> DNA
<213> Homo sapiens

<400> 54
atgaatgcaa aagtcgtggt cgtgctggtt ttggttctga cggcgttgtg tcttagtgat 60

ggg 63

<210> 55
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 55
atggaacgca ttgtgatctg cctgatggtc atcttcctgg gcaccttagt gcacaagtcg 60

agcagc 66

<210> 56
<211> 22
<212> PRT
<213> Homo sapiens

<400> 56
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1 5 10 15

Ala Ser Pro Leu Val Ala
20

<210> 57
<211> 22
<212> PRT
<213> Artificial Sequence

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

<400> 57
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1 5 10 15

Ala Ser Pro Leu Val Ala
20

<210> 58
<211> 14
<212> PRT
<213> Artificial Sequence

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

<400> 58
Met Gln Leu Leu Ser Cys Ile Ala Leu Ile Leu Ala Leu Val
1 5 10

<210> 59
<211> 20
<212> PRT
<213> Homo sapiens

<400> 59
Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu
1 5 10 15

Val Thr Asn Ser
20

<210> 60
<211> 15
<212> PRT
<213> Homo sapiens

<400> 60
Met Asn Leu Leu Leu Ile Leu Thr Phe Val Ala Ala Ala Val Ala
1 5 10 15

<210> 61
<211> 17
<212> PRT
<213> Gaussia princeps

<400> 61
Met Gly Val Lys Val Leu Phe Ala Leu Ile Cys Ile Ala Val Ala Glu
1   5   10   15

Ala

<210> 62
<211> 24
<212> PRT
<213> Homo sapiens

<400> 62
Met Pro Met Gly Ser Leu Gln Pro Leu Ala Thr Leu Tyr Leu Leu Gly
1   5   10   15

Met Leu Val Ala Ser Cys Leu Gly
            20

<210> 63
<211> 21
<212> PRT
<213> Mus sp.

<400> 63
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1   5   10   15

Gly Ser Thr Gly Asp
            20

<210> 64
<211> 22
<212> PRT
<213> Homo sapiens

<400> 64

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

Leu Arg Gly Ala Arg Cys
            20

<210> 65
<211> 16
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
      VSV-G sequence

<400> 65
Met Lys Cys Leu Leu Tyr Leu Ala Phe Leu Phe Ile Gly Val Asn Cys
1   5   10   15

<210> 66
<211> 28
<212> PRT
<213> Homo sapiens

<400> 66
Met Asn Ile Lys Gly Ser Pro Trp Lys Gly Ser Leu Leu Leu Leu Leu
1   5   10   15

Val Ser Asn Leu Leu Leu Cys Gln Ser Val Ala Pro
            20   25

<210> 67
<211> 18
<212> PRT
<213> Homo sapiens

<400> 67
Met Lys Trp Val Thr Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
1   5   10   15

Tyr Ser

<210> 68
<211> 19
<212> PRT
<213> Homo sapiens

<400> 68
Met Thr Arg Leu Thr Val Leu Ala Leu Leu Ala Gly Leu Leu Ala Ser
1   5   10   15

Ser Arg Ala

<210> 69
<211> 17
<212> PRT
<213> Homo sapiens

<400> 69
Met Arg Ala Trp Ile Phe Phe Leu Leu Cys Leu Ala Gly Arg Ala Leu
1   5   10   15

Ala

<210> 70
<211> 16
<212> PRT
<213> Homo sapiens

<400> 70
Met Pro Leu Leu Leu Leu Leu Pro Leu Leu Trp Ala Gly Ala Leu Ala
1   5   10   15

<210> 71
<211> 29
<212> PRT
<213> Homo sapiens

<400> 71
Met Asn Ser Phe Ser Thr Ser Ala Phe Gly Pro Val Ala Phe Ser Leu
1   5   10   15

Gly Leu Leu Leu Val Leu Pro Ala Ala Phe Pro Ala Pro
            20   25

<210> 72
<211> 20
<212> PRT
<213> Homo sapiens

<400> 72
Met Thr Ser Lys Leu Ala Val Ala Leu Leu Ala Ala Phe Leu Ile Ser
1   5   10   15

Ala Ala Leu Cys
            20

<210> 73
<211> 23
<212> PRT
<213> Homo sapiens

<400> 73
Met Lys Val Ser Ala Ala Leu Leu Cys Leu Leu Leu Ile Ala Ala Thr
1   5   10   15

Phe Ile Pro Gln Gly Leu Ala
            20

<210> 74
<211> 26
<212> PRT
<213> Homo sapiens

<400> 74
Met Gly Ala Ala Ala Arg Thr Leu Arg Leu Ala Leu Gly Leu Leu Leu
1   5   10   15

Leu Ala Thr Leu Leu Arg Pro Ala Asp Ala
            20   25

<210> 75
<211> 21
<212> PRT
<213> Homo sapiens

<400> 75

Met Ser Pro Leu Leu Arg Arg Leu Leu Leu Ala Ala Leu Leu Gln Leu
1   5   10   15

Ala Pro Ala Gln Ala
            20

<210> 76
<211> 21
<212> PRT
<213> Homo sapiens

<400> 76
Met Asn Asn Leu Leu Cys Cys Ala Leu Val Phe Leu Asp Ile Ser Ile
1   5   10   15

Lys Trp Thr Thr Gln
            20

<210> 77
<211> 23
<212> PRT
<213> Homo sapiens

<400> 77
Met Gln Met Ser Pro Ala Leu Thr Cys Leu Val Leu Gly Leu Ala Leu
1   5   10   15

Val Phe Gly Glu Gly Ser Ala
            20

<210> 78
<211> 34
<212> PRT
<213> Homo sapiens

<400> 78
Met Ala Arg Ala Ala Leu Ser Ala Ala Pro Ser Asn Pro Arg Leu Leu
1   5   10   15

Arg Val Ala Leu Leu Leu Leu Leu Leu Val Ala Ala Gly Arg Arg Ala
            20   25   30

Ala Gly

<210> 79
<211> 21
<212> PRT
<213> Homo sapiens

<400> 79
Met Asn Ala Lys Val Val Val Val Leu Val Leu Val Leu Thr Ala Leu
1 5 10 15

Cys Leu Ser Asp Gly
20

<210> 80
<211> 22
<212> PRT
<213> Artificial Sequence

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

<400> 80
Met Glu Arg Ile Val Ile Cys Leu Met Val Ile Phe Leu Gly Thr Leu
1 5 10 15

Val His Lys Ser Ser Ser
20

<210> 81
<211> 10
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown: cleavage site sequence

<400> 81
Asp Glu Met Glu Glu Cys Ser Gln His Leu
1 5 10

<210> 82
<211> 9
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 82
Glu Asp Val Val Pro Cys Ser Met Gly
1 5

<210> 83
<211> 21
<212> PRT
<213> Homo sapiens

<400> 83
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro
20

<210> 84
<211> 63
<212> DNA
<213> Homo sapiens

<400> 84
atggctctcc ctgtaactgc cctgcttctt ccccttgcct tgcttctcca tgccgctaga 60

ccc 63

<210> 85
<211> 22
<212> PRT
<213> Homo sapiens

<400> 85
Met Leu Leu Leu Val Thr Ser Leu Leu Leu Cys Glu Leu Pro His Pro
1 5 10 15

Ala Phe Leu Leu Ile Pro

20

<210> 86
<211> 66
<212> DNA
<213> Homo sapiens

<400> 86
atgctgctgc tggtcacatc tctgctgctg tgcgagctgc cccatcctgc ctttctgctg 60

atccct 66

<210> 87
<211> 66
<212> DNA
<213> Homo sapiens

<400> 87
atgctgctgc tggttacatc tctgctgctg tgcgagctgc cccatcctgc ctttctgctg 60

atccct 66

<210> 88
<211> 176
<212> PRT
<213> Artificial Sequence

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

<400> 88
Ser Arg Pro Gly Glu Arg Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
1 5 10 15

Phe Ser Arg Arg His Gly Leu Asp Arg His Thr Arg Thr His Thr Gly
20 25 30

Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp His
35 40 45

Ser Ser Leu Lys Arg His Leu Arg Thr His Thr Gly Ser Gln Lys Pro
50 55 60

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Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Val Arg His Asn Leu
65                  70                  75                  80


Thr Arg His Leu Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Arg
                85                  90                  95


Ile Cys Met Arg Asn Phe Ser Asp His Ser Asn Leu Ser Arg His Leu
            100                 105                 110


Lys Thr His Thr Gly Ser Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
        115                 120                 125


Arg Asn Phe Ser Gln Arg Ser Ser Leu Val Arg His Leu Arg Thr His
    130                 135                 140


Thr Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser
145                 150                 155                 160


Glu Ser Gly His Leu Lys Arg His Leu Arg Thr His Leu Arg Gly Ser
                165                 170                 175


<210> 89
<211> 334
<212> PRT
<213> Artificial Sequence

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

<400> 89
Thr Cys Arg Asp Tyr Lys Asp His Asp Gly Asp Tyr Lys Asp His Asp
1               5                   10                  15


Ile Asp Tyr Lys Asp Asp Asp Asp Lys Met Ala Pro Lys Lys Lys Arg
            20                  25                  30


Lys Val Gly Ile His Gly Val Pro Gly Gly Leu Glu Gly Gly Gly Gly
        35                  40                  45
```

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Ser Gly Gly Thr Glu Asp Val Val Cys Cys His Ser Ile Tyr Gly Lys
    50                  55                  60

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

Gly Cys Val Val Ile Val Gly Arg Ile Val Leu Ser Gly Ser Gly Thr
                85                  90                  95

Ser Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly Leu Leu Gly
            100                 105                 110

Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly
        115                 120                 125

Glu Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr Cys
    130                 135                 140

Ile Asn Gly Val Cys Trp Ala Val Tyr His Gly Ala Gly Thr Arg Thr
145                 150                 155                 160

Ile Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val Asp
                165                 170                 175

Gln Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu Thr
            180                 185                 190

Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala
        195                 200                 205

Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu
    210                 215                 220

Ser Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu
225                 230                 235                 240

Leu Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val Cys
```

245 250 255

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

Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro
275 280 285

Ala Val Thr Leu Thr His Pro Ile Thr Lys Ile Asp Arg Glu Val Leu
290 295 300

Tyr Gln Glu Phe Asp Glu Met Glu Glu Cys Ser Gln His Tyr Pro Tyr
305 310 315 320

Asp Val Pro Asp Tyr Ala Gly Gly Gly Gly Ser Gly Gly Thr
325 330

<210> 90
<211> 531
<212> PRT
<213> Artificial Sequence

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

<400> 90
Glu Ala Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu
1 5 10 15

Asp Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu
20 25 30

Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp
35 40 45

Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser
50 55 60

Gly Ser Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp

```
65                  70                  75                  80

Thr Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu
                85                  90                  95

Thr Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp
            100                 105                 110

Pro Arg Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala
        115                 120                 125

Ser Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu
    130                 135                 140

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

Gln Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu
                165                 170                 175

Pro Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu
            180                 185                 190

Ala Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln
        195                 200                 205

Ala Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr
    210                 215                 220

Leu Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly
225                 230                 235                 240

Ala Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala
                245                 250                 255

Ser Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro
            260                 265                 270
```

```
Val Ala Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala
        275                 280                 285

Ile Thr Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro
    290                 295                 300

Ala Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp
305                 310                 315                 320

Glu Asp Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly
                325                 330                 335

Ser Gly Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys
            340                 345                 350

Pro Glu Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val
        355                 360                 365

Cys Gln Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp
    370                 375                 380

Ala Asn Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro
385                 390                 395                 400

Val His Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro
                405                 410                 415

Leu Asp Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu
            420                 425                 430

Asp Pro Asp Glu Glu Thr Ser Gln Ala Val Lys Ala Leu Arg Glu Met
        435                 440                 445

Ala Asp Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln
    450                 455                 460

Met Asp Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr
```

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465                 470                 475                 480

Thr Thr Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu
                485                 490                 495

Thr Pro Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys
            500                 505                 510

Leu Leu His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp Thr
        515                 520                 525

Ser Leu Phe
    530
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<210> 91
<211> 3129
<212> DNA
<213> Artificial Sequence

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

<400> 91
atgtctagac ccggagagcg cccattccag tgtcggattt gcatgcggaa cttttcgaga 60

agacacggcc tggacagaca tacccgtact catacaggtg aaaaaccctt tcagtgtcgg 120

atctgtatgc gaaatttctc cgaccacagc agcctgaaga gacatctacg tacccacacc 180

ggcagccaga agccatttca gtgtcggatc tgtatgcgga acttctccgt gagacacaac 240

ctgaccagac atctacgtac gcacaccgga gagaagccat tccaatgccg aatatgcatg 300

cgcaacttca gtgaccacag caacctgagc agacacctaa aaacccacac cggttcccag 360

aagccatttc agtgtcggat ctgtatgcgg aacttctccc agcgcagcag cctggtgaga 420

catctacgta cgcacaccgg agagaagcca ttccaatgcc gaatatgcat gcgcaacttc 480

agtgagagcg gccacctgaa gagacacctg cgtacgcacc tgaggggatc cacctgcagg 540

gactacaaag accatgacgg tgattataaa gatcatgaca tcgattacaa ggatgacgat 600

gacaagatgg cccccaagaa aaagaggaag gtgggcattc acggggtgcc gggtggactc 660

gagggaggcg gtggaagcgg cggtaccgag gacgtggtgt gctgccactc aatctacggc 720

aagaagaagg gtgatatcga cacctaccga tacataggct cttccgggac aggctgcgtg 780

gtcatagtgg gcaggatcgt cttgtccgga tccggcacta gtgcgcccat cacggcgtac 840

gcccagcaga cgagaggcct cctagggtgt ataatcacca gcctgactgg ccgggacaaa 900

aaccaagtgg agggtgaggt ccagatcgtg tcaactgcta cccaaacctt cctggcaacg 960

tgcatcaatg gggtatgctg ggcagtctac cacggggccg gaacgaggac catcgcatca 1020

cccaagggtc ctgtcatcca gatgtatacc aatgtggacc aagaccttgt gggctggccc 1080

gctcctcaag gttcccgctc attgacaccc tgtacctgcg gctcctcgga cctttacctg 1140

gtcacgaggc acgccgatgt cattcccgtg cgccggcgag gtgatagtag aggctctctg 1200

ctgagcccca gacctatcag ctacctgaag ggctctagcg gcggacctct gctttgtcct 1260

gctggacatg ccgtgggcct gtttagagcc gccgtgtgta caagaggcgt ggccaaagcc 1320

gtggacttca tccccgtgga aaacctggaa accaccatgc ggagccccgt gttcaccgac 1380

aattctagcc ctccagccgt gacactgaca caccccatca ccaagatcga cagagaggtg 1440

ctgtaccaag agttcgacga gatggaagag tgcagccagc actaccccta cgacgtgcca 1500

gattatgctg gcggcggagg atctggcgga acagaagcct ctggaagcgg cagagctgac 1560

gccctggatg acttcgacct ggatatgctg ggcagcgacg ctctggacga ttttgacctc 1620

gacatgctgg gatctgatgc actcgacgat ttcgatttgg acatgctcgg cagtgatgcc 1680

ttggacgact ttgatcttga tatgctcatc aacagccggt ccagcggcag ccccaagaaa 1740

aaaagaaaag tgggctccca gtacctgcct gacaccgacg acagacaccg gatcgaggaa 1800

aagcggaagc ggacctacga gacattcaag agcatcatga agaagtcccc attcagcggc 1860

cccaccgatc ctagacctcc acctagaaga atcgccgtgc ctagcagatc tagcgcctcc 1920

gtgcctaaac ctgctcctca gccttatcct ttcaccagca gcctgagcac catcaactac 1980

gacgagttcc ctaccatggt gttccccagc ggccagatct ctcaggcttc tgctcttgct 2040

ccagctcctc ctcaggttct gcctcaagct cctgcaccag caccggctcc agctatggtt 2100

tctgctttgg ctcaggcccc tgctcctgtg cctgttcttg ctcctggacc acctcaggct 2160

gttgctcctc ctgctccaaa acctacacag gccggcgaag gcacactgtc tgaagctctg 2220

ctgcagctcc agttcgatga cgaagatctg ggcgccctgc tgggcaattc tacagatcct 2280

gccgtgttta ccgatctggc cagcgtggac aacagcgagt ttcagcagct cctgaatcag 2340

ggcatccctg tggctcctca caccaccgaa cctatgctga tggaataccc cgaggccatc 2400

accagactgg tcaccggtgc tcaaagacca cctgatccag ctccagcacc actgggagca 2460

cctggactgc ctaatggact gctgtctggc gacgaggact tcagctctat cgccgacatg 2520

gatttctctg ccctgctcgg ctctggcagc ggctctagag atagcagaga aggcatgttc 2580

ctgcctaagc ctgaggccgg ctctgccatc tccgatgtgt tcgagggaag agaagtgtgc 2640

cagcctaagc ggatccggcc ttttcaccct cctggaagcc cttgggccaa cagacctctg 2700

cctgcttctc tggcccctac accaacagga cctgtgcacg aacctgtggg cagtctgacc 2760

ccagctcctg ttcctcaacc tctggatccc gctcctgctg tgacacctga agcctctcat 2820

ctgctggaag atcccgacga agagacaagc caggccgtga aggccctgag agaaatggcc 2880

gacacagtga tccctcagaa agaggaagcc gccatctgcg gacagatgga cctgtctcat 2940

cctccaccaa gaggccacct ggacgagctg acaaccacac tggaatccat gaccgaggac 3000

ctgaacctgg acagccctct gacacccgag ctgaacgaga tcctggacac cttcctgaac 3060

gacgagtgtc tgctgcacgc catgcacatc tctaccggcc tgagcatctt cgacaccagc 3120

ctgttttga 3129

<210> 92
<211> 243
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown:
ACP-binding domain sequence

<400> 92
cgggtttcgt aacaatcgca tgaggattcg caacgccttc ggcgtagccg atgtcgcgct 60

cccgtctcag taaaggtcgg cgtagccgat gtcgcgcaat cggactgcct tcgtacggcg 120

tagccgatgt cgcgcgtatc agtcgcctcg gaacggcgta gccgatgtcg cgcattcgta 180

agaggctcac tctcccttac acggagtgga taactagttc tagagggtat ataatggggg 240

cca 243

<210> 93
<211> 541
<212> PRT
<213> Artificial Sequence

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

<400> 93
Met Cys His Gln Gln Leu Val Ile Ser Trp Phe Ser Leu Val Phe Leu
1 5 10 15

Ala Ser Pro Leu Val Ala Ile Trp Glu Leu Lys Lys Asp Val Tyr Val
20 25 30

Val Glu Leu Asp Trp Tyr Pro Asp Ala Pro Gly Glu Met Val Val Leu
35 40 45

Thr Cys Asp Thr Pro Glu Glu Asp Gly Ile Thr Trp Thr Leu Asp Gln
50 55 60

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

Glu Phe Gly Asp Ala Gly Gln Tyr Thr Cys His Lys Gly Gly Glu Val
85 90 95

Leu Ser His Ser Leu Leu Leu Leu His Lys Lys Glu Asp Gly Ile Trp
100 105 110

Ser Thr Asp Ile Leu Lys Asp Gln Lys Glu Pro Lys Asn Lys Thr Phe
115 120 125

Leu Arg Cys Glu Ala Lys Asn Tyr Ser Gly Arg Phe Thr Cys Trp Trp

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    130                 135                 140

Leu Thr Thr Ile Ser Thr Asp Leu Thr Phe Ser Val Lys Ser Ser Arg
145                 150                 155                 160

Gly Ser Ser Asp Pro Gln Gly Val Thr Cys Gly Ala Ala Thr Leu Ser
                165                 170                 175

Ala Glu Arg Val Arg Gly Asp Asn Lys Glu Tyr Glu Tyr Ser Val Glu
            180                 185                 190

Cys Gln Glu Asp Ser Ala Cys Pro Ala Ala Glu Glu Ser Leu Pro Ile
        195                 200                 205

Glu Val Met Val Asp Ala Val His Lys Leu Lys Tyr Glu Asn Tyr Thr
    210                 215                 220

Ser Ser Phe Phe Ile Arg Asp Ile Ile Lys Pro Asp Pro Pro Lys Asn
225                 230                 235                 240

Leu Gln Leu Lys Pro Leu Lys Asn Ser Arg Gln Val Glu Val Ser Trp
                245                 250                 255

Glu Tyr Pro Asp Thr Trp Ser Thr Pro His Ser Tyr Phe Ser Leu Thr
            260                 265                 270

Phe Cys Val Gln Val Gln Gly Lys Ser Lys Arg Glu Lys Lys Asp Arg
        275                 280                 285

Val Phe Thr Asp Lys Thr Ser Ala Thr Val Ile Cys Arg Lys Asn Ala
    290                 295                 300

Ser Ile Ser Val Arg Ala Gln Asp Arg Tyr Tyr Ser Ser Ser Trp Ser
305                 310                 315                 320

Glu Trp Ala Ser Val Pro Cys Ser Gly Gly Gly Ser Gly Gly Gly Ser
                325                 330                 335
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Gly Gly Gly Ser Gly Gly Gly Ser Arg Asn Leu Pro Val Ala Thr Pro
            340                 345                 350

Asp Pro Gly Met Phe Pro Cys Leu His His Ser Gln Asn Leu Leu Arg
        355                 360                 365

Ala Val Ser Asn Met Leu Gln Lys Ala Arg Gln Thr Leu Glu Phe Tyr
    370                 375                 380

Pro Cys Thr Ser Glu Glu Ile Asp His Glu Asp Ile Thr Lys Asp Lys
385                 390                 395                 400

Thr Ser Thr Val Glu Ala Cys Leu Pro Leu Glu Leu Thr Lys Asn Glu
                405                 410                 415

Ser Cys Leu Asn Ser Arg Glu Thr Ser Phe Ile Thr Asn Gly Ser Cys
            420                 425                 430

Leu Ala Ser Arg Lys Thr Ser Phe Met Met Ala Leu Cys Leu Ser Ser
        435                 440                 445

Ile Tyr Glu Asp Leu Lys Met Tyr Gln Val Glu Phe Lys Thr Met Asn
    450                 455                 460

Ala Lys Leu Leu Met Asp Pro Lys Arg Gln Ile Phe Leu Asp Gln Asn
465                 470                 475                 480

Met Leu Ala Val Ile Asp Glu Leu Met Gln Ala Leu Asn Phe Asn Ser
                485                 490                 495

Glu Thr Val Pro Gln Lys Ser Ser Leu Glu Glu Pro Asp Phe Tyr Lys
            500                 505                 510

Thr Lys Ile Lys Leu Cys Ile Leu Leu His Ala Phe Arg Ile Arg Ala
        515                 520                 525

Val Thr Ile Asp Arg Val Met Ser Tyr Leu Asn Ala Ser
```

530 535 540

<210> 94
<211> 1626
<212> DNA
<213> Artificial Sequence

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

<400> 94
atgtgccatc agcaactcgt catctcctgg ttctcccttg tgttcctcgc ttcccctctg 60

gtcgccattt gggaactgaa gaaggacgtc tacgtggtcg agctggattg gtacccggac 120

gcccctggag aaatggtcgt gctgacttgc gatacgccag aagaggacgg cataacctgg 180

accctggatc agagctccga ggtgctcgga agcggaaaga ccctgaccat tcaagtcaag 240

gagttcggcg acgcgggcca gtacacttgc cacaagggtg gcgaagtgct gtcccactcc 300

ctgctgctgc tgcacaagaa agaggatgga atctggtcca ctgacatcct caaggaccaa 360

aaagaaccga agaacaagac cttcctccgc tgcgaagcca agaactacag cggtcggttc 420

acctgttggt ggctgacgac aatctccacc gacctgactt tctccgtgaa gtcgtcacgg 480

ggatcaagcg atcctcaggg cgtgacctgt ggagccgcca ctctgtccgc cgagagagtc 540

aggggagaca acaaggaata tgagtactcc gtggaatgcc aggaggacag cgcctgccct 600

gccgcggaag agtccctgcc tatcgaggtc atggtcgatg ccgtgcataa gctgaaatac 660

gagaactaca cttcctcctt ctttatccgc gacatcatca agcctgaccc ccccaagaac 720

ttgcagctga agccactcaa gaactcccgc caagtggaag tgtcttggga atatccagac 780

acttggagca ccccgcactc atacttctcg ctcactttct gtgtgcaagt gcagggaaag 840

tccaaacggg agaagaaaga ccgggtgttc accgacaaaa cctccgccac tgtgatttgt 900

cggaagaacg cgtcaatcag cgtccgggcg caggatagat actactcgtc ctcctggagc 960

gaatgggcca gcgtgccttg ttccggtggc ggatcaggcg gaggttcagg aggaggctcc 1020

ggaggaggtt cccggaacct ccctgtggca acccccgacc ctggaatgtt cccgtgccta 1080

caccactccc aaaacctcct gagggctgtg tcgaacatgt tgcagaaggc ccgccagacc 1140

cttgagttct acccctgcac ctcggaagaa attgatcacg aggacatcac caaggacaag 1200

acctcgaccg tggaagcctg cctgccgctg gaactgacca agaacgaatc gtgtctgaac 1260

tcccgcgaga caagctttat cactaacggc agctgcctgg cgtcgagaaa gacctcattc 1320

atgatggcgc tctgtctttc ctcgatctac gaagatctga agatgtatca ggtcgagttc 1380

aagaccatga acgccaagct gctcatggac ccgaagcggc agatcttcct ggaccagaat 1440

atgctcgccg tgattgatga actgatgcag gccctgaatt tcaactccga gactgtgcct 1500

caaaagtcca gcctggaaga accggacttc tacaagacca agatcaagct gtgcatcctg 1560

ttgcacgctt tccgcattcg agccgtgacc attgaccgcg tgatgtccta cctgaacgcc 1620

agttaa 1626

<210> 95
<211> 1626
<212> DNA
<213> Artificial Sequence

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

<400> 95
atgtgccatc agcagcttgt catatcttgg ttttcacttg tattcctggc cagcccttg 60

gttgcgatct gggagctcaa gaaggatgtg tacgttgtag agctggactg gtaccccgat 120

gctcccggtg agatggtcgt tttgacatgt gacactccag aagaggacgg tattacgtgg 180

actctggacc agtcctccga agttcttggt tctggtaaga ctctgactat ccaggtgaaa 240

gaatttgggg atgcgggaca atacacatgc cacaagggag gcgaggtgtt gtctcatagt 300

ttgctgcttc tccacaagaa agaggatgga atctggagca ccgacatact caaggatcaa 360

aaggaaccca aaaataagac atttctgcga tgtgaggcta agaactatag tggccgcttc 420

acttgttggt ggctgactac catcagcaca gatctcacgt tttcagtaaa aagtagtaga 480

ggttcaagtg atcctcaagg ggtaacgtgc ggtgctgcaa cactgtctgc tgaacgcgta 540

agaggagata ataaggagta cgagtattcc gtagaatgcc aagaggacag tgcttgtcct 600

gcggccgagg agtctctccc aatagaagtg atggtggacg cggtgcataa actgaaatat 660

gagaactaca caagcagttt ttttataaga gatatcatca agcccgatcc gccgaagaat 720

ttgcaactta aaccgcttaa aaactcacgc caggttgaag tatcctggga gtatccggat 780

acatggtcaa caccacacag ctatttttcc cttaccttct gtgtgcaggt ccaagggaag 840

agcaaaaggg agaagaagga cagggtattc actgataaaa cttccgcgac ggtcatctgc 900

cgaaaaaacg ctagtatatc tgtacgggcg caggataggt actatagttc ttcttggtct 960

gagtgggcct cagttccgtg ctctgggggа ggaagtggag gagggtccgg cggtggaagc 1020

gggggaggga gtcgcaactt gccagtggct acaccagatc caggcatgtt tccatgtctg 1080

catcattccc agaatctcct gagagcggtg tcaaatatgc tccaaaaagc gagacaaaca 1140

ctggaatttt acccgtgtac cagtgaggag attgatcacg aggacataac caaggacaag 1200

acctcaactg tagaagcgtg tttgccgctg gagttgacta agaatgagtc ctgcctcaat 1260

tccagagaaa cttcattcat tactaacggc agttgtcttg catcccggaa aacgtccttt 1320

atgatggccc tttgccttag ttcaatttac gaggatctta aaatgtatca agtggagttt 1380

aaaaccatga atgctaaact tcttatggac cccaaacgac aaatttttct ggatcagaat 1440

atgcttgccg tgatagacga actcatgcag gcgcttaatt ttaactccga aacagttcca 1500

caaaaatcta gccttgaaga acctgatttt tataaaacga agattaaact gtgtatcctg 1560

ctgcatgcct ttcgcatccg agctgtcaca atcgataggg ttatgtccta ccttaacgcg 1620

agctag 1626

<210> 96
<211> 65
<212> PRT
<213> Artificial Sequence

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

<400> 96
Arg Thr Leu Val Thr Phe Lys Asp Val Phe Val Asp Phe Thr Arg Glu
1 5 10 15

Glu Trp Lys Leu Leu Asp Thr Ala Gln Gln Ile Val Tyr Arg Asn Val
            20   25   30

Met Leu Glu Asn Tyr Lys Asn Leu Val Ser Leu Gly Tyr Gln Leu Thr
        35   40   45

Lys Pro Asp Val Ile Leu Arg Leu Glu Lys Gly Glu Glu Pro Trp Leu
    50   55   60

Val
65

<210> 97
<211> 45
<212> PRT
<213> Artificial Sequence

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

<400> 97
Arg Thr Leu Val Thr Phe Lys Asp Val Phe Val Asp Phe Thr Arg Glu
1   5   10   15

Glu Trp Lys Leu Leu Asp Thr Ala Gln Gln Ile Val Tyr Arg Asn Val
            20   25   30

Met Leu Glu Asn Tyr Lys Asn Leu Val Ser Leu Gly Tyr
        35   40   45

<210> 98
<211> 195
<212> DNA
<213> Artificial Sequence

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

<400> 98
agaaccctgg tcaccttcaa ggacgtgttc gtggacttca cccgggaaga gtggaagctg   60

ctggatacag cccagcagat cgtgtaccgg aacgtgatgc tggaaaacta caagaatctg 120

gtgtccctgg gctaccagct gaccaagcct gacgtgatcc tgcggctgga aaagggcgaa 180

gaaccttggc tggtg 195

<210> 99
<211> 135
<212> DNA
<213> Artificial Sequence

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

<400> 99
agaaccctgg tcaccttcaa ggacgtgttc gtggacttca cccgggaaga gtggaagctg 60

ctggatacag cccagcagat cgtgtaccgg aacgtgatgc tggaaaacta caagaatctg 120

gtgtccctgg gctac 135

<210> 100
<211> 42
<212> PRT
<213> Artificial Sequence

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

<400> 100
Ala Ala Ala Ile Glu Val Met Tyr Pro Pro Pro Tyr Leu Asp Asn Glu
1 5 10 15

Lys Ser Asn Gly Thr Ile Ile His Val Lys Gly Lys His Leu Cys Pro
20 25 30

Ser Pro Leu Phe Pro Gly Pro Ser Lys Pro
35 40

<210> 101
<211> 12
<212> PRT

<213> Artificial Sequence

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

<400> 101
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro
1 5 10

<210> 102
<211> 12
<212> PRT
<213> Artificial Sequence

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

<400> 102
Glu Ser Lys Tyr Gly Pro Pro Ala Pro Ser Ala Pro
1 5 10

<210> 103
<211> 12
<212> PRT
<213> Artificial Sequence

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

<400> 103
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro
1 5 10

<210> 104
<211> 12
<212> PRT
<213> Artificial Sequence

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

<400> 104
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro

1 5 10

<210> 105
<211> 86
<212> PRT
<213> Artificial Sequence

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

<400> 105
Ala Ala Ala Phe Val Pro Val Phe Leu Pro Ala Lys Pro Thr Thr Thr
1 5 10 15

Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro
20 25 30

Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val
35 40 45

His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro
50 55 60

Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Leu
65 70 75 80

Tyr Cys Asn His Arg Asn
85

<210> 106
<211> 45
<212> PRT
<213> Artificial Sequence

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

<400> 106
Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala
1 5 10 15

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

Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys Asp
        35   40   45

<210> 107
<211> 132
<212> PRT
<213> Artificial Sequence

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

<400> 107
Ala Cys Pro Thr Gly Leu Tyr Thr His Ser Gly Glu Cys Cys Lys Ala
1   5   10   15

Cys Asn Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr
            20   25   30

Val Cys Glu Pro Cys Leu Asp Ser Val Thr Phe Ser Asp Val Val Ser
        35   40   45

Ala Thr Glu Pro Cys Lys Pro Cys Thr Glu Cys Val Gly Leu Gln Ser
    50   55   60

Met Ser Ala Pro Cys Val Glu Ala Asp Asp Ala Val Cys Arg Cys Ala
65   70   75   80

Tyr Gly Tyr Tyr Gln Asp Glu Thr Thr Gly Arg Cys Glu Ala Cys Arg
                85   90   95

Val Cys Glu Ala Gly Ser Gly Leu Val Phe Ser Cys Gln Asp Lys Gln
            100   105   110

Asn Thr Val Cys Glu Glu Cys Pro Asp Gly Thr Tyr Ser Asp Glu Ala
        115   120   125

Asp Ala Glu Cys
    130

<210> 108
<211> 34
<212> PRT
<213> Artificial Sequence

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

<400> 108
Ala Cys Pro Thr Gly Leu Tyr Thr His Ser Gly Glu Cys Cys Lys Ala
1   5   10   15

Cys Asn Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr
            20   25   30

Val Cys

<210> 109
<211> 20
<212> PRT
<213> Artificial Sequence

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

<400> 109
Ala Val Gly Gln Asp Thr Gln Glu Val Ile Val Val Pro His Ser Leu
1   5   10   15

Pro Phe Lys Val
            20

<210> 110
<211> 126
<212> DNA
<213> Artificial Sequence

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

<400> 110
gcagcagcta tcgaggtgat gtatcctccg ccctacctgg ataatgaaaa gagtaatggg 60

actatcattc atgtaaaagg gaagcatctt tgtccttctc ccctttttccc cggtccgtct 120

aaacct 126

<210> 111
<211> 36
<212> DNA
<213> Artificial Sequence

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

<400> 111
gaaagcaagt acggtccacc ttgccctagc tgtccg 36

<210> 112
<211> 36
<212> DNA
<213> Artificial Sequence

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

<400> 112
gaatccaagt acggcccccc agcgcctagt gcccca 36

<210> 113
<211> 36
<212> DNA
<213> Artificial Sequence

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

<400> 113
gaatctaaat atggcccgcc atgcccgcct tgccca 36

<210> 114
<211> 36
<212> DNA
<213> Artificial Sequence

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

<400> 114
gaaccgaagt cttgtgataa aactcatacg tgcccg 36

<210> 115
<211> 258
<212> DNA
<213> Artificial Sequence

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

<400> 115
gctgctgctt tcgtacccgt gttcctccct gctaagccta cgactacccc cgcaccgaga 60

ccacccacgc cagcacccac gattgctagc cagcccctta gtttgcgacc agaagcttgt 120

cggcctgctg ctggtggcgc ggtacatacc cgcggccttg attttgcttg cgatatatat 180

atctgggcgc ctctggccgg aacatgcggg gtcctcctcc tttctctggt tattactctc 240

tactgtaatc acaggaat 258

<210> 116
<211> 396
<212> DNA
<213> Artificial Sequence

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

<400> 116
gcctgcccga ccgggctcta cactcatagc ggggaatgtt gtaaggcatg taacttgggt 60

gagggcgtcg cacagccctg cggagctaac caaacagtgt gcgaaccctg cctcgatagt 120

gtgacgttct ctgatgttgt atcagctaca gagccttgca aaccatgtac tgagtgcgtt 180

ggacttcagt caatgagcgc tccatgtgtg gaggcagatg atgcggtctg tcgatgtgct 240

tacggatact accaagacga gacaacaggg cggtgcgagg cctgtagagt ttgtgaggcg 300

ggctccgggc tggtgttttc atgtcaagac aagcaaaata cggtctgtga agagtgccct 360

gatggcacct actcagacga agcagatgca gaatgc 396

<210> 117
<211> 102
<212> DNA
<213> Artificial Sequence

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

<400> 117
gcctgcccta caggactcta cacgcatagc ggtgagtgtt gtaaagcatg caacctcggg 60

gaaggtgtag cccagccatg cggggctaac caaaccgttt gc 102

<210> 118
<211> 60
<212> DNA
<213> Artificial Sequence

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

<400> 118
gctgtgggcc aggacacgca ggaggtcatc gtggtgccac actccttgcc ctttaaggtg 60

<210> 119
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 119
Lys Asn Ala Met Asn
1 5

<210> 120
<211> 19
<212> PRT
<213> Artificial Sequence

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

<400> 120
Arg Ile Arg Asn Lys Thr Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser
1 5 10 15

Val Lys Ala

<210> 121
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 121
Gly Asn Ser Phe Ala Tyr
1 5

<210> 122
<211> 17
<212> PRT
<213> Artificial Sequence

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

<400> 122
Lys Ser Ser Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys Asn Tyr Leu
1 5 10 15

Ala

<210> 123
<211> 7
<212> PRT
<213> Artificial Sequence

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

<400> 123
Trp Ala Ser Ser Arg Glu Ser
1 5

<210> 124
<211> 9
<212> PRT
<213> Artificial Sequence

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

<400> 124
Gln Gln Tyr Tyr Asn Tyr Pro Leu Thr
1 5

<210> 125
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 125
Glu Val Gln Leu Val Glu Thr Gly Gly Gly Met Val Gln Pro Glu Gly
1 5 10 15

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

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

Ala Arg Ile Arg Asn Lys Thr Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
    50   55   60

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

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

Tyr Cys Val Ala Gly Asn Ser Phe Ala Tyr Trp Gly Gln Gly Thr Leu
            100   105   110

Val Thr Val Ser Ala
        115

<210> 126
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 126
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 Asn Lys Asn
            20   25   30

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

Gly Arg Ile Arg Asn Lys Thr Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
    50   55   60

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

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


Tyr Cys Val Ala Gly Asn Ser Phe Ala Tyr Trp Gly Gln Gly Thr Leu
            100                 105                 110


Val Thr Val Ser Ala
        115


<210> 127
<211> 113
<212> PRT
<213> Artificial Sequence

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

<400> 127
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Val Val Ser Ile Gly
1               5                   10                  15


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


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


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


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


Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95


Tyr Tyr Asn Tyr Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
            100                 105                 110
```

Lys

<210> 128
<211> 113
<212> PRT
<213> Artificial Sequence

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

<400> 128
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

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

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

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

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

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

Tyr Tyr Asn Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 129
<211> 119

<212> PRT
<213> Artificial Sequence

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

<400> 129
Gln Val Gln Leu Val Glu Ser Gly Gly Gly Thr Val Gln Ala Gly Gly
1 5 10 15

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

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

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

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

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

Val Ala Arg Gln Pro Asn Ser Gly Pro Trp Glu Tyr Trp Gly Gln Gly
100 105 110

Thr Gln Val Thr Val Ser Ser
115

<210> 130
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 130

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

Ser Leu Arg Leu Ser Cys Thr Thr Ser Gly Tyr Thr Asn Ser Tyr Lys
            20   25   30

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

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

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

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

Ala Ile Gly His Asp Gly Ala Trp Arg Tyr Trp Gly Gln Gly Thr Gln
            100   105   110

Val Thr Val Ser Ser
        115

<210> 131
<211> 60
<212> PRT
<213> Artificial Sequence

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

<400> 131
Phe Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg Pro
1   5   10   15

Leu Gln Cys Glu Ile Cys Gly Phe Thr Cys Arg Gln Lys Gly Asn Leu
            20   25   30

Leu Arg His Ile Lys Leu His Thr Gly Glu Lys Pro Phe Lys Cys His
35 40 45

Leu Cys Asn Tyr Ala Cys Gln Arg Arg Asp Ala Leu
50 55 60

<210> 132
<211> 208
<212> PRT
<213> Artificial Sequence

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

<400> 132
Met Asp Tyr Lys Asp Asp Asp Asp Lys Asp Tyr Lys Asp Asp Asp Asp
1 5 10 15

Lys Asp Tyr Lys Asp Asp Asp Asp Lys Pro Lys Lys Lys Arg Lys Val
20 25 30

Ser Arg Pro Gly Glu Arg Pro Phe Gln Cys Arg Ile Cys Met Arg Asn
35 40 45

Phe Ser Arg Arg His Gly Leu Asp Arg His Thr Arg Thr His Thr Gly
50 55 60

Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp His
65 70 75 80

Ser Ser Leu Lys Arg His Leu Arg Thr His Thr Gly Ser Gln Lys Pro
85 90 95

Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Val Arg His Asn Leu
100 105 110

Thr Arg His Leu Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys Arg
115 120 125

Ile Cys Met Arg Asn Phe Ser Asp His Ser Asn Leu Ser Arg His Leu
130 135 140

Lys Thr His Thr Gly Ser Gln Lys Pro Phe Gln Cys Arg Ile Cys Met
145 150 155 160

Arg Asn Phe Ser Gln Arg Ser Ser Leu Val Arg His Leu Arg Thr His
165 170 175

Thr Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser
180 185 190

Glu Ser Gly His Leu Lys Arg His Leu Arg Thr His Leu Arg Gly Ser
195 200 205

<210> 133
<211> 45
<212> PRT
<213> Artificial Sequence

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

<400> 133
Glu Asp Val Val Cys Cys His Ser Ile Tyr Gly Lys Lys Lys Gly Asp
1 5 10 15

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

Ile Val Gly Arg Ile Val Leu Ser Gly Ser Gly Thr Ser
35 40 45

<210> 134
<211> 186
<212> PRT
<213> Hepacivirus C

<400> 134
Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly Leu Leu Gly Cys
1 5 10 15

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Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu
            20                  25                  30

Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr Cys Ile
        35                  40                  45

Asn Gly Val Cys Trp Ala Val Tyr His Gly Ala Gly Thr Arg Thr Ile
    50                  55                  60

Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val Asp Gln
65                  70                  75                  80

Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu Thr Pro
                85                  90                  95

Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp
            100                 105                 110

Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser
        115                 120                 125

Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu
    130                 135                 140

Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val Cys Thr
145                 150                 155                 160

Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Asn Leu Glu
                165                 170                 175

Thr Thr Met Arg Ser Pro Val Phe Thr Asp
            180                 185
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<210> 135
<211> 34
<212> PRT
<213> Artificial Sequence

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

<400> 135
Asn Ser Ser Pro Pro Ala Val Thr Leu Thr His Pro Ile Thr Lys Ile
1 5 10 15

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

Gln His

<210> 136
<211> 3015
<212> DNA
<213> Artificial Sequence

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

<400> 136
atggactaca aggacgacga cgacaaggat tacaaggatg atgatgataa ggactataag 60

gacgatgatg acaaacccaa gaagaagcgg aaggtttccc ggcctggcga gaggcctttc 120

cagtgcagaa tctgcatgcg gaacttcagc agacggcacg gcctggacag acacaccaga 180

acacacacag gcgagaaacc cttccagtgc cggatctgta tgagaaattt cagcgaccac 240

agcagcctga agcggcacct gagaacccat accggcagcc agaaaccatt tcagtgtagg 300

atatgcatgc gcaatttctc cgtgcggcac aacctgacca gacacctgag gacacacacc 360

ggggagaagc cttttcaatg tcgcatatgc atgagaaact tctctgacca ctccaacctg 420

agccgccacc tcaaaaccca caccggctct caaaagccct tccaatgtag aatatgtatg 480

aggaacttta gccagcggag cagcctcgtg cgccatctga gaactcacac tggcgaaaag 540

ccgtttcaat gccgtatctg tatgcgcaac tttagcgaga gcggccacct gaagagacat 600

ctgcgcacac acctgagagg cagcgaggat gtcgtgtgct gccacagcat ctacggaaag 660

aagaagggcg acatcgacac ctatcggtac atcggcagca gcggcacagg ctgtgttgtg 720

atcgtgggca gaatcgtgct gagcggctct ggaacaagcg cccctatcac agcctacgct 780

cagcagacaa gaggcctgct gggctgcatc atcacaagcc tgaccggcag agacaagaac 840

caggtggaag gcgaggtgca gatcgtgtct acagctaccc agaccttcct ggccacctgt 900

atcaatggcg tgtgctgggc cgtgtatcac ggcgctggca caagaacaat cgcctctcca 960

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cctcaaggca gcagaagcct gacaccttgc acctgtggct ccagcgatct gtacctggtc 1080

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ggacatgccg tgggcctgtt tagagccgcc gtgtgtacaa gaggcgtggc caaagccgtg 1260

gacttcatcc ccgtggaaaa cctggaaacc accatgcgga gccccgtgtt caccgacaat 1320

tctagccctc cagccgtgac actgacacac cccatcacca agatcgacag agaggtgctg 1380

taccaagagt tcgacgagat ggaagagtgc agccagcacg aggcctctgg atctggtaga 1440

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gacctcgaca tgctgggaag cgacgccctc gacgatttcg atttggacat gctcggcagt 1560

gatgcactcg atgactttga tcttgatatg ctgatcaaca gccggtccag cggcagccct 1620

aagaaaaaac ggaaagtggg cagccagtat ctgcccgaca ccgacgatcg gcaccggatc 1680

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atggtgtctg cacttgctca ggcaccagct ccagtgcctg ttcttgctcc tggacctcct 2040

caggctgttg ctccaccagc acctaaacct acacaggccg gcgagggaac actgtctgaa 2100

gccctgctgc aactccagtt cgatgacgag gatctgggcg ccctgctggg aaattctaca 2160

gaccctgccg tgtttaccga tctggccagc gtggacaaca gcgagtttca gcagctcctg 2220

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cctctgcctg cttctctggc ccctacacca acaggacctg tgcacgaacc tgtgggcagt 2640

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accagcctgt tctga 3015

<210> 137
<211> 2372
<212> DNA
<213> Artificial Sequence

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

<400> 137
tccccagcat gcctgctatt ctcttcccaa tcctcccccc tgctgtcctg ccccacccca 60

ccccccagaa tagaatgaca cctactcaga caatgcgatg caatttcctc attttattag 120

gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggga ggggcaaaca 180

acagatggct ggcaactaga aggcacagtt aactggcgtt caggtaggac atcacgcggt 240

caatggtcac ggctcgaatg cggaaagcgt gcaacaggat gcacagcttg atcttggtct 300

tgtagaagtc cggttcttcc aggctggact tttgaggcac agtctcggag ttgaaattca 360

gggcctgcat cagttcatca atcacggcga gcatattctg gtccaggaag atctgccgct 420

tcgggtccat gagcagcttg gcgttcatgg tcttgaactc gacctgatac atcttcagat 480

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agctgccgtt agtgataaag cttgtctcgc gggagttcag acacgattcg ttcttggtca 600

gttccagcgg caggcaggct tccacggtcg aggtcttgtc cttggtgatg tcctcgtgat 660

caatttcttc cgaggtgcag gggtagaact caagggtctg gcgggccttc tgcaacatgt 720

tcgacacagc cctcaggagg ttttgggagt ggtgtaggca cgggaacatt ccagggtcgg 780

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cggtgaacac ccggtctttc ttctcccgtt tggactttcc ctgcacttgc acacagaaag 1020

tgagcgagaa gtatgagtgc ggggtgctcc aagtgtctgg atattcccaa gacacttcca 1080

cttggcggga gttcttgagt ggcttcagct gcaagttctt gggggggtca ggcttgatga 1140

tgtcgcggat aaagaaggag gaagtgtagt tctcgtattt cagcttatgc acggcatcga 1200

ccatgacctc gataggcagg gactcttccg cggcagggca ggcgctgtcc tcctggcatt 1260

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agattccatc ctctttcttg tgcagcagca gcagggagtg ggacagcact tcgccaccct 1560

tgtggcaagt gtactggccc gcgtcgccga actccttgac ttgaatggtc agggtctttc 1620

cgcttccgag cacctcggag ctctgatcca gggtccaggt tatgccgtcc tcttctggcg 1680

tatcgcaagt cagcacgacc atttctccag gggcgtccgg gtaccaatcc agctcgacca 1740

cgtagacgtc cttcttcagt tcccaaatgg cgaccagagg ggaagcgagg aacacaaggg 1800

agaaccagga gatgacgagt tgctgatggc acatggtggc ggcaccggta cgcgttggcc 1860

cccattatat accctctaga actagttatc cactccgtgt aagggagagt gagcctctta 1920

cgaatgcgcg acatcggcta cgccgttccg aggcgactga tacgcgcgac atcggctacg 1980

ccgtacgaag gcagtccgat tgcgcgacat cggctacgcc gacctttact gagacgggag 2040

cgcgacatcg gctacgccga aggcgttgcg aatcctcatg cgattgttac gaaacccgtt 2100

aattaaagag cgagattccg tctcaaagaa aaaaaaagta atgaaatgaa taaaatgagt 2160

cctagagcca gtaaatgtcg taaatgtctc agctagtcag gtagtaaaag gtctcaacta 2220

ggcagtggca gagcaggatt caaattcagg gctgttgtga tgcctccgca gactctgagc 2280

gccacctggt ggtaatttgt ctgtgcctct tctgacgtgg aagaacagca actaacacac 2340

taacacggca tttactatgg gccagccatt gt 2372

<210> 138
<211> 729
<212> PRT
<213> Artificial Sequence

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

<400> 138
Met Leu Leu Leu Val Thr Ser Leu Leu Leu Cys Glu Leu Pro His Pro
1 5 10 15

Ala Phe Leu Leu Ile Pro His Met Glu Val Gln Leu Val Glu Ser Gly
20 25 30

Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala
35 40 45

Ser Gly Phe Thr Phe Asn Lys Asn Ala Met Asn Trp Val Arg Gln Ala
50 55 60

Pro Gly Lys Gly Leu Glu Trp Val Gly Arg Ile Arg Asn Lys Thr Asn
65 70 75 80

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Asn Tyr Ala Thr Tyr Tyr Ala Asp Ser Val Lys Ala Arg Phe Thr Ile
                85                  90                  95

Ser Arg Asp Asp Ser Lys Asn Ser Leu Tyr Leu Gln Met Asn Ser Leu
            100                 105                 110

Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys Val Ala Gly Asn Ser Phe
        115                 120                 125

Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly
    130                 135                 140

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Met
145                 150                 155                 160

Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr
                165                 170                 175

Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser Ser Asn Gln Lys
            180                 185                 190

Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu
        195                 200                 205

Leu Ile Tyr Trp Ala Ser Ser Arg Glu Ser Gly Val Pro Asp Arg Phe
    210                 215                 220

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
225                 230                 235                 240

Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Asn Tyr
                245                 250                 255

Pro Leu Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Thr Thr Thr
            260                 265                 270
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Pro Ala Pro Arg Pro Pro Thr Pro Ala Pro Thr Ile Ala Ser Gln Pro
        275                 280                 285

Leu Ser Leu Arg Pro Glu Ala Cys Arg Pro Ala Ala Gly Gly Ala Val
    290                 295                 300

His Thr Arg Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro
305                 310                 315                 320

Leu Ala Gly Thr Cys Gly Val Leu Leu Leu Ser Leu Val Ile Thr Lys
                325                 330                 335

Arg Gly Arg Lys Lys Leu Leu Tyr Ile Phe Lys Gln Pro Phe Met Arg
            340                 345                 350

Pro Val Gln Thr Thr Gln Glu Glu Asp Gly Cys Ser Cys Arg Phe Pro
        355                 360                 365

Glu Glu Glu Glu Gly Gly Cys Glu Leu Arg Val Lys Phe Ser Arg Ser
    370                 375                 380

Ala Asp Ala Pro Ala Tyr Gln Gln Gly Gln Asn Gln Leu Tyr Asn Glu
385                 390                 395                 400

Leu Asn Leu Gly Arg Arg Glu Glu Tyr Asp Val Leu Asp Lys Arg Arg
                405                 410                 415

Gly Arg Asp Pro Glu Met Gly Gly Lys Pro Arg Arg Lys Asn Pro Gln
            420                 425                 430

Glu Gly Leu Tyr Asn Glu Leu Gln Lys Asp Lys Met Ala Glu Ala Tyr
        435                 440                 445

Ser Glu Ile Gly Met Lys Gly Glu Arg Arg Arg Gly Lys Gly His Asp
    450                 455                 460

Gly Leu Tyr Gln Gly Leu Ser Thr Ala Thr Lys Asp Thr Tyr Asp Ala
465                 470                 475                 480
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Leu His Met Gln Ala Leu Pro Pro Arg Gly Met Val Ser Lys Gly Glu
                485                 490                 495

Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp
            500                 505                 510

Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala
        515                 520                 525

Thr Tyr Gly Lys Leu Thr Leu Lys Leu Ile Cys Thr Thr Gly Lys Leu
    530                 535                 540

Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Gly Tyr Gly Leu Gln
545                 550                 555                 560

Cys Phe Ala Arg Tyr Pro Asp His Met Lys Gln His Asp Phe Phe Lys
                565                 570                 575

Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys
            580                 585                 590

Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp
        595                 600                 605

Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp
    610                 615                 620

Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn
625                 630                 635                 640

Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn Gly Ile Lys Ala Asn Phe
                645                 650                 655

Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala Asp His
            660                 665                 670
```

Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu Pro Asp
675 680 685

Asn His Tyr Leu Ser Tyr Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu
690 695 700

Lys Arg Asp His Met Val Leu Leu Glu Phe Val Thr Ala Ala Gly Ile
705 710 715 720

Thr Leu Gly Met Asp Glu Leu Tyr Lys
725

<210> 139
<211> 2619
<212> DNA
<213> Artificial Sequence

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

<400> 139
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agggcgggta catgaaaata gctaacgttg ggccaaacag gatatctgcg gtgagcagtt 120

tcggccccgg cccggggcca agaacagatg gtcaccgcag tttcggcccc ggcccgaggc 180

caagaacaga tggtccccag atatggccca accctcagca gtttcttaag acccatcaga 240

tgtttccagg ctcccccaag gacctgaaat gaccctgcgc cttatttgaa ttaaccaatc 300

agcctgcttc tcgcttctgt tcgcgcgctt ctgcttcccg agctctataa aagagctcac 360

aacccctcac tcggcgcgcc agtcctccga cagactgagt cgcccggggg atcctacgta 420

gccgccacca tgctgctgct ggtcacatct ctgctgctgt gcgagctgcc ccatcctgcc 480

tttctgctga tccctcacat ggaagtgcag ctggtggaat ctggcggagg actggttcaa 540

cctggcggct ctctgagact gtcttgtgcc gccagcggct tcaccttcaa caagaacgcc 600

atgaactggg tccgacaggc ccctggcaaa ggccttgaat gggtcggacg gatcagaaac 660

aagaccaaca actacgccac ctactacgcc gacagcgtga aggccaggtt caccatctcc 720

agagatgaca gcaagaacag cctgtacctc cagatgaact ccctgaaaac cgaggacacc 780

gccgtgtact attgcgtggc cggcaatagc tttgcctact ggggacaggg caccctggtt 840

acagtttctg ctggtggtgg aggctcagga gggggaggtt ccggaggagg cggttcggac 900

atcgtgatga cacagagccc tgacagcctg gccgtgtctc tgggagaaag agccaccatc 960

aactgcaaga gcagccagag cctgctgtac tccagcaacc agaagaacta cctggcctgg 1020

tatcagcaaa agcccggcca gcctcctaag ctgctgatct attgggccag ctccagagaa 1080

agcggcgtgc ccgatagatt ttctggctct ggcagcggca ccgacttcac cctgacaatt 1140

tctagcctgc aagccgagga cgtggccgtg tattactgcc agcagtacta caactaccct 1200

ctgaccttcg gccagggcac caagctggaa atcaagacca ccacaccagc tcctcggcct 1260

ccaactcctg ctcctacaat tgccagccag cctctgtctc tgaggcccga agcttgtaga 1320

ccagctgccg gcggagctgt gcatacaaga ggactggatt tcgcctgcga catctacata 1380

tgggcccccc tcgccggtac ttgcggtgtt ttgcttttgt cactggtgat tacgaagcgc 1440

ggtcgaaaaa aactcctcta catcttcaaa caacctttca tgcggcctgt ccaaacaact 1500

caagaagagg acgggtgttc atgccgcttt ccagaggaag aggaaggtgg ctgtgaactt 1560

cgggtgaagt tctcacgatc tgcggacgcc cccgcatacc aacagggaca gaaccaactc 1620

tacaatgaac tgaacctggg gcgaagagaa gaatatgacg ttctggataa gcgcagaggc 1680

cgcgaccccg aaatgggagg taagccgaga aggaaaaatc cacaggaagg actgtataat 1740

gagttgcaaa aggataagat ggcggaagca tattcagaga ttgggatgaa aggcgaaaga 1800

agaagaggca aaggacatga tgggctgtat cagggccttt ccacggccac aaaagatacg 1860

tatgacgcgc tgcacatgca agctcttcct cccaggggaa tggtgtccaa aggagaagaa 1920

ctgttcaccg gagtggtgcc gattctggtg gaactggacg gcgatgtcaa cggacacaag 1980

ttctcagtca gcggagaagg ggaaggggat gctacgtacg ggaagctcac cctgaagctc 2040

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aagactcggg ccgaagtgaa attcgaaggg gacactcttg tgaaccgcat cgagttgaag 2280

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tcccataacg tgtacatcac cgccgacaag cagaaaaacg ggatcaaggc caacttcaag 2400

atccgccaca atatcgagga tggcggagtg cagctggctg accactacca gcagaacacc 2460

cccatcggtg atggcccagt tctgctcccc gataaccatt acctgtcgta ccaatcggca 2520

ttgagcaagg accccaacga gaagcgcgat cacatggtgt tgctggaatt tgtgaccgct 2580

gccggcatta ccctcgggat ggacgagctc tacaagtaa 2619

<210> 140
<211> 2849
<212> DNA
<213> Artificial Sequence

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

<400> 140
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gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggga ggggcaaaca 180

acagatggct ggcaactaga aggcacagtc agctggtgtt gatgaacatc tgcacgatgt 240

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ccagcggcag gcaggcttcc acggtcgagg tcttgtcctt ggtgatgtcc tcgtgatcaa 1140

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gcgagaagta tgagtgcggg gtgctccaag tgtctggata ttcccaagac acttccactt 1560

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ttccatcctc tttcttgtgc agcagcagca gggagtggga cagcacttcg ccacccttgt 2040

ggcaagtgta ctggcccgcg tcgccgaact ccttgacttg aatggtcagg gtctttccgc 2100

ttccgagcac ctcggagctc tgatccaggg tccaggttat gccgtcctct tctggcgtat 2160

cgcaagtcag cacgaccatt tctccagggg cgtccgggta ccaatccagc tcgaccacgt 2220

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taaagagcga gattccgtct caaagaaaaa aaaagtaatg aaatgaataa aatgagtcct 2640

agagccagta aatgtcgtaa atgtctcagc tagtcaggta gtaaaaggtc tcaactaggc 2700

agtggcagag caggattcaa attcagggct gttgtgatgc ctccgcagac tctgagcgcc 2760

acctggtggt aatttgtctg tgcctcttct gacgtggaag aacagcaact aacacactaa 2820

cacggcattt actatgggcc agccattgt 2849

<210> 141
<211> 134
<212> PRT
<213> Artificial Sequence

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

<400> 141
Met Glu Thr Asp Thr Leu Leu Leu Trp Val Leu Leu Leu Trp Val Pro
1 5 10 15

Gly Ser Thr Gly Asn Trp Val Asn Val Ile Ser Asp Leu Lys Lys Ile
20 25 30

Glu Asp Leu Ile Gln Ser Met His Ile Asp Ala Thr Leu Tyr Thr Glu
35 40 45

Ser Asp Val His Pro Ser Cys Lys Val Thr Ala Met Lys Cys Phe Leu
50 55 60

Leu Glu Leu Gln Val Ile Ser Leu Glu Ser Gly Asp Ala Ser Ile His
65 70 75 80

Asp Thr Val Glu Asn Leu Ile Ile Leu Ala Asn Asn Ser Leu Ser Ser
85 90 95

Asn Gly Asn Val Thr Glu Ser Gly Cys Lys Glu Cys Glu Glu Leu Glu
100 105 110

Glu Lys Asn Ile Lys Glu Phe Leu Gln Ser Phe Val His Ile Val Gln
115 120 125

Met Phe Ile Asn Thr Ser
130

<210> 142
<211> 25
<212> PRT
<213> Artificial Sequence

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

<400> 142
Arg Arg Lys Arg Gly Ser Gly Glu Gly Arg Gly Ser Leu Leu Thr Cys
1 5 10 15

Gly Asp Val Glu Glu Asn Pro Gly Pro
20 25

<210> 143
<211> 2404
<212> DNA
<213> Artificial Sequence

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

<400> 143
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gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggа ggggcaaaca 180

acagatggct ggcaactaga aggcacagtt aactggcgtt caggtaggac atcacgcggt 240

caatggtcac ggctcgaatg cggaaagcgt gcaacaggat gcacagcttg atcttggtct 300

tgtagaagtc cggttcttcc aggctggact tttgaggcac agtctcggag ttgaaattca 360

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tcgggtccat gagcagcttg gcgttcatgg tcttgaactc gacctgatac atcttcagat 480

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cggtgaacac ccggtctttc ttctcccgtt tggactttcc ctgcacttgc acacagaaag 1020

tgagcgagaa gtatgagtgc ggggtgctcc aagtgtctgg atattcccaa gacacttcca 1080

cttggcggga gttcttgagt ggcttcagct gcaagttctt gggggggtca ggcttgatga 1140

tgtcgcggat aaagaaggag gaagtgtagt tctcgtattt cagcttatgc acggcatcga 1200

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tatcgcaagt cagcacgacc atttctccag gggcgtccgg gtaccaatcc agctcgacca 1740

cgtagacgtc cttcttcagt tcccaaatgg cgaccagagg ggaagcgagg aacacaaggg 1800

agaaccagga gatgacgagt tgctgatggc acatggtggc ggcaccggtt taagcgggtc 1860

gctgcagggt cgctcggtgt tcgaggccac acgcgtcacc ttaatatgcg aaactagtta 1920

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cgaatcctca tgcgattgtt acgaaacccg ttaattaaag agcgagattc cgtctcaaag 2160

aaaaaaaaag taatgaaatg aataaaatga gtcctagagc cagtaaatgt cgtaaatgtc 2220

tcagctagtc aggtagtaaa aggtctcaac taggcagtgg cagagcagga ttcaaattca 2280

gggctgttgt gatgcctccg cagactctga gcgccacctg gtggtaattt gtctgtgcct 2340

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ttgt 2404

<210> 144
<211> 2881
<212> DNA
<213> Artificial Sequence

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

<400> 144
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agaagtccgg ttcttccagg ctggactttt gaggcacagt ctcggagttg aaattcaggg 840

cctgcatcag ttcatcaatc acggcgagca tattctggtc caggaagatc tgccgcttcg 900

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cgtagatcga ggaaagacag agcgccatca tgaatgaggt ctttctcgac gccaggcagc 1020

tgccgttagt gataaagctt gtctcgcggg agttcagaca cgattcgttc ttggtcagtt 1080

ccagcggcag gcaggcttcc acggtcgagg tcttgtcctt ggtgatgtcc tcgtgatcaa 1140

tttcttccga ggtgcagggg tagaactcaa gggtctggcg ggccttctgc aacatgttcg 1200

acacagccct caggaggttt tgggagtggt gtaggcacgg gaacattcca gggtcggggg 1260

ttgccacagg gaggttccgg gaacctcctc cggagcctcc tcctgaacct ccgcctgatc 1320

cgccaccgga acaaggcacg ctggcccatt cgctccagga ggacgagtag tatctatcct 1380

gcgcccggac gctgattgac gcgttcttcc gacaaatcac agtggcggag gttttgtcgg 1440

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gcgagaagta tgagtgcggg gtgctccaag tgtctggata ttcccaagac acttccactt 1560

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aaaaaagtaa tgaaatgaat aaaatgagtc ctagagccag taaatgtcgt aaatgtctca 2700

gctagtcagg tagtaaaagg tctcaactag gcagtggcag agcaggattc aaattcaggg 2760

ctgttgtgat gcctccgcag actctgagcg ccacctggtg gtaatttgtc tgtgcctctt 2820

ctgacgtgga agaacagcaa ctaacacact aacacggcat ttactatggg ccagccattg 2880

t 2881

<210> 145
<211> 704
<212> PRT
<213> Artificial Sequence

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

<400> 145
Met Ser Arg Pro Gly Glu Arg Pro Phe Gln Cys Arg Ile Cys Met Arg
1 5 10 15

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Asn Phe Ser Arg Arg His Gly Leu Asp Arg His Thr Arg Thr His Thr
            20                  25                  30

Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp
        35                  40                  45

His Ser Ser Leu Lys Arg His Leu Arg Thr His Thr Gly Ser Gln Lys
    50                  55                  60

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Val Arg His Asn
65                  70                  75                  80

Leu Thr Arg His Leu Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys
                85                  90                  95

Arg Ile Cys Met Arg Asn Phe Ser Asp His Ser Asn Leu Ser Arg His
            100                 105                 110

Leu Lys Thr His Thr Gly Ser Gln Lys Pro Phe Gln Cys Arg Ile Cys
        115                 120                 125

Met Arg Asn Phe Ser Gln Arg Ser Ser Leu Val Arg His Leu Arg Thr
    130                 135                 140

His Thr Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe
145                 150                 155                 160

Ser Glu Ser Gly His Leu Lys Arg His Leu Arg Thr His Leu Arg Gly
                165                 170                 175

Ser Thr Cys Arg Asp Tyr Lys Asp His Asp Gly Asp Tyr Lys Asp His
            180                 185                 190

Asp Ile Asp Tyr Lys Asp Asp Asp Asp Lys Met Ala Pro Lys Lys Lys
        195                 200                 205
```

```
Arg Lys Val Gly Ile His Gly Val Pro Gly Gly Leu Glu Gly Gly Gly
    210                 215                 220

Gly Ser Gly Gly Thr Glu Asp Val Val Cys Cys His Ser Ile Tyr Gly
225                 230                 235                 240

Lys Lys Lys Gly Asp Ile Asp Thr Tyr Arg Tyr Ile Gly Ser Ser Gly
                245                 250                 255

Thr Gly Cys Val Val Ile Val Gly Arg Ile Val Leu Ser Gly Ser Gly
            260                 265                 270

Thr Ser Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly Leu Leu
        275                 280                 285

Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu
    290                 295                 300

Gly Glu Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr
305                 310                 315                 320

Cys Ile Asn Gly Val Cys Trp Ala Val Tyr His Gly Ala Gly Thr Arg
                325                 330                 335

Thr Ile Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val
            340                 345                 350

Asp Gln Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu
        355                 360                 365

Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His
    370                 375                 380

Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu
385                 390                 395                 400

Leu Ser Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro
                405                 410                 415
```

```
Leu Leu Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val
            420                 425                 430

Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Asn
        435                 440                 445

Leu Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro
    450                 455                 460

Pro Ala Val Thr Leu Thr His Pro Ile Thr Lys Ile Asp Arg Glu Val
465                 470                 475                 480

Leu Tyr Gln Glu Phe Asp Glu Met Glu Glu Cys Ser Gln His Tyr Pro
                485                 490                 495

Tyr Asp Val Pro Asp Tyr Ala Gly Gly Gly Gly Ser Gly Gly Thr Asp
            500                 505                 510

Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln Ile Ser Gln Ala Ser
        515                 520                 525

Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro Gln Ala Pro Ala Pro
    530                 535                 540

Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala Gln Ala Pro Ala Pro
545                 550                 555                 560

Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala Val Ala Pro Pro Ala
                565                 570                 575

Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu Ser Glu Ala Leu Leu
            580                 585                 590

Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala Leu Leu Gly Asn Ser
        595                 600                 605
```

Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser Val Asp Asn Ser Glu
610 615 620

Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val Ala Pro His Thr Thr
625 630 635 640

Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile Thr Arg Leu Val Thr
645 650 655

Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala Pro Leu Gly Ala Pro
660 665 670

Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu Asp Phe Ser Ser Ile
675 680 685

Ala Asp Met Asp Phe Ser Ala Leu Leu Ser Gln Ile Ser Ser Gln Leu
690 695 700

<210> 146
<211> 5006
<212> DNA
<213> Artificial Sequence

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

<400> 146
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gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggga ggggcaaaca 180

acagatggct ggcaactaga aggcacagtt aactggcgtt caggtaggac atcacgcggt 240

caatggtcac ggctcgaatg cggaaagcgt gcaacaggat gcacagcttg atcttggtct 300

tgtagaagtc cggttcttcc aggctggact tttgaggcac agtctcggag ttgaaattca 360

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tcgggtccat gagcagcttg gcgttcatgg tcttgaactc gacctgatac atcttcagat 480

cttcgtagat cgaggaaaga cagagcgcca tcatgaatga ggtctttctc gacgccaggc 540

agctgccgtt agtgataaag cttgtctcgc gggagttcag acacgattcg ttcttggtca 600

gttccagcgg caggcaggct tccacggtcg aggtcttgtc cttggtgatg tcctcgtgat 660

caatttcttc cgaggtgcag gggtagaact caagggtctg gcgggccttc tgcaacatgt 720

tcgacacagc cctcaggagg ttttgggagt ggtgtaggca cgggaacatt ccagggtcgg 780

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cggtgaacac ccggtctttc ttctcccgtt tggactttcc ctgcacttgc acacagaaag 1020

tgagcgagaa gtatgagtgc ggggtgctcc aagtgtctgg atattcccaa gacacttcca 1080

cttggcggga gttcttgagt ggcttcagct gcaagttctt gggggggtca ggcttgatga 1140

tgtcgcggat aaagaaggag gaagtgtagt tctcgtattt cagcttatgc acggcatcga 1200

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tatcgcaagt cagcacgacc atttctccag gggcgtccgg gtaccaatcc agctcgacca 1740

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gcccccatta tataccctct agaactagtt atccactccg tgtaagggag agtgagcctc 1920

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tgtctcagat tagtagccag ctgtaa 5006

<210> 147
<211> 1042
<212> PRT
<213> Artificial Sequence

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

<400> 147
Met Ser Arg Pro Gly Glu Arg Pro Phe Gln Cys Arg Ile Cys Met Arg
1 5 10 15

Asn Phe Ser Arg Arg His Gly Leu Asp Arg His Thr Arg Thr His Thr
20 25 30

Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Asp
35 40 45

His Ser Ser Leu Lys Arg His Leu Arg Thr His Thr Gly Ser Gln Lys
50 55 60

Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Val Arg His Asn
65 70 75 80

Leu Thr Arg His Leu Arg Thr His Thr Gly Glu Lys Pro Phe Gln Cys
85 90 95

Arg Ile Cys Met Arg Asn Phe Ser Asp His Ser Asn Leu Ser Arg His
100 105 110

Leu Lys Thr His Thr Gly Ser Gln Lys Pro Phe Gln Cys Arg Ile Cys
115 120 125

Met Arg Asn Phe Ser Gln Arg Ser Ser Leu Val Arg His Leu Arg Thr
130 135 140

His Thr Gly Glu Lys Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe

```
145                 150                 155                 160

Ser Glu Ser Gly His Leu Lys Arg His Leu Arg Thr His Leu Arg Gly
                165                 170                 175

Ser Thr Cys Arg Asp Tyr Lys Asp His Asp Gly Asp Tyr Lys Asp His
            180                 185                 190

Asp Ile Asp Tyr Lys Asp Asp Asp Asp Lys Met Ala Pro Lys Lys Lys
        195                 200                 205

Arg Lys Val Gly Ile His Gly Val Pro Gly Gly Leu Glu Gly Gly Gly
    210                 215                 220

Gly Ser Gly Gly Thr Glu Asp Val Val Cys Cys His Ser Ile Tyr Gly
225                 230                 235                 240

Lys Lys Lys Gly Asp Ile Asp Thr Tyr Arg Tyr Ile Gly Ser Ser Gly
                245                 250                 255

Thr Gly Cys Val Val Ile Val Gly Arg Ile Val Leu Ser Gly Ser Gly
            260                 265                 270

Thr Ser Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly Leu Leu
        275                 280                 285

Gly Cys Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu
    290                 295                 300

Gly Glu Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr
305                 310                 315                 320

Cys Ile Asn Gly Val Cys Trp Ala Val Tyr His Gly Ala Gly Thr Arg
                325                 330                 335

Thr Ile Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val
            340                 345                 350
```

```
Asp Gln Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu
        355                 360                 365

Thr Pro Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His
    370                 375                 380

Ala Asp Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu
385                 390                 395                 400

Leu Ser Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro
                405                 410                 415

Leu Leu Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val
            420                 425                 430

Cys Thr Arg Gly Val Ala Lys Ala Val Asp Phe Ile Pro Val Glu Asn
        435                 440                 445

Leu Glu Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro
    450                 455                 460

Pro Ala Val Thr Leu Thr His Pro Ile Thr Lys Ile Asp Arg Glu Val
465                 470                 475                 480

Leu Tyr Gln Glu Phe Asp Glu Met Glu Glu Cys Ser Gln His Tyr Pro
                485                 490                 495

Tyr Asp Val Pro Asp Tyr Ala Gly Gly Gly Gly Ser Gly Gly Thr Glu
            500                 505                 510

Ala Ser Gly Ser Gly Arg Ala Asp Ala Leu Asp Asp Phe Asp Leu Asp
        515                 520                 525

Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly
    530                 535                 540

Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala
```

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545                 550                 555                 560

Leu Asp Asp Phe Asp Leu Asp Met Leu Ile Asn Ser Arg Ser Ser Gly
                565                 570                 575

Ser Pro Lys Lys Lys Arg Lys Val Gly Ser Gln Tyr Leu Pro Asp Thr
            580                 585                 590

Asp Asp Arg His Arg Ile Glu Glu Lys Arg Lys Arg Thr Tyr Glu Thr
        595                 600                 605

Phe Lys Ser Ile Met Lys Lys Ser Pro Phe Ser Gly Pro Thr Asp Pro
    610                 615                 620

Arg Pro Pro Pro Arg Arg Ile Ala Val Pro Ser Arg Ser Ser Ala Ser
625                 630                 635                 640

Val Pro Lys Pro Ala Pro Gln Pro Tyr Pro Phe Thr Ser Ser Leu Ser
                645                 650                 655

Thr Ile Asn Tyr Asp Glu Phe Pro Thr Met Val Phe Pro Ser Gly Gln
            660                 665                 670

Ile Ser Gln Ala Ser Ala Leu Ala Pro Ala Pro Pro Gln Val Leu Pro
        675                 680                 685

Gln Ala Pro Ala Pro Ala Pro Ala Pro Ala Met Val Ser Ala Leu Ala
    690                 695                 700

Gln Ala Pro Ala Pro Val Pro Val Leu Ala Pro Gly Pro Pro Gln Ala
705                 710                 715                 720

Val Ala Pro Pro Ala Pro Lys Pro Thr Gln Ala Gly Glu Gly Thr Leu
                725                 730                 735

Ser Glu Ala Leu Leu Gln Leu Gln Phe Asp Asp Glu Asp Leu Gly Ala
            740                 745                 750
```

```
Leu Leu Gly Asn Ser Thr Asp Pro Ala Val Phe Thr Asp Leu Ala Ser
        755                 760                 765

Val Asp Asn Ser Glu Phe Gln Gln Leu Leu Asn Gln Gly Ile Pro Val
    770                 775                 780

Ala Pro His Thr Thr Glu Pro Met Leu Met Glu Tyr Pro Glu Ala Ile
785                 790                 795                 800

Thr Arg Leu Val Thr Gly Ala Gln Arg Pro Pro Asp Pro Ala Pro Ala
                805                 810                 815

Pro Leu Gly Ala Pro Gly Leu Pro Asn Gly Leu Leu Ser Gly Asp Glu
            820                 825                 830

Asp Phe Ser Ser Ile Ala Asp Met Asp Phe Ser Ala Leu Leu Gly Ser
        835                 840                 845

Gly Ser Gly Ser Arg Asp Ser Arg Glu Gly Met Phe Leu Pro Lys Pro
    850                 855                 860

Glu Ala Gly Ser Ala Ile Ser Asp Val Phe Glu Gly Arg Glu Val Cys
865                 870                 875                 880

Gln Pro Lys Arg Ile Arg Pro Phe His Pro Pro Gly Ser Pro Trp Ala
                885                 890                 895

Asn Arg Pro Leu Pro Ala Ser Leu Ala Pro Thr Pro Thr Gly Pro Val
            900                 905                 910

His Glu Pro Val Gly Ser Leu Thr Pro Ala Pro Val Pro Gln Pro Leu
        915                 920                 925

Asp Pro Ala Pro Ala Val Thr Pro Glu Ala Ser His Leu Leu Glu Asp
    930                 935                 940

Pro Asp Glu Glu Thr Ser Gln Ala Val Lys Ala Leu Arg Glu Met Ala
```

945 950 955 960

Asp Thr Val Ile Pro Gln Lys Glu Glu Ala Ala Ile Cys Gly Gln Met
965 970 975

Asp Leu Ser His Pro Pro Pro Arg Gly His Leu Asp Glu Leu Thr Thr
980 985 990

Thr Leu Glu Ser Met Thr Glu Asp Leu Asn Leu Asp Ser Pro Leu Thr
995 1000 1005

Pro Glu Leu Asn Glu Ile Leu Asp Thr Phe Leu Asn Asp Glu Cys
1010 1015 1020

Leu Leu His Ala Met His Ile Ser Thr Gly Leu Ser Ile Phe Asp
1025 1030 1035

Thr Ser Leu Phe
1040

<210> 148
<211> 6020
<212> DNA
<213> Artificial Sequence

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

<400> 148
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gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggga ggggcaaaca 180

acagatggct ggcaactaga aggcacagtt aactggcgtt caggtaggac atcacgcggt 240

caatggtcac ggctcgaatg cggaaagcgt gcaacaggat gcacagcttg atcttggtct 300

tgtagaagtc cggttcttcc aggctggact tttgaggcac agtctcggag ttgaaattca 360

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aaccatttca atgccgcatc tgtatgagaa acttctccgt gcggcacaac ctgaccagac 1920

acctgaggac acacaccggg gagaaaccct tccagtgccg gatatgcatg aggaatttct 1980

ccgaccactc caacctgagc cgccacctga aaactcacac cggctctcaa aagccatttc 2040

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tgtaa 3785

<210> 151
<211> 4799
<212> DNA
<213> Artificial Sequence

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

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<210> 152
<211> 66
<212> DNA
<213> Artificial Sequence

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

<400> 152
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ctttcc 66

<210> 153
<211> 51
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 153
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<210> 154
<211> 140
<212> DNA
<213> Artificial Sequence

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

<400> 154
gggactttcc actggggact ttccactggg gactttccac tggggacttt ccactgggga 60

ctttccactc ctgcaggagc tggcgcgcca gacgctagcg gggggctata aaaggggtg 120

ggggcgttcg tcctcactct 140

<210> 155
<211> 25
<212> DNA
<213> Artificial Sequence

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

<400> 155
tctagagggt atataatggg ggcca 25

<210> 156
<211> 2085
<212> DNA
<213> Artificial Sequence

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

<400> 156
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aaatgtatca actctaaccc ctttgggggg aatacaaggc ctgtcctggt ttggtcccaa 120

tttagcttta tcatccatat tcacccccac tgctctgcag ctccactgaa gcacccccctc 180

tttcctctga acccacaatg tcacactcag gactctgcct cagctgggca ctcatctata 240

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aatctatttc tcattataaa atgaggtatg ctgattgatt gtgaaagaat aaaataacaa 540

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actgaaatta tgtattgaaa agaataagta aaaaactgct tcaatttggc atgatttatg 660

taagtatagt ataggatcct taaaatggtt caaagaaatg ggaaatcaag acttcatttt 720

ggccaaaacc attgaacaga aacttcagca tatttatcaa taatttcttt cagattaaac 780

aactgacaac aacctatttt tcaaccagtg atgttggaaa tgtttttta aaaattagtt 840

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tcagaaaaag aaaaaaataa gaaaataaat cacccaggga cctatcacac aaatataaga 960

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tggcaaggaa tatatatata tttgtacaaa tatatatgtg tatatgtaca aatacatgta 1080

tatatagtac aaatatatat atatatttgt acaattcttc agactttgta gaatttgtat 1140

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gagttgagag ctgagagtta gagaatagct caaagatgct attcttggat atcctgagcc 1860

cctgtggtca ccagggaccc tgagttgtgc aacttagcat gacagcatca ctacgcttaa 1920

aaatttccct cctcaccccc agattccatt tccccatccg ccagggctgc ctataaagag 1980

gagagctggt ttcagacttc agaaggacac gggcagcaga cagtggtcag tcctttcttg 2040

gctctgctga cactcgagcc cacattccgt cacctgctca gaatc 2085

<210> 157
<211> 2076
<212> DNA
<213> Artificial Sequence

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

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ttccctgttg cttgtttttg ttaactttgt caaagttcgg atggttgcag gtatgcagca 180

ttatttctga gctctctatt ttgttctatt ggtctatgag tctgtttttg taccaaagcc 240

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cctcacctct gagaaaacct cttttccacc aatacc 2076

<210> 158

<211> 2071
<212> DNA
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<223> Description of Artificial Sequence: Synthetic
polynucleotide

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taaaatcaga ggatgtttgg atataaattc tagtacaacc cagtcatttg acagatgagt 180

aaaccaggga tcagaagagt ccaggcatgt aattgcccca aggtcactga gtaagtgagt 240

ggccgagtga ccactgaaat ttagtccatc tgagagctcg ccccctgcc ctgtgcggtg 300

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cttggctgct acagagttgt aacctgtctg cacttccaac cggtttggga atgcaagcag 1620

cattcccaag tcccgctttc acccgcgcgc taacggctca ggttcgagta caggacagga 1680

gggaggggag ctgtgcacac ggcggaggcg cacggcgtgg gcacccagca cccggtacac 1740

tgtgtcctcc cgctgcaccc agccccttcc gcgccgaggc gtccccgagg cgcaagtggg 1800

ccgccttcag ggaactgacc gcccgcggcc cgtgtgcaga gccgggtgcg cccggcccag 1860

tgcgcgcggc cgggtgtttc gcctggagcc gcaagtgact cagcgcgggg cgtgtgcagg 1920

cagcgcccgg ccggggcggg gcttttgcac tcgtcccggc tctttctagc tataaacact 1980

gcttgccgcg ctgcactcca ccacgcctcc tccaagtccc agcgaacccg cgtgcaacct 2040

gtcccgactc tagccgcctc ttcagctcgc c 2071

<210> 159
<211> 10
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 159
Glu Asp Val Val Cys Cys His Ser Ile Tyr
1 5 10

<210> 160
<211> 14
<212> PRT
<213> Unknown

<220>

<223> Description of Unknown:
cleavage site sequence

<400> 160
Leu Tyr Gln Glu Phe Asp Glu Met Glu Glu Cys Ser Gln His
1 5 10

<210> 161
<211> 1884
<212> DNA
<213> Artificial Sequence

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

<400> 161
cgggtttcgt aacaatcgca tgaggattcg caacgccttc ggcgtagccg atgtcgcgct 60

cccgtctcag taaaggtcgg cgtagccgat gtcgcgcaat cggactgcct tcgtacggcg 120

tagccgatgt cgcgcgtatc agtcgcctcg gaacggcgta gccgatgtcg cgcattcgta 180

agaggctcac tctcccttac acggagtgga taactagttc tagagggtat ataatggggg 240

ccaacgcgtg ccgccaccat gtgccatcag caactcgtca tctcctggtt ctcccttgtg 300

ttcctcgctt cccctctggt cgccatttgg gaactgaaga aggacgtcta cgtggtcgag 360

ctggattggt acccggacgc ccctggagaa atggtcgtgc tgacttgcga tacgccagaa 420

gaggacggca taacctggac cctggatcag agctccgagg tgctcggaag cggaaagacc 480

ctgaccattc aagtcaagga gttcggcgac gcgggccagt acacttgcca caagggtggc 540

gaagtgctgt cccactccct gctgctgctg cacaagaaag aggatggaat ctggtccact 600

gacatcctca aggaccaaaa agaaccgaag aacaagacct tcctccgctg cgaagccaag 660

aactacagcg gtcggttcac ctgttggtgg ctgacgacaa tctccaccga cctgactttc 720

tccgtgaagt cgtcacgggg atcaagcgat cctcagggcg tgacctgtgg agccgccact 780

ctgtccgccg agagagtcag gggagacaac aaggaatatg agtactccgt ggaatgccag 840

gaggacagcg cctgccctgc cgcggaagag tccctgccta tcgaggtcat ggtcgatgcc 900

gtgcataagc tgaaatacga gaactacact tcctccttct ttatccgcga catcatcaag 960

cctgaccccc ccaagaactt gcagctgaag ccactcaaga actcccgcca agtggaagtg 1020

tcttgggaat atccagacac ttggagcacc ccgcactcat acttctcgct cactttctgt 1080

gtgcaagtgc agggaaagtc caaacgggag aagaaagacc gggtgttcac cgacaaaacc 1140

tccgccactg tgatttgtcg gaagaacgcg tcaatcagcg tccgggcgca ggatagatac 1200

tactcgtcct cctggagcga atgggccagc gtgccttgtt ccggtggcgg atcaggcgga 1260

ggttcaggag gaggctccgg aggaggttcc cggaacctcc ctgtggcaac ccccgaccct 1320

ggaatgttcc cgtgcctaca ccactcccaa aacctcctga gggctgtgtc gaacatgttg 1380

cagaaggccc gccagaccct tgagttctac ccctgcacct cggaagaaat tgatcacgag 1440

gacatcacca aggacaagac ctcgaccgtg gaagcctgcc tgccgctgga actgaccaag 1500

aacgaatcgt gtctgaactc ccgcgagaca agctttatca ctaacggcag ctgcctggcg 1560

tcgagaaaga cctcattcat gatggcgctc tgtctttcct cgatctacga agatctgaag 1620

atgtatcagg tcgagttcaa gaccatgaac gccaagctgc tcatggaccc gaagcggcag 1680

atcttcctgg accagaatat gctcgccgtg attgatgaac tgatgcaggc cctgaatttc 1740

aactccgaga ctgtgcctca aaagtccagc ctggaagaac cggacttcta caagaccaag 1800

atcaagctgt gcatcctgtt gcacgctttc cgcattcgag ccgtgaccat tgaccgcgtg 1860

atgtcctacc tgaacgccag ttaa 1884

<210> 162
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
hairy-related basic helix-loop-helix repressor domain motif

<400> 162
Trp Arg Pro Trp
1

<210> 163
<211> 6
<212> PRT

<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (4)..(5)
<223> Any amino acid

<400> 163
Asp Ser Gly Xaa Xaa Ser
1 5

<210> 164
<211> 8
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 164
Glu Pro Leu Phe Ala Glu Arg Lys
1 5

<210> 165
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 165
Tyr Val Ala Asp
1

<210> 166
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 166
Val Asp Val Ala Asp
1 5

<210> 167
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 167
Asp Glu Val Asp
1

<210> 168
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 168
Val Glu His Asp
1

<210> 169
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<220>
<221> MOD_RES
<222> (5)..(5)

<223> Any amino acid

<400> 169
Leu Gly His Asp Xaa
1   5

<210> 170
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
      cleavage site sequence

<400> 170
Leu Gln Thr Asp Gly
1   5

<210> 171
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
      cleavage site sequence

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Pyroglutamic acid

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Any amino acid

<400> 171
Glu His Xaa Gly
1

<210> 172
<211> 8
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 172
Glu Val Asn Leu Asp Ala Glu Phe
1 5

<210> 173
<211> 7
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<400> 173
Pro Gln Gly Ile Ala Gly Gln
1 5

<210> 174
<211> 5
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Gly or Ala

<400> 174
Gly Xaa Glu Leu Arg
1 5

<210> 175
<211> 7
<212> PRT
<213> Unknown

<220>

<223> Description of Unknown:
cleavage site sequence

<400> 175
Glu Asn Leu Tyr Phe Gln Ser
1 5

<210> 176
<211> 7
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown:
cleavage site sequence

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Abz

<220>
<221> MOD_RES
<222> (7)..(7)
<223> Lys(Dnp)

<400> 176
Xaa His Pro Phe His Leu Lys
1 5

<210> 177
<211> 5483
<212> DNA
<213> Artificial Sequence

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

<400> 177
tccccagcat gcctgctatt ctcttcccaa tcctcccccc tgctgtcctg ccccacccca 60

ccccccagaa tagaatgaca cctactcaga caatgcgatg caatttcctc attttattag 120

gaaaggacag tgggagtggc accttccagg gtcaaggaag gcacgggggga ggggcaaaca 180

acagatggct ggcaactaga aggcacagtt agctggtgtt gatgaacatc tgcacgatgt 240

gcacgaagct ctgcaggaac tctttgatat tcttttcttc cagttcctcg cattctttgc 300

agccggactc ggtcacattg ccgttggagg acaggctgtt gttggccagg atgatcaggt 360

tttccacggt atcgtggatg gaggcgtcgc cgctttccag gctgatcact tgcagctcga 420

gcagaaagca cttcatggcg gtcactttac agctagggtg cacgtcgctc tcggtgtaca 480

gtgtggcgtc gatgtgcatg ctctggatca gatcctcgat cttcttcaga tcgctgatca 540

cgttgaccca gttgcctgta gagccgggca cccaaagaag cagcacccac agcagcagtg 600

tgtcggtttc cataggtcca gggttttcct ccacgtctcc acacgtcagt agactcccgc 660

gtccctcgcc agatcctctc ttccgtctac tggcgttcag gtaggacatc acgcggtcaa 720

tggtcacggc tcgaatgcgg aaagcgtgca acaggatgca cagcttgatc ttggtcttgt 780

agaagtccgg ttcttccagg ctggactttt gaggcacagt ctcggagttg aaattcaggg 840

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ggtccatgag cagcttggcg ttcatggtct tgaactcgac ctgatacatc ttcagatctt 960

cgtagatcga ggaaagacag agcgccatca tgaatgaggt ctttctcgac gccaggcagc 1020

tgccgttagt gataaagctt gtctcgcggg agttcagaca cgattcgttc ttggtcagtt 1080

ccagcggcag gcaggcttcc acggtcgagg tcttgtcctt ggtgatgtcc tcgtgatcaa 1140

tttcttccga ggtgcagggg tagaactcaa gggtctggcg ggccttctgc aacatgttcg 1200

acacagccct caggaggttt tgggagtggt gtaggcacgg gaacattcca gggtcggggg 1260

ttgccacagg gaggttccgg gaacctcctc cggagcctcc tcctgaacct ccgcctgatc 1320

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gcgagaagta tgagtgcggg gtgctccaag tgtctggata ttcccaagac acttccactt 1560

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cggtggagat tgtcgtcagc caccaacagg tgaaccgacc gctgtagttc ttggcttcgc 1920

agcggaggaa ggtcttgttc ttcggttctt tttggtcctt gaggatgtca gtggaccaga 1980

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cgcaagtcag cacgaccatt tctccagggg cgtccgggta ccaatccagc tcgaccacgt 2220

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cccattatat accctctaga actagttatc cactccgtgt aagggagagt gagcctctta 2400

cgaatgcgcg acatcggcta cgccgttccg aggcgactga tacgcgcgac atcggctacg 2460

ccgtacgaag gcagtccgat tgcgcgacat cggctacgcc gacctttact gagacgggag 2520

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aattaaagag cgagattccg tctcaaagaa aaaaaaagta atgaaatgaa taaaatgagt 2640

cctagagcca gtaaatgtcg taaatgtctc agctagtcag gtagtaaaag gtctcaacta 2700

ggcagtggca gagcaggatt caaattcagg gctgttgtga tgcctccgca gactctgagc 2760

gccacctggt ggtaatttgt ctgtgcctct tctgacgtgg aagaacagca actaacacac 2820

taacacggca tttactatgg gccagccatt gtccatctag atggccgata aaataaaaga 2880

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tagctgcagt aacgccattt tgcaaggcat ggaaaaatac caaaccaaga atagagaagt 3000

tcagatcaag ggcgggtaca tgaaaatagc taacgttggg ccaaacagga tatctgcggt 3060

gagcagtttc ggccccggcc cggggccaag aacagatggt caccgcagtt tcggccccgg 3120

cccgaggcca agaacagatg gtccccagat atggcccaac cctcagcagt ttcttaagac 3180

ccatcagatg tttccaggct cccccaagga cctgaaatga ccctgcgcct tatttgaatt 3240

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tcagcagaag gcacggcctg gacagacaca ccagaacaca cacaggcgag aagcctttcc 3480

agtgtagaat ctgtatgcgc aatttcagcg accacagcag cctgaagcgg cacctgagaa 3540

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caaaggccgt ggacttcatc cccgtggaaa acctggaaac caccatgcgg agccccgtgt 4740

tcaccgacaa ttctagccct ccagccgtga cactgacaca ccccatcacc aagatcgaca 4800

gagaggtgct gtaccaagag ttcgacgaga tggaagagtg cagccagcac tacccctacg 4860

acgtgccaga ttatgctggc ggaggtggca gcggaggcac cgatgaattt ccaaccatgg 4920

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ctcagattag tagccagctg taa 5483