SEQUENCE LISTING

<110> Klaubert, Dieter
Meisenheimer, Poncho
Unch, James

<120> NOVEL COELENTERAZINE SUBSTRATES AND METHODS OF USE

<130> 016026-9523-US02

<140> 13/287,992
<141> 2011-11-02

<150> 61/409,422
<151> 2010-11-02

<160> 593

<170> PatentIn version 3.5

<210> 1
<211> 169
<212> PRT
<213> Oplophorus gracilirostris

<400> 1

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Ala	Leu	Gly	Val	Ser	Val	Thr	Pro	Ile	Gln	Lys	Val	Val	Leu	Ser	Gly
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Glu	Asn	Gly	Leu	Lys	Ala	Asp	Ile	His	Val	Ile	Ile	Pro	Tyr	Glu	Gly
	50					55					60				
Leu	Ser	Gly	Phe	Gln	Met	Gly	Leu	Ile	Glu	Met	Ile	Phe	Lys	Val	Val
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Tyr	Pro	Val	Asp	Asp	His	His	Phe	Lys	Ile	Ile	Leu	His	Tyr	Gly	Thr
				85					90					95	
Leu	Val	Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe	Gly	Arg
			100					105					110		
Pro	Tyr	Pro	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Gln	Ile	Thr	Val	Thr
		115					120					125			
Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys	Ile	Tyr	Asp	Glu	Arg	Leu	Ile	Asn
	130					135					140				
Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile	Asn	Gly	Val	Thr	Gly
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Trp	Arg	Leu	Cys	Glu	Asn	Ile	Leu	Ala							
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<210> 2
<211> 513
<212> DNA
<213> Artificial Sequence

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

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gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaatttga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aagattattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gcc 513

<210> 3
<211> 171
<212> PRT
<213> Artificial Sequence

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

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1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

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

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Ile Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 4
<211> 513
<212> DNA
<213> Artificial Sequence

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

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accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aagattattc accattatgg tacactcgtt 300

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gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 5
<211> 171
<212> PRT
<213> Artificial Sequence

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

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Ile Ile His His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Phe Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 6
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 6
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gatcaactgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aagattattc gccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac ttctttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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<210> 7
<211> 171
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 7

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1               5                  10                  15

Gly Tyr Asn Leu Asp Gln Leu Leu Glu Gln Gly Gly Leu Ser Ser Leu
            20                  25                  30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Ile Ile Arg His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Phe Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Ile
145                 150                 155                 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
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<210> 8
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 8

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accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc      180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatctacaaa      240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt      300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct      360
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gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gcc 513

<210> 9
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 9
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1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Tyr Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 10
<211> 513
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

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gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaatctggg agtgtctgtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatctacaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcga caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 11
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 11
Met Val Phe Thr Leu Glu Asp Tyr Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Tyr Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asp Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Thr Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 12
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 12
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gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatctacaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 13
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 13
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Tyr Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Ile Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 14
<211> 513
<212> DNA
<213> Artificial Sequence

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

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accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 15
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 15
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu

20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 16
<211> 513
<212> DNA
<213> Artificial Sequence

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

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accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 17
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 17
Met Val Phe Thr Leu Lys Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 18
<211> 513
<212> DNA
<213> Artificial Sequence

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

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gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

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attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

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accggatggc gcctttgcga gcgtattctt gcc 513

<210> 19
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 19

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 20
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 20
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gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

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<210> 21
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 21
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 22
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 22
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gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaaactcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcttc cagatgggcc tcattgagat gatctttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 23
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 23
atggtattca cactggagga ttttgtcggt gattggcggc aaaccgctgg gtacaaccag 60

gaccaggttc tcgaacaagg gggcctcagc tccctgtttc aaaaactggg tgttagcgtt 120

acacctattc aaaaaatcgt gctctccggg gaaaacgggc tcaaaatcga tattcatgtg 180

attatccctt acgaagggct ctccgggttt cagatggggc tgatcgaaat gatctttaag 240

gtcgtctatc ccgtagatga tcaccacttc aaggtgatcc tccactacgg gaccctcgta 300

attgatggcg tgacccccaa catgatcgac tattttgggc gcccttacga ggggattgct 360

gtcttcgatg gcaaaaaaat tacagtgaca ggcacactct ggaacgggaa taagatcatt 420

gatgagcgcc tgattaatcc cgatgggagc ctgctctttc gggtgacaat taacggcgta 480

acaggctggc gcctctgtga acggattctg gcg 513

<210> 24
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 24
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaaactcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 25
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 25
atggtattca cactggagga ttttgtcggt gattggcggc aaaccgctgg gtacaacctc 60

gaccaggttc tcgaacaagg gggcctcagc tccctgtttc aaaaactggg tgttagcgtt 120

acacctattc aaaaaatcgt gctctccggg gaaaacgggc tcaaaatcga tattcatgtg 180

attatccctt acgaagggct ctccgggtat cagatggggc agatcgaaaa aatctttaag 240

gtcgtctatc ccgtagatga tcaccacttc aaggtgatcc tccactacgg gaccctcgta 300

attgatggcg tgacccccaa catgatcgac tattttgggc gcccttacga ggggattgct 360

gtcttcgatg gcaaaaaaat tacagtgaca ggcacactct ggaacgggaa taagatcatt 420

gatgagcgcc tgattaatcc cgatgggagc ctgctctttc gggtgacaat taacggcgta 480

acaggctggc gcctctgtga acggattctg gcg 513

<210> 26
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 26
atggtgatta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gcc 513

<210> 27
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 27
Met Val Ile Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu

130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 28
<211> 1650
<212> DNA
<213> Photinus pyralis

<400> 28
atggaagatg ccaaaaacat taagaagggc ccagcgccat tctacccact cgaagacggg 60

accgccggcg agcagctgca caaagccatg aagcgctacg ccctggtgcc cggcaccatc 120

gcctttaccg acgcacatat cgaggtggac attacctacg ccgagtactt cgagatgagc 180

gttcggctgg cagaagctat gaagcgctat gggctgaata caaaccatcg gatcgtggtg 240

tgcagcgaga atagcttgca gttcttcatg cccgtgttgg gtgccctgtt catcggtgtg 300

gctgtggccc cagctaacga catctacaac gagcgcgagc tgctgaacag catgggcatc 360

agccagccca ccgtcgtatt cgtgagcaag aaagggctgc aaaagatcct caacgtgcaa 420

aagaagctac cgatcataca aaagatcatc atcatggata gcaagaccga ctaccagggc 480

ttccaaagca tgtacacctt cgtgacttcc catttgccac ccggcttcaa cgagtacgac 540

ttcgtgcccg agagcttcga ccgggacaaa accatcgccc tgatcatgaa cagtagtggc 600

agtaccggat tgcccaaggg cgtagcccta ccgcaccgca ccgcttgtgt ccgattcagt 660

catgcccgcg accccatctt cggcaaccag atcatccccg acaccgctat cctcagcgtg 720

gtgccatttc accacggctt cggcatgttc accacgctgg gctacttgat ctgcggcttt 780

cgggtcgtgc tcatgtaccg cttcgaggag gagctattct tgcgcagctt gcaagactat 840

aagattcaat ctgccctgct ggtgcccaca ctatttagct tcttcgctaa gagcactctc 900

atcgacaagt acgacctaag caacttgcac gagatcgcca gcggcggggc gccgctcagc 960

aaggaggtag gtgaggccgt ggccaaacgc ttccacctac caggcatccg ccagggctac 1020

ggcctgacag aaacaaccag cgccattctg atcacccccg aaggggacga caagcctggc 1080

gcagtaggca aggtggtgcc cttcttcgag gctaaggtgg tggacttgga caccggtaag 1140

acactgggtg tgaaccagcg cggcgagctg tgcgtccgtg gccccatgat catgagcggc 1200

tacgttaaca accccgaggc tacaaacgct ctcatcgaca aggacggctg gctgcacagc 1260

ggcgacatcg cctactggga cgaggacgag cacttcttca tcgtggaccg gctgaagagc 1320

ctgatcaaat acaagggcta ccaggtagcc ccagccgaac tggagagcat cctgctgcaa 1380

caccccaaca tcttcgacgc cggggtcgcc ggcctgcccg acgacgatgc cggcgagctg 1440

cccgccgcag tcgtcgtgct ggaacacggt aaaaccatga ccgagaagga gatcgtggac 1500

tatgtggcca gccaggttac aaccgccaag aagctgcgcg gtggtgttgt gttcgtggac 1560

gaggtgccta aaggactgac cggcaagttg gacgcccgca agatccgcga gattctcatt 1620

aaggccaaga agggcggcaa gatcgccgtt 1650

<210> 29
<211> 550
<212> PRT
<213> Photinus pyralis

<400> 29
Met Glu Asp Ala Lys Asn Ile Lys Lys Gly Pro Ala Pro Phe Tyr Pro
1 5 10 15

Leu Glu Asp Gly Thr Ala Gly Glu Gln Leu His Lys Ala Met Lys Arg
20 25 30

Tyr Ala Leu Val Pro Gly Thr Ile Ala Phe Thr Asp Ala His Ile Glu
35 40 45

Val Asp Ile Thr Tyr Ala Glu Tyr Phe Glu Met Ser Val Arg Leu Ala
50 55 60

Glu Ala Met Lys Arg Tyr Gly Leu Asn Thr Asn His Arg Ile Val Val
65 70 75 80

Cys Ser Glu Asn Ser Leu Gln Phe Phe Met Pro Val Leu Gly Ala Leu
85 90 95

Phe Ile Gly Val Ala Val Ala Pro Ala Asn Asp Ile Tyr Asn Glu Arg
100 105 110

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

Ser Lys Lys Gly Leu Gln Lys Ile Leu Asn Val Gln Lys Lys Leu Pro
130 135 140

Ile Ile Gln Lys Ile Ile Ile Met Asp Ser Lys Thr Asp Tyr Gln Gly
145 150 155 160

Phe Gln Ser Met Tyr Thr Phe Val Thr Ser His Leu Pro Pro Gly Phe
165 170 175

Asn Glu Tyr Asp Phe Val Pro Glu Ser Phe Asp Arg Asp Lys Thr Ile
180 185 190

Ala Leu Ile Met Asn Ser Ser Gly Ser Thr Gly Leu Pro Lys Gly Val
195 200 205

Ala Leu Pro His Arg Thr Ala Cys Val Arg Phe Ser His Ala Arg Asp
210 215 220

```
Pro Ile Phe Gly Asn Gln Ile Ile Pro Asp Thr Ala Ile Leu Ser Val
225                 230                 235                 240

Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly Tyr Leu
                245                 250                 255

Ile Cys Gly Phe Arg Val Val Leu Met Tyr Arg Phe Glu Glu Glu Leu
            260                 265                 270

Phe Leu Arg Ser Leu Gln Asp Tyr Lys Ile Gln Ser Ala Leu Leu Val
        275                 280                 285

Pro Thr Leu Phe Ser Phe Phe Ala Lys Ser Thr Leu Ile Asp Lys Tyr
    290                 295                 300

Asp Leu Ser Asn Leu His Glu Ile Ala Ser Gly Gly Ala Pro Leu Ser
305                 310                 315                 320

Lys Glu Val Gly Glu Ala Val Ala Lys Arg Phe His Leu Pro Gly Ile
                325                 330                 335

Arg Gln Gly Tyr Gly Leu Thr Glu Thr Thr Ser Ala Ile Leu Ile Thr
            340                 345                 350

Pro Glu Gly Asp Asp Lys Pro Gly Ala Val Gly Lys Val Val Pro Phe
        355                 360                 365

Phe Glu Ala Lys Val Val Asp Leu Asp Thr Gly Lys Thr Leu Gly Val
    370                 375                 380

Asn Gln Arg Gly Glu Leu Cys Val Arg Gly Pro Met Ile Met Ser Gly
385                 390                 395                 400

Tyr Val Asn Asn Pro Glu Ala Thr Asn Ala Leu Ile Asp Lys Asp Gly
                405                 410                 415

Trp Leu His Ser Gly Asp Ile Ala Tyr Trp Asp Glu Asp Glu His Phe
            420                 425                 430

Phe Ile Val Asp Arg Leu Lys Ser Leu Ile Lys Tyr Lys Gly Tyr Gln
        435                 440                 445

Val Ala Pro Ala Glu Leu Glu Ser Ile Leu Leu Gln His Pro Asn Ile
    450                 455                 460

Phe Asp Ala Gly Val Ala Gly Leu Pro Asp Asp Asp Ala Gly Glu Leu
465                 470                 475                 480

Pro Ala Ala Val Val Val Leu Glu His Gly Lys Thr Met Thr Glu Lys
                485                 490                 495
```

Glu Ile Val Asp Tyr Val Ala Ser Gln Val Thr Thr Ala Lys Lys Leu
500 505 510

Arg Gly Gly Val Val Phe Val Asp Glu Val Pro Lys Gly Leu Thr Gly
515 520 525

Lys Leu Asp Ala Arg Lys Ile Arg Glu Ile Leu Ile Lys Ala Lys Lys
530 535 540

Gly Gly Lys Ile Ala Val
545 550

<210> 30
<211> 933
<212> DNA
<213> Artificial Sequence

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

<400> 30
atggcttcca aggtgtacga ccccgagcaa cgcaaacgca tgatcactgg gcctcagtgg 60

tgggctcgct gcaagcaaat gaacgtgctg gactccttca tcaactacta tgattccgag 120

aagcacgccg agaacgccgt gatttttctg catggtaacg ctgcctccag ctacctgtgg 180

aggcacgtcg tgcctcacat cgagcccgtg gctagatgca tcatccctga tctgatcgga 240

atgggtaagt ccggcaagag cgggaatggc tcatatcgcc tcctggatca ctacaagtac 300

ctcaccgctt ggttcgagct gctgaacctt ccaaagaaaa tcatctttgt gggccacgac 360

tgggggggctt gtctggcctt tcactactcc tacgagcacc aagacaagat caaggccatc 420

gtccatgctg agagtgtcgt ggacgtgatc gagtcctggg acgagtggcc tgacatcgag 480

gaggatatcg ccctgatcaa gagcgaagag ggcgagaaaa tggtgcttga gaataacttc 540

ttcgtcgaga ccatgctccc aagcaagatc atgcggaaac tggagcctga ggagttcgct 600

gcctacctgg agccattcaa ggagaagggc gaggttagac ggcctaccct ctcctggcct 660

cgcgagatcc ctctcgttaa gggaggcaag cccgacgtcg tccagattgt ccgcaactac 720

aacgcctacc ttcgggccag cgacgatctg cctaagatgt tcatcgagtc cgaccctggg 780

ttcttttcca acgctattgt cgagggagct aagaagttcc ctaacaccga gttcgtgaag 840

gtgaagggcc tccacttcag ccaggaggac gctccagatg aaatgggtaa gtacatcaag 900

agcttcgtgg agcgcgtgct gaagaacgag cag 933

<210> 31
<211> 311
<212> PRT
<213> Artificial Sequence

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

<400> 31

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

Gly Pro Gln Trp Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser
            20                  25                  30

Phe Ile Asn Tyr Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile
        35                  40                  45

Phe Leu His Gly Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val
    50                  55                  60

Pro His Ile Glu Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly
65                  70                  75                  80

Met Gly Lys Ser Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp
                85                  90                  95

His Tyr Lys Tyr Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys
            100                 105                 110

Lys Ile Ile Phe Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His
        115                 120                 125

Tyr Ser Tyr Glu His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu
    130                 135                 140

Ser Val Val Asp Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu
145                 150                 155                 160

Glu Asp Ile Ala Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu
                165                 170                 175

Glu Asn Asn Phe Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg
            180                 185                 190

Lys Leu Glu Pro Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu
        195                 200                 205

Lys Gly Glu Val Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro
    210                 215                 220

Leu Val Lys Gly Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr
225                 230                 235                 240

Asn Ala Tyr Leu Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu
                245                 250                 255

Ser Asp Pro Gly Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys
            260                 265                 270
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Phe Pro Asn Thr Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln
275 280 285

Glu Asp Ala Pro Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu
290 295 300

Arg Val Leu Lys Asn Glu Gln
305 310

<210> 32
<211> 2295
<212> DNA
<213> Artificial Sequence

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

<400> 32
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggcttcca aggtgtacga ccccgagcaa cgcaaacgca tgatcactgg gcctcagtgg 480

tgggctcgct gcaagcaaat gaacgtgctg gactccttca tcaactacta tgattccgag 540

aagcacgccg agaacgccgt gatttttctg catggtaacg ctgcctccag ctacctgtgg 600

aggcacgtcg tgcctcacat cgagcccgtg gctagatgca tcatccctga tctgatcgga 660

atgggtaagt ccggcaagag cgggaatggc tcatatcgcc tcctggatca ctacaagtac 720

ctcaccgctt ggttcgagct gctgaacctt ccaaagaaaa tcatctttgt gggccacgac 780

tgggggggctt gtctggcctt tcactactcc tacgagcacc aagacaagat caaggccatc 840

gtccatgctg agagtgtcgt ggacgtgatc gagtcctggg acgagtggcc tgacatcgag 900

gaggatatcg ccctgatcaa gagcgaagag ggcgagaaaa tggtgcttga gaataacttc 960

ttcgtcgaga ccatgctccc aagcaagatc atgcggaaac tggagcctga ggagttcgct 1020

gcctacctgg agccattcaa ggagaagggc gaggttagac ggcctaccct ctcctggcct 1080

cgcgagatcc ctctcgttaa gggaggcaag cccgacgtcg tccagattgt ccgcaactac 1140

aacgcctacc ttcgggccag cgacgatctg cctaagatgt tcatcgagtc cgaccctggg 1200

ttcttttcca acgctattgt cgagggagct aagaagttcc ctaacaccga gttcgtgaag 1260

gtgaagggcc tccacttcag ccaggaggac gctccagatg aaatgggtaa gtacatcaag 1320

agcttcgtgg agcgcgtgct gaagaacgag caggtttctc tcgagccaac cactgaggat 1380

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1440

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1500

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1560

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1620

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1680

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1740

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1800

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1860

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1920

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1980

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 2040

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 2100

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 2160

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 2220

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 2280

ctggagattt ccggt 2295

<210> 33
<211> 765
<212> PRT
<213> Artificial Sequence

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

<400> 33
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

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Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
            100                 105                 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
        115                 120                 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Ala Ser Lys
    130                 135                 140

Val Tyr Asp Pro Glu Gln Arg Lys Arg Met Ile Thr Gly Pro Gln Trp
145                 150                 155                 160

Trp Ala Arg Cys Lys Gln Met Asn Val Leu Asp Ser Phe Ile Asn Tyr
                165                 170                 175

Tyr Asp Ser Glu Lys His Ala Glu Asn Ala Val Ile Phe Leu His Gly
            180                 185                 190

Asn Ala Ala Ser Ser Tyr Leu Trp Arg His Val Val Pro His Ile Glu
        195                 200                 205

Pro Val Ala Arg Cys Ile Ile Pro Asp Leu Ile Gly Met Gly Lys Ser
    210                 215                 220

Gly Lys Ser Gly Asn Gly Ser Tyr Arg Leu Leu Asp His Tyr Lys Tyr
225                 230                 235                 240

Leu Thr Ala Trp Phe Glu Leu Leu Asn Leu Pro Lys Lys Ile Ile Phe
                245                 250                 255

Val Gly His Asp Trp Gly Ala Cys Leu Ala Phe His Tyr Ser Tyr Glu
            260                 265                 270

His Gln Asp Lys Ile Lys Ala Ile Val His Ala Glu Ser Val Val Asp
        275                 280                 285

Val Ile Glu Ser Trp Asp Glu Trp Pro Asp Ile Glu Glu Asp Ile Ala
    290                 295                 300

Leu Ile Lys Ser Glu Glu Gly Glu Lys Met Val Leu Glu Asn Asn Phe
305                 310                 315                 320

Phe Val Glu Thr Met Leu Pro Ser Lys Ile Met Arg Lys Leu Glu Pro
                325                 330                 335

Glu Glu Phe Ala Ala Tyr Leu Glu Pro Phe Lys Glu Lys Gly Glu Val
            340                 345                 350

Arg Arg Pro Thr Leu Ser Trp Pro Arg Glu Ile Pro Leu Val Lys Gly
        355                 360                 365
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Gly Lys Pro Asp Val Val Gln Ile Val Arg Asn Tyr Asn Ala Tyr Leu
    370                 375                 380

Arg Ala Ser Asp Asp Leu Pro Lys Met Phe Ile Glu Ser Asp Pro Gly
385                 390                 395                 400

Phe Phe Ser Asn Ala Ile Val Glu Gly Ala Lys Lys Phe Pro Asn Thr
                405                 410                 415

Glu Phe Val Lys Val Lys Gly Leu His Phe Ser Gln Glu Asp Ala Pro
            420                 425                 430

Asp Glu Met Gly Lys Tyr Ile Lys Ser Phe Val Glu Arg Val Leu Lys
        435                 440                 445

Asn Glu Gln Val Ser Leu Glu Pro Thr Thr Glu Asp Leu Tyr Phe Gln
    450                 455                 460

Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe Pro Phe Asp Pro
465                 470                 475                 480

His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr Val Asp Val Gly
                485                 490                 495

Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly Asn Pro Thr Ser
            500                 505                 510

Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala Pro Thr His Arg
        515                 520                 525

Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser Asp Lys Pro Asp
    530                 535                 540

Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met Asp Ala Phe Ile
545                 550                 555                 560

Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile His Asp Trp Gly
                565                 570                 575

Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro Glu Arg Val Lys
            580                 585                 590

Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro Thr Trp Asp Glu
        595                 600                 605

Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe Arg Thr Thr Asp
    610                 615                 620

Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe Ile Glu Gly Thr
625                 630                 635                 640
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Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val Glu Met Asp His
645 650 655

Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu Pro Leu Trp Arg
660 665 670

Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala Asn Ile Val Ala
675 680 685

Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser Pro Val Pro Lys
690 695 700

Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro Pro Ala Glu Ala
705 710 715 720

Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala Val Asp Ile Gly
725 730 735

Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp Leu Ile Gly Ser
740 745 750

Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser Gly
755 760 765

<210> 34
<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 34
atggtgatta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 35
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 35
Met Val Ile Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu

130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
165 170 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
180 185 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
195 200 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
210 215 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225 230 235 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
245 250 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
260 265 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
275 280 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
290 295 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305 310 315 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
325 330 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
340 345 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
355 360 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
370 375 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385 390 395 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp

405 410 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
420 425 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
435 440 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465 470 475 480

Leu Glu Ile Ser Gly
485

<210> 36
<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 36
atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccta 60

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 37
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 37
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
165 170 175

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Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
            180                 185                 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
        195                 200                 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
    210                 215                 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225                 230                 235                 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
                245                 250                 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
            260                 265                 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305                 310                 315                 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
                325                 330                 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
            340                 345                 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
        355                 360                 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
    370                 375                 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385                 390                 395                 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
                405                 410                 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
            420                 425                 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
        435                 440                 445
```

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465 470 475 480

Leu Glu Ile Ser Gly
485

<210> 38
<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 38
atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccta 60

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 39
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 39

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
165 170 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
180 185 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
195 200 205

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Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
    210                 215                 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225                 230                 235                 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
                245                 250                 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
            260                 265                 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305                 310                 315                 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
                325                 330                 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
            340                 345                 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
        355                 360                 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
    370                 375                 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385                 390                 395                 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
                405                 410                 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
            420                 425                 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
        435                 440                 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465                 470                 475                 480
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Leu Glu Ile Ser Gly
485

<210> 40
<211> 1876
<212> DNA
<213> Artificial Sequence

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

<400> 40
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaaactcgg ggtgtccgta 540

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggtt 1876

<210> 41
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 41

Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Lys Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
180 185 190

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Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
        195                 200                 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460
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Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 42
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 42
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 43
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 43
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 44
<211> 1455
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 44
atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccta 60

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aagattattc accattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac ttctttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 45
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 45
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

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Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
            20                  25                  30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Ile Ile His His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Phe Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145                 150                 155                 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
                165                 170                 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
            180                 185                 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
        195                 200                 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
    210                 215                 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225                 230                 235                 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
                245                 250                 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
            260                 265                 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285
```

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Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305                 310                 315                 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
                325                 330                 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
            340                 345                 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
        355                 360                 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
    370                 375                 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385                 390                 395                 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
                405                 410                 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
            420                 425                 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
        435                 440                 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465                 470                 475                 480

Leu Glu Ile Ser Gly
                485
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<210> 46
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 46
atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gcc 513

<210> 47
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 47

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 48

<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 48
atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 49
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 49
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
165 170 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
180 185 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
195 200 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
210 215 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225 230 235 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
245 250 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
260 265 270

```
Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305                 310                 315                 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
                325                 330                 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
            340                 345                 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
        355                 360                 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
    370                 375                 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385                 390                 395                 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
                405                 410                 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
            420                 425                 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
        435                 440                 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465                 470                 475                 480

Leu Glu Ile Ser Gly
                485
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<210> 50
<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 50

atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 51
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 51
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

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Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145                 150                 155                 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
                165                 170                 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
            180                 185                 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
        195                 200                 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
    210                 215                 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225                 230                 235                 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
                245                 250                 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
            260                 265                 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300
```

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305 310 315 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
325 330 335

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
340 345 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
355 360 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
370 375 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385 390 395 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
405 410 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
420 425 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
435 440 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465 470 475 480

Leu Glu Ile Ser Gly
485

<210> 52
<211> 1455
<212> DNA
<213> Artificial Sequence

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

<400> 52
atggtgttta cattgaagga tttcgttgga gactggcggc agacagctgg atacaaccaa 60

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaatctggg agtgtcagtc 120

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 180

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 240

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 300

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 360

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 420

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 480

accggatggc gcctttgcga gcgtattctt gccggatatc tcgagccaac cactgaggat 540

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 600

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 660

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 720

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 780

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 840

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 900

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 960

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1020

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1080

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1140

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1200

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1260

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1320

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1380

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1440

ctggagattt ccggt 1455

<210> 53
<211> 485
<212> PRT
<213> Artificial Sequence

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

<400> 53
Met Val Phe Thr Leu Lys Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Gln Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

```
Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145                 150                 155                 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro
                165                 170                 175

Thr Thr Glu Asp Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile
            180                 185                 190

Gly Thr Gly Phe Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu
        195                 200                 205

Arg Met His Tyr Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu
    210                 215                 220

Phe Leu His Gly Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile
225                 230                 235                 240

Pro His Val Ala Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly
                245                 250                 255

Met Gly Lys Ser Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His
            260                 265                 270

Val Arg Phe Met Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val
        275                 280                 285

Val Leu Val Ile His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala
    290                 295                 300

Lys Arg Asn Pro Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile
305                 310                 315                 320

Arg Pro Ile Pro Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr
                325                 330                 335
```

Phe Gln Ala Phe Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp
340 345 350

Gln Asn Val Phe Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro
355 360 365

Leu Thr Glu Val Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro
370 375 380

Val Asp Arg Glu Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala
385 390 395 400

Gly Glu Pro Ala Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp
405 410 415

Leu His Gln Ser Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly
420 425 430

Val Leu Ile Pro Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro
435 440 445

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

Asp Asn Pro Asp Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr
465 470 475 480

Leu Glu Ile Ser Gly
485

<210> 54
<211> 81
<212> DNA
<213> Oplophorus gracilirostris

<400> 54
atggcttact ccacactgtt catcattgct ctcacagccg tcgtaacaca agcctcctcc 60

acacagaaaa gcaacctgac a 81

<210> 55
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 55
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 480

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 540

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaatttga tattcatgtc 600

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 660

gttgtttacc cagtggatga tcatcatttc aagattattc tccattatgg tacactcgtt 720

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 780

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 840

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 900

accggatggc gcctttgcga gcgtattctt gccggatctc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 56
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 56

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Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1               5                  10                  15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
            20                  25                  30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
        35                  40                  45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
    50                  55                  60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
                85                  90                  95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
            100                 105                 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
        115                 120                 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
    130                 135                 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Gln
145                 150                 155                 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Lys Leu
                165                 170                 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
            180                 185                 190

Gly Leu Lys Phe Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
        195                 200                 205

Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Ile Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270
```

```
Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Gly Ser Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
                485                 490                 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
            500                 505                 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
        515                 520                 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
    530                 535                 540
```

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 57
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 57
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccaa 480

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 540

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 600

atcatccctt acgagggact cagtggtttt caaatgggtc tgattgaaat gatcttcaaa 660

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 720

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 780

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 840

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 900

accggatggc gcctttgcga gcgtattctt gccgtttctc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 58
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 58

Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

```
Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
        115                 120                 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
    130                 135                 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Gln
145                 150                 155                 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Lys Leu
                165                 170                 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
            180                 185                 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
        195                 200                 205

Gly Phe Gln Met Gly Leu Ile Glu Met Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Val Ser Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380
```

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385 390 395 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
405 410 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
420 425 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
435 440 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
450 455 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 59
<211> 1875
<212> DNA

<213> Artificial Sequence

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

<400> 59
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 60
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 60
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
210 215 220

```
Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
                485                 490                 495
```

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 61
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 61
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccta 480

gatcaagtgt tagaacaagg aggattgtct agtctgttcc aaaagctggg agtgtcagtc 540

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 600

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 660

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 720

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 780

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 840

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 900

accggatggc gcctttgcga gcgtattctt gccgtttctc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 62
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 62
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val

50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Lys Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
210 215 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225 230 235 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
245 250 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
260 265 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
275 280 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
290 295 300

Leu Cys Glu Arg Ile Leu Ala Val Ser Leu Glu Pro Thr Thr Glu Asp
305 310 315 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe

325 330 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
340 345 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
355 360 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
370 375 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385 390 395 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
405 410 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
420 425 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
435 440 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
450 455 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp

595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 63
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 63
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cattggagga tttcgttgga gactggcggc agacagctgg atacaaccta 480

gatcaagtgt tagaacaagg aggagtgtct agtctgttcc aaaagctggg agtgtcaatc 540

accccaatcc agaaaattgt gctgtctggg gagaatgggt taaaaattga tattcatgtc 600

atcatccctt acgagggact cagtggttat caaatgggtc agattgaaaa gatcttcaaa 660

gttgtttacc cagtggatga tcatcatttc aaggttattc tccattatgg tacactcgtt 720

attgacggtg tgacaccaaa catgattgac tactttggac gcccttacga gggaattgct 780

gtgtttgacg gcaagaagat cacagttact ggaactctgt ggaacggcaa caagatcatt 840

gatgagcgcc tgatcaaccc agatggttca ctcctcttcc gcgttactat caatggagtc 900

accggatggc gcctttgcga gcgtattctt gccgtttctc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 64
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 64
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

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Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Lys Leu
                165                 170                 175

Gly Val Ser Ile Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
            180                 185                 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
        195                 200                 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Val Ser Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430
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His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
                485                 490                 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
            500                 505                 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
        515                 520                 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
    530                 535                 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545                 550                 555                 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
                565                 570                 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
            580                 585                 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
        595                 600                 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
    610                 615                 620

Gly
625
```

<210> 65
<211> 636
<212> DNA
<213> Artificial Sequence

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

<400> 65
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaaactcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcgaattctc acggcttccc tcccgaggtg 540

gaggagcagg ccgccggcac cctgcccatg agctgcgccc aggagagcgg catggataga 600

caccctgctg cttgcgccag cgccaggatc aacgtc 636

<210> 66
<211> 82
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown: antioxidant response element (2X ARE) oligonucleotide

<400> 66
tagcttggaa atgacattgc taatggtgac aaagcaactt ttagcttgga aatgacattg 60

ctaatggtga caaagcaact tt 82

<210> 67
<211> 45
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown: heat shock response element (HRE) oligonucleotide

<400> 67
ctggaatttt ctagactgga attttctaga ctggaatttt ctaga 45

<210> 68
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 68
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 69
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 69
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 70
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 70
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 71
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 71
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val

145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 72
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 72
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggcctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa cttgatcgac tatttcggac gtccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 73
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 73
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Leu Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 74
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 74
atggtgttta cactcgaaga tttcgtaggg gactggcagc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 75
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 75
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Gln Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 76
<211> 1797
<212> DNA
<213> Artificial Sequence

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

<400> 76
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggcctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa cttgatcgac tatttcggac gtccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctg 1797

<210> 77
<211> 599
<212> PRT
<213> Artificial Sequence

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

<400> 77
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

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Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
                85                  90                  95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
            100                 105                 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
        115                 120                 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
    130                 135                 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145                 150                 155                 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
                165                 170                 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
            180                 185                 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
        195                 200                 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Leu Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350
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Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
                485                 490                 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
            500                 505                 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
        515                 520                 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
    530                 535                 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545                 550                 555                 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
                565                 570                 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
            580                 585                 590

Val Asp Ile Gly Pro Gly Leu
        595
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<210> 78
<211> 1875

<212> DNA
<213> Artificial Sequence

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

<400> 78
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcagc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

actccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggctat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 79
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 79

Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Gln Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro

210 215 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225 230 235 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
245 250 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
260 265 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
275 280 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
290 295 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305 310 315 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
325 330 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
340 345 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
355 360 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
370 375 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385 390 395 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
405 410 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
420 425 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
435 440 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
450 455 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

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

485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 80
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 80
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 81
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 81
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 82
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 82
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gatcaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gaacggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcggga 516

<210> 83
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 83
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Asn Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
165 170

<210> 84
<211> 1866
<212> DNA
<213> Artificial Sequence

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

<400> 84
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

acaccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggag 1866

<210> 85
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 85
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

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Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
    210                 215                 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225                 230                 235                 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
                245                 250                 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
            260                 265                 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
        275                 280                 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
    290                 295                 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305                 310                 315                 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
                325                 330                 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
            340                 345                 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480
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Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 86
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 86
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gatcaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

acaccgatcc aaaagattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gaacggctat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 87
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 87
Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr

35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Asn
195 200 205

Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
210 215 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225 230 235 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
245 250 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
260 265 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
275 280 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
290 295 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp

305 310 315 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
325 330 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
340 345 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
355 360 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
370 375 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385 390 395 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
405 410 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
420 425 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
435 440 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
450 455 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala

580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 88
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 88
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 89
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 89
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 90
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 90
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 540

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 91
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 91

Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser

85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
210 215 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225 230 235 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
245 250 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
260 265 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
275 280 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
290 295 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305 310 315 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
325 330 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
340 345 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly

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        355                 360                 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
    370                 375                 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385                 390                 395                 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met
                405                 410                 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
            420                 425                 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
        435                 440                 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
    450                 455                 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465                 470                 475                 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
                485                 490                 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
            500                 505                 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
        515                 520                 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
    530                 535                 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545                 550                 555                 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
                565                 570                 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
            580                 585                 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
        595                 600                 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
    610                 615                 620

Gly
```

625

<210> 92
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 92
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 93
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 93
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 94
<211> 1875
<212> DNA
<213> Artificial Sequence

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

<400> 94
atgcttggtc tgtcggagca aagcgtgtcc atctcgcgct gcgctgggac gcgcctgccc 60

gccttgctgg acgagcagca ggtgaacgtc ctgctctacg acatgaacgg ctgctactca 120

cgcctcaagg agctggtgcc caccctgccc cagaaccgca aagtgagcaa ggtggagatc 180

ctgcagcatg taatcgacta catcagggac ctgcagctgg agctgaactc ggagtctgaa 240

gtcgggacca ccggaggccg gggactgcct gtccgcgccc cgctcagcac cctgaacggc 300

gagatcagtg ccttggcggc cgaggcggca tgtgttccag ccgacgatcg catcttgtgt 360

cgcgtttctc ttgagaatct ttattttcag gcgtctggag gtggtggcgg agcgatcgcc 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaatctcgg ggtgtccgta 540

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 660

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 720

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 780

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 840

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 900

accggctggc ggctgtgcga gcgcattttg gcgggatatc tcgagccaac cactgaggat 960

ctgtactttc agagcgataa cgatggatcc gaaatcggta ctggctttcc attcgacccc 1020

cattatgtgg aagtcctggg cgagcgcatg cactacgtcg atgttggtcc gcgcgatggc 1080

acccctgtgc tgttcctgca cggtaacccg acctcctcct acgtgtggcg caacatcatc 1140

ccgcatgttg caccgaccca tcgctgcatt gctccagacc tgatcggtat gggcaaatcc 1200

gacaaaccag acctgggtta tttcttcgac gaccacgtcc gcttcatgga tgccttcatc 1260

gaagccctgg gtctggaaga ggtcgtcctg gtcattcacg actggggctc cgctctgggt 1320

ttccactggg ccaagcgcaa tccagagcgc gtcaaaggta ttgcatttat ggagttcatc 1380

cgccctatcc cgacctggga cgaatggcca gaatttgccc gcgagacctt ccaggccttc 1440

cgcaccaccg acgtcggccg caagctgatc atcgatcaga acgtttttat cgagggtacg 1500

ctgccgatgg gtgtcgtccg cccgctgact gaagtcgaga tggaccatta ccgcgagccg 1560

ttcctgaatc ctgttgaccg cgagccactg tggcgcttcc caaacgagct gccaatcgcc 1620

ggtgagccag cgaacatcgt cgcgctggtc gaagaataca tggactggct gcaccagtcc 1680

cctgtcccga agctgctgtt ctggggcacc ccaggcgttc tgatcccacc ggccgaagcc 1740

gctcgcctgg ccaaaagcct gcctaactgc aaggctgtgg acatcggccc gggtctgaat 1800

ctgctgcaag aagacaaccc ggacctgatc ggcagcgaga tcgcgcgctg gctgtctact 1860

ctggagattt ccggt 1875

<210> 95
<211> 625
<212> PRT
<213> Artificial Sequence

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

<400> 95

Met Leu Gly Leu Ser Glu Gln Ser Val Ser Ile Ser Arg Cys Ala Gly
1 5 10 15

Thr Arg Leu Pro Ala Leu Leu Asp Glu Gln Gln Val Asn Val Leu Leu
20 25 30

Tyr Asp Met Asn Gly Cys Tyr Ser Arg Leu Lys Glu Leu Val Pro Thr
35 40 45

Leu Pro Gln Asn Arg Lys Val Ser Lys Val Glu Ile Leu Gln His Val
50 55 60

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

Val Gly Thr Thr Gly Gly Arg Gly Leu Pro Val Arg Ala Pro Leu Ser
85 90 95

Thr Leu Asn Gly Glu Ile Ser Ala Leu Ala Ala Glu Ala Ala Cys Val
100 105 110

Pro Ala Asp Asp Arg Ile Leu Cys Arg Val Ser Leu Glu Asn Leu Tyr
115 120 125

Phe Gln Ala Ser Gly Gly Gly Gly Gly Ala Ile Ala Met Val Phe Thr

130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
210 215 220

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
225 230 235 240

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
245 250 255

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
260 265 270

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
275 280 285

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
290 295 300

Leu Cys Glu Arg Ile Leu Ala Gly Tyr Leu Glu Pro Thr Thr Glu Asp
305 310 315 320

Leu Tyr Phe Gln Ser Asp Asn Asp Gly Ser Glu Ile Gly Thr Gly Phe
325 330 335

Pro Phe Asp Pro His Tyr Val Glu Val Leu Gly Glu Arg Met His Tyr
340 345 350

Val Asp Val Gly Pro Arg Asp Gly Thr Pro Val Leu Phe Leu His Gly
355 360 365

Asn Pro Thr Ser Ser Tyr Val Trp Arg Asn Ile Ile Pro His Val Ala
370 375 380

Pro Thr His Arg Cys Ile Ala Pro Asp Leu Ile Gly Met Gly Lys Ser
385 390 395 400

Asp Lys Pro Asp Leu Gly Tyr Phe Phe Asp Asp His Val Arg Phe Met

405 410 415

Asp Ala Phe Ile Glu Ala Leu Gly Leu Glu Glu Val Val Leu Val Ile
420 425 430

His Asp Trp Gly Ser Ala Leu Gly Phe His Trp Ala Lys Arg Asn Pro
435 440 445

Glu Arg Val Lys Gly Ile Ala Phe Met Glu Phe Ile Arg Pro Ile Pro
450 455 460

Thr Trp Asp Glu Trp Pro Glu Phe Ala Arg Glu Thr Phe Gln Ala Phe
465 470 475 480

Arg Thr Thr Asp Val Gly Arg Lys Leu Ile Ile Asp Gln Asn Val Phe
485 490 495

Ile Glu Gly Thr Leu Pro Met Gly Val Val Arg Pro Leu Thr Glu Val
500 505 510

Glu Met Asp His Tyr Arg Glu Pro Phe Leu Asn Pro Val Asp Arg Glu
515 520 525

Pro Leu Trp Arg Phe Pro Asn Glu Leu Pro Ile Ala Gly Glu Pro Ala
530 535 540

Asn Ile Val Ala Leu Val Glu Glu Tyr Met Asp Trp Leu His Gln Ser
545 550 555 560

Pro Val Pro Lys Leu Leu Phe Trp Gly Thr Pro Gly Val Leu Ile Pro
565 570 575

Pro Ala Glu Ala Ala Arg Leu Ala Lys Ser Leu Pro Asn Cys Lys Ala
580 585 590

Val Asp Ile Gly Pro Gly Leu Asn Leu Leu Gln Glu Asp Asn Pro Asp
595 600 605

Leu Ile Gly Ser Glu Ile Ala Arg Trp Leu Ser Thr Leu Glu Ile Ser
610 615 620

Gly
625

<210> 96
<211> 87
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown: cAMP-response element (CRE) oligonucleotide

<400> 96
gcaccagaca gtgacgtcag ctgccagatc ccatggccgt catactgtga cgtctttcag 60

acacccttg acgtcaatgg gagaaca 87

<210> 97
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 97
atggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgagc gcattttggc gatggtgttt acactcgaag atttcgtagg ggactggcgg 300

cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 360

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 420

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 480

cagatcgaaa aaatttttaa ggtggtgtac cctgtg 516

<210> 98
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 98
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala Met Val Phe Thr Leu Glu Asp Phe Val
85 90 95

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

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
115 120 125

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
130 135 140

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
145 150 155 160

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
165 170

<210> 99
<211> 531
<212> DNA
<213> Artificial Sequence

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

<400> 99
atggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgagc gcattttggc ggggagctcc ggtggaatgg tgtttacact cgaagatttc 300

gtaggggact ggcggcagac agccggctac aacctggacc aagtccttga gcagggcggt 360

gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 420

agcggtgaaa acggcctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 480

ggcgatcaga tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt g 531

<210> 100
<211> 177
<212> PRT
<213> Artificial Sequence

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

<400> 100
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Met Val Phe Thr
85 90 95

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

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
115 120 125

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
130 135 140

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
145 150 155 160

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
165 170 175

Val

<210> 101
<211> 546
<212> DNA
<213> Artificial Sequence

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

<400> 101
atggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgagc gcattttggc gggaagttct ggtggaggga gctccggtgg aatggtgttt 300

acactcgaag atttcgtagg ggactggcgg cagacagccg gctacaacct ggaccaagtc 360

cttgagcagg gcggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 420

caaaggattg tcctgagcgg tgaaaacggc ctgaagatcg acatccatgt catcatcccg 480

tatgaaggtc tgagcggcga tcagatgggc cagatcgaaa aaatttttaa ggtggtgtac 540

cctgtg 546

<210> 102
<211> 182
<212> PRT
<213> Artificial Sequence

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

<400> 102
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
85 90 95

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

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
115 120 125

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val
130 135 140

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
145 150 155 160

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
165 170 175

Lys Val Val Tyr Pro Val
180

<210> 103
<211> 576
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 103
atggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgagc gcattttggc gggaagttct ggtggaggga gctccggtgg aggaagttct 300

ggtggaggga gctccggtgg aatggtgttt acactcgaag atttcgtagg ggactggcgg 360

cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 420

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 480

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 540

cagatcgaaa aaatttttaa ggtggtgtac cctgtg 576

<210> 104
<211> 192
<212> PRT
<213> Artificial Sequence

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

<400> 104
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
85 90 95

Gly Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu
100 105 110

Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp
115 120 125

Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly
130 135 140

Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly
145 150 155 160

Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly
165 170 175

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
180 185 190

<210> 105
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 105
atgggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 60

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 120

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 180

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcgat ggtgtttaca 240

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 300

gagcagggcg gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 360

aggattgtcc tgagcggtga aaacggcctg aagatcgaca tccatgtcat catcccgtat 420

gaaggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 480

gtggatgatc atcactttaa ggtgattctg cactat 516

<210> 106
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 106
Met Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
1 5 10 15

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
20 25 30

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

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

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Met Val Phe Thr
65 70 75 80

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
85 90 95

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
100 105 110

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

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
130 135 140

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
145 150 155 160

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
165 170

<210> 107
<211> 531
<212> DNA
<213> Artificial Sequence

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

<400> 107
atgggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 60

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 120

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 180

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg gagctccggt 240

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 300

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 360

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 420

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 480

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta t 531

<210> 108
<211> 177
<212> PRT
<213> Artificial Sequence

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

<400> 108

Met Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
1 5 10 15

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
20 25 30

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

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

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

Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
85 90 95

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
100 105 110

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

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
130 135 140

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
145 150 155 160

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
165 170 175

Tyr

<210> 109
<211> 546
<212> DNA
<213> Artificial Sequence

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

<400> 109
atgggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 60

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 120

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 180

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt 240

ggagggagct ccggtggaat ggtgtttaca ctcgaagatt tcgtagggga ctggcggcag 300

acagccggct acaacctgga ccaagtcctt gagcagggcg gtgtgtccag tttgtttcag 360

aatctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 420

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 480

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 540

cactat 546

<210> 110
<211> 182
<212> PRT
<213> Artificial Sequence

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

<400> 110

Met Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
1 5 10 15

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
20 25 30

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

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

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

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
85 90 95

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

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
115 120 125

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
130 135 140

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
145 150 155 160

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
165 170 175

Lys Val Ile Leu His Tyr
180

<210> 111
<211> 576
<212> DNA
<213> Artificial Sequence

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

<400> 111
atgggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 60

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 120

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 180

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt 240

ggagggagct ccggtggagg aagttctggt ggagggagct ccggtggaat ggtgtttaca 300

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 360

gagcagggcg gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 420

aggattgtcc tgagcggtga aaacggcctg aagatcgaca tccatgtcat catcccgtat 480

gaaggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 540

gtggatgatc atcactttaa ggtgattctg cactat 576

<210> 112
<211> 192
<212> PRT
<213> Artificial Sequence

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

<400> 112
Met Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
1 5 10 15

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
20 25 30

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

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

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

Gly Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
85 90 95

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

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
115 120 125

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
130 135 140

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
145 150 155 160

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
165 170 175

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
180 185 190

<210> 113
<211> 5
<212> PRT
<213> Artificial Sequence

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

<400> 113
Gly Ser Ser Gly Gly
1 5

<210> 114
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 114
atggatttcg taggggactg gcggcagaca gccggctaca acctggacca agtccttgag 60

cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 120

attgtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 180

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 240

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 300

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 360

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 420

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 480

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 540

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 600

gtgtttacac tcgaa 615

<210> 115
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 115
Met Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp
1 5 10 15

Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly
20 25 30

Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly
35 40 45

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

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
65 70 75 80

Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
85 90 95

Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
100 105 110

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
115 120 125

Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly
130 135 140

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
145 150 155 160

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
165 170 175

Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser
180 185 190

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

<210> 116
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 116
atgttcgtag gggactggcg gcagacagcc ggctacaacc tggaccaagt ccttgagcag 60

ggcggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 120

gtcctgagcg gtgaaaacgg cctgaagatc gacatccatg tcatcatccc gtatgaaggt 180

ctgagcggcg atcagatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 240

gatcatcact ttaaggtgat tctgcactat ggcacactgg taatcgacgg ggttacgccg 300

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 360

atcactgtaa ccgggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 420

cccgacggct ccctgctgtt ccgcgtaacc atcaacggag tgaccggctg gcggctgtgc 480

gagcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 540

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 600

tttacactcg aagat 615

<210> 117
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 117
Met Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
1 5 10 15

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
20 25 30

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
35 40 45

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

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
65 70 75 80

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
85 90 95

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
100 105 110

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
115 120 125

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
130 135 140

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
145 150 155 160

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
165 170 175

Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly
180 185 190

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
195 200 205

<210> 118
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 118
atggtagggg actggcggca gacagccggc tacaacctgg accaagtcct tgagcagggc 60

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc 120

ctgagcggtg aaaacggcct gaagatcgac atccatgtca tcatcccgta tgaaggtctg 180

agcggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 240

catcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 300

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 360

actgtaaccg ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 420

gacggctccc tgctgttccg cgtaaccatc aacggagtga ccggctggcg gctgtgcgag 480

cgcattttgg cgggaagttc tggtggagga agttctggtg gagagcctac tactgagaac 540

ttgtacttcc agagcgataa cggaagttct ggtggaggaa gttctggtgg aatggtgttt 600

acactcgaag atttc 615

<210> 119
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 119
Met Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
1 5 10 15

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
20 25 30

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
35 40 45

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
50 55 60

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
65 70 75 80

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
85 90 95

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
100 105 110

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
115 120 125

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
130 135 140

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
145 150 155 160

Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro
165 170 175

Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly
180 185 190

Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe
195 200 205

<210> 120
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 120
atggactggc ggcagacagc cggctacaac ctggaccaag tccttgagca gggcggtgtg 60

tccagtttgt ttcagaatct cggggtgtcc gtaactccga tccaaaggat tgtcctgagc 120

ggtgaaaacg gcctgaagat cgacatccat gtcatcatcc cgtatgaagg tctgagcggc 180

gatcagatgg gccagatcga aaaaattttt aaggtggtgt accctgtgga tgatcatcac 240

tttaaggtga ttctgcacta tggcacactg gtaatcgacg gggttacgcc gaacatgatc 300

gactatttcg gacggccgta tgaaggcatc gccgtgttcg acggcaaaaa gatcactgta 360

accgggaccc tgtggaacgg caacaaaatt atcgacgagc gcctgatcaa ccccgacggc 420

tccctgctgt tccgcgtaac catcaacgga gtgaccggct ggcggctgtg cgagcgcatt 480

ttggcgggaa gttctggtgg aggaagttct ggtggagagc ctactactga gaacttgtac 540

ttccagagcg ataacggaag ttctggtgga ggaagttctg gtggaatggt gtttacactc 600

gaagatttcg taggg 615

<210> 121
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 121
Met Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
1 5 10 15

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
20 25 30

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
35 40 45

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
50 55 60

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
65 70 75 80

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
85 90 95

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
100 105 110

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
115 120 125

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
130 135 140

Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile
145 150 155 160

Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr
165 170 175

Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser
180 185 190

Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
195 200 205

<210> 122
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 122
atgcggcaga cagccggcta caacctggac caagtccttg agcagggcgg tgtgtccagt 60

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 120

aacggcctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgatcag 180

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 240

gtgattctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 300

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaaccggg 360

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 420

ctgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg 480

ggaagttctg gtggaggaag ttctggtgga gagcctacta ctgagaactt gtacttccag 540

agcgataacg gaagttctgg tggaggaagt tctggtggaa tggtgtttac actcgaagat 600

ttcgtagggg actgg 615

<210> 123
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 123
Met Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
1 5 10 15

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
20 25 30

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
35 40 45

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
50 55 60

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys

65 70 75 80

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
85 90 95

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
100 105 110

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
115 120 125

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
130 135 140

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
145 150 155 160

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
165 170 175

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
180 185 190

Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
195 200 205

<210> 124
<211> 603
<212> DNA
<213> Artificial Sequence

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

<400> 124
cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc agtttgttt 60

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 120

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 180

cagatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 240

ctgcactatg gcacactggt aatcgacggg gttacgccga acatgatcga ctatttcgga 300

cggccgtatg aaggcatcgc cgtgttcgac ggcaaaaaga tcactgtaac cgggaccctg 360

tggaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 420

cgcgtaacca tcaacggagt gaccggctgg cggctgtgcg agcgcatttt ggcgggaagt 480

tctggtggag gaagttctgg tggagagcct actactgaga acttgtactt ccagagcgat 540

aacggaagtt ctggtggagg aagttctggt ggaatggtgt ttacactcga agatttcgta 600

ggg 603

<210> 125
<211> 201
<212> PRT
<213> Artificial Sequence

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

<400> 125

```
Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
1               5                   10                  15

Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
            20                  25                  30

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
        35                  40                  45

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
    50                  55                  60

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
65                  70                  75                  80

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
                85                  90                  95

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
            100                 105                 110

Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
        115                 120                 125

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
    130                 135                 140

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
145                 150                 155                 160

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
                165                 170                 175

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
            180                 185                 190

Val Phe Thr Leu Glu Asp Phe Val Gly
        195                 200
```

<210> 126
<211> 615
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 126
atgggctaca acctggacca agtccttgag cagggcggtg tgtccagttt gtttcagaat 60

ctcggggtgt ccgtaactcc gatccaaagg attgtcctga gcggtgaaaa cggcctgaag 120

atcgacatcc atgtcatcat cccgtatgaa ggtctgagcg gcgatcagat gggccagatc 180

gaaaaaattt ttaaggtggt gtaccctgtg gatgatcatc actttaaggt gattctgcac 240

tatggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 300

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 360

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 420

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt 480

ggaggaagtt ctggtggaga gcctactact gagaacttgt acttccagag cgataacgga 540

agttctggtg gaggaagttc tggtggaatg gtgtttacac tcgaagattt cgtaggggac 600

tggcggcaga cagcc 615

<210> 127
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 127
Met Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
1 5 10 15

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val
20 25 30

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
35 40 45

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
50 55 60

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
65 70 75 80

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
85 90 95

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
100 105 110

Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
115 120 125

```
Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
    130                 135                 140

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly
145                 150                 155                 160

Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln
                165                 170                 175

Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe
            180                 185                 190

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
        195                 200                 205
```

<210> 128
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 128
ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 60

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 120

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 180

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 240

gtaatcgacg gggttacgcc gaacatgatc gactatttcg gacggccgta tgaaggcatc 300

gccgtgttcg acggcaaaaa gatcactgta accgggaccc tgtggaacgg caacaaaatt 360

atcgacgagc gcctgatcaa ccccgacggc tccctgctgt tccgcgtaac catcaacgga 420

gtgaccggct ggcggctgtg cgagcgcatt ttggcgggaa gttctggtgg aggaagttct 480

ggtggagagc ctactactga gaacttgtac ttccagagcg ataacggaag ttctggtgga 540

ggaagttctg gtggaatggt gtttacactc gaagatttcg taggggactg gcggcagaca 600

gccggctaca ac 612

<210> 129
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 129
```
Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
1               5                   10                  15
```

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
20 25 30

Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
35 40 45

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
50 55 60

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
65 70 75 80

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
85 90 95

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

Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
115 120 125

Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
130 135 140

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
145 150 155 160

Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly
165 170 175

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
180 185 190

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
195 200

<210> 130
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 130
gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 60

atccaaagga ttgtcctgag cggtgaaaac ggcctgaaga tcgacatcca tgtcatcatc 120

ccgtatgaag gtctgagcgg cgatcagatg ggccagatcg aaaaaatttt taaggtggtg 180

taccctgtgg atgatcatca ctttaaggtg attctgcact atggcacact ggtaatcgac 240

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 300

gacggcaaaa agatcactgt aaccgggacc ctgtggaacg gcaacaaaat tatcgacgag 360

cgcctgatca accccgacgg ctccctgctg ttccgcgtaa ccatcaacgg agtgaccggc 420

tggcggctgt gcgagcgcat tttggcggga agttctggtg gaggaagttc tggtggagag 480

cctactactg agaacttgta cttccagagc gataacggaa gttctggtgg aggaagttct 540

ggtggaatgg tgtttacact cgaagatttc gtaggggact ggcggcagac agccggctac 600

aacctggacc aa 612

<210> 131
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 131
Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
1 5 10 15

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

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
35 40 45

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
50 55 60

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
65 70 75 80

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
85 90 95

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
100 105 110

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
115 120 125

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
130 135 140

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
145 150 155 160

Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly
165 170 175

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly

180 185 190

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
195 200

<210> 132
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 132
cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 60

attgtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 120

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 180

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 240

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 300

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 360

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 420

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 480

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 540

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 600

caagtccttg ag 612

<210> 133
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 133
Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
1 5 10 15

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

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
35 40 45

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
50 55 60

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
65 70 75 80

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
85 90 95

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
100 105 110

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
115 120 125

Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile
130 135 140

Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr
145 150 155 160

Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser
165 170 175

Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg
180 185 190

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
195 200

<210> 134
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 134
gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 60

agcggtgaaa acggcctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 120

ggcgatcaga tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 180

cactttaagg tgattctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 240

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 300

gtaaccggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 360

ggctccctgc tgttccgcgt aaccatcaac ggagtgaccg gctggcggct gtgcgagcgc 420

attttggcgg gaagttctgg tggaggaagt tctggtggag agcctactac tgagaacttg 480

tacttccaga gcgataacgg aagttctggt ggaggaagtt ctggtggaat ggtgtttaca 540

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 600

gagcagggcg gt 612

<210> 135

<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 135
Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
1 5 10 15

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

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
35 40 45

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
50 55 60

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
65 70 75 80

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly
85 90 95

Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
100 105 110

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
115 120 125

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
130 135 140

Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu
145 150 155 160

Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
165 170 175

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
180 185 190

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
195 200

<210> 136
<211> 615
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 136
atgctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 60

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 120

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 180

cactatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 240

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 300

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 360

gtaaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc gggaagttct 420

ggtggaggaa gttctggtgg agagcctact actgagaact tgtacttcca gagcgataac 480

ggaagttctg gtggaggaag ttctggtgga atggtgttta cactcgaaga tttcgtaggg 540

gactggcggc agacagccgg ctacaacctg gaccaagtcc ttgagcaggg cggtgtgtcc 600

agtttgtttc agaat 615

<210> 137
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 137
Met Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
1 5 10 15

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
20 25 30

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

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
50 55 60

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
65 70 75 80

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
85 90 95

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
100 105 110

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
115 120 125

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
130 135 140

Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn
145 150 155 160

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
165 170 175

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
180 185 190

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
195 200 205

<210> 138
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 138
atgccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 60

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 120

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 180

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 240

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 300

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 360

accggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 420

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 480

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 540

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 600

ggggtgtccg taact 615

<210> 139
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 139
Met Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
1 5 10 15

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met

20 25 30

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
35 40 45

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
50 55 60

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
65 70 75 80

Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
85 90 95

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
100 105 110

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
115 120 125

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
130 135 140

Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly
145 150 155 160

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
165 170 175

Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
180 185 190

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
195 200 205

<210> 140
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 140
atgaggattg tcctgagcgg tgaaaacggc ctgaagatcg acatccatgt catcatcccg 60

tatgaaggtc tgagcggcga tcagatgggc cagatcgaaa aaatttttaa ggtggtgtac 120

cctgtggatg atcatcactt taaggtgatt ctgcactatg gcacactggt aatcgacggg 180

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 240

ggcaaaaaga tcactgtaac cgggaccctg tggaacggca acaaaattat cgacgagcgc 300

ctgatcaacc ccgacggctc cctgctgttc cgcgtaacca tcaacggagt gaccggctgg 360

cggctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 420

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 480

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 540

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 600

gtaactccga tccaa 615

<210> 141
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 141

Met Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
1 5 10 15

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
20 25 30

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys
35 40 45

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
50 55 60

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
65 70 75 80

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
85 90 95

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
100 105 110

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
115 120 125

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
130 135 140

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
145 150 155 160

Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
165 170 175

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
180 185 190

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
195 200 205

<210> 142
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 142
atgattgtcc tgagcggtga aaacggcctg aagatcgaca tccatgtcat catcccgtat 60

gaaggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 120

gtggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 180

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 240

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 300

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 360

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 420

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 480

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 540

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 600

actccgatcc aaagg 615

<210> 143
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 143
Met Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val
1 5 10 15

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
20 25 30

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
35 40 45

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
50 55 60

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly
65 70 75 80

Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
85 90 95

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
100 105 110

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
115 120 125

Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu
130 135 140

Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
145 150 155 160

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
165 170 175

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
180 185 190

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
195 200 205

<210> 144
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 144
atggtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 60

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 120

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 180

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 240

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 300

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 360

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 420

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 480

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 540

caagtccttg agcagggcgg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 600

ccgatccaaa ggatt 615

<210> 145
<211> 205

<212> PRT
<213> Artificial Sequence

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

<400> 145
Met Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
1 5 10 15

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
20 25 30

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
35 40 45

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
50 55 60

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
65 70 75 80

Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
85 90 95

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
100 105 110

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
115 120 125

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
130 135 140

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
145 150 155 160

Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly
165 170 175

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
180 185 190

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
195 200 205

<210> 146
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 146
atgctgagcg gtgaaaacgg cctgaagatc gacatccatg tcatcatccc gtatgaaggt 60

ctgagcggcg atcagatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 120

gatcatcact ttaaggtgat tctgcactat ggcacactgg taatcgacgg ggttacgccg 180

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 240

atcactgtaa ccgggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 300

cccgacggct ccctgctgtt ccgcgtaacc atcaacggag tgaccggctg gcggctgtgc 360

gagcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 420

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 480

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 540

gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 600

atccaaagga tt 612

<210> 147
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 147
Met Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile
1 5 10 15

Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile
20 25 30

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
35 40 45

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
50 55 60

Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
65 70 75 80

Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu
85 90 95

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

Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser
115 120 125

Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe

130 135 140

Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val
145 150 155 160

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
165 170 175

Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln
180 185 190

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
195 200

<210> 148
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 148
atgagcggtg aaaacggcct gaagatcgac atccatgtca tcatcccgta tgaaggtctg 60

agcggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 120

catcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 180

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 240

actgtaaccg ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 300

gacggctccc tgctgttccg cgtaaccatc aacggagtga ccggctggcg gctgtgcgag 360

cgcattttgg cgggaagttc tggtggagga agttctggtg gagagcctac tactgagaac 420

ttgtacttcc agagcgataa cggaagttct ggtggaggaa gttctggtgg aatggtgttt 480

acactcgaag atttcgtagg ggactggcgg cagacagccg gctacaacct ggaccaagtc 540

cttgagcagg gcggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 600

caaaggattg tcctg 615

<210> 149
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 149
Met Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
1 5 10 15

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
20 25 30

```
Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
        35                  40                  45

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
    50                  55                  60

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
65                  70                  75                  80

Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
                85                  90                  95

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

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly
        115                 120                 125

Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln
    130                 135                 140

Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe
145                 150                 155                 160

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
                165                 170                 175

Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
            180                 185                 190

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        195                 200                 205
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<210> 150
<211> 616
<212> DNA
<213> Artificial Sequence

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

<400> 150
atgggtgaaa acggcctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 60

ggcgatcaga tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 120

cactttaagg tgattctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 180

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 240

gtaaccggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 300

ggctccctgc tgttccgcgt aaccatcaac ggagtgaccg gctggcggct gtgcgagcgc 360

attttggcgg gaagttctgg tggaggaagt tctggtggag agcctactac tgagaacttg 420

tacttccaga gcgataacgg aagttctggt ggaggaagtt ctggtggaat ggtgtttaca 480

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 540

gagcagggcg gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 600

aggattgtcc tgagcg 616

<210> 151
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 151
Met Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
1 5 10 15

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
20 25 30

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
35 40 45

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
50 55 60

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
65 70 75 80

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
85 90 95

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

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
115 120 125

Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser
130 135 140

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
145 150 155 160

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
165 170 175

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
180 185 190

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
195 200 205

<210> 152
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 152
atggaaaacg gcctgaagat cgacatccat gtcatcatcc cgtatgaagg tctgagcggc 60

gatcagatgg gccagatcga aaaaattttt aaggtggtgt accctgtgga tgatcatcac 120

tttaaggtga ttctgcacta tggcacactg gtaatcgacg gggttacgcc gaacatgatc 180

gactatttcg gacggccgta tgaaggcatc gccgtgttcg acggcaaaaa gatcactgta 240

accgggaccc tgtggaacgg caacaaaatt atcgacgagc gcctgatcaa ccccgacggc 300

tccctgctgt tccgcgtaac catcaacgga gtgaccggct ggcggctgtg cgagcgcatt 360

ttggcgggaa gttctggtgg aggaagttct ggtggagagc ctactactga gaacttgtac 420

ttccagagcg ataacggaag ttctggtgga ggaagttctg gtggaatggt gtttacactc 480

gaagatttcg taggggactg gcggcagaca gccggctaca acctggacca agtccttgag 540

cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 600

attgtcctga gcggt 615

<210> 153
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 153
Met Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
1 5 10 15

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
20 25 30

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
35 40 45

Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly
50 55 60

Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val
65 70 75 80

Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile
85 90 95

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

Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly
115 120 125

Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp
130 135 140

Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu
145 150 155 160

Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp
165 170 175

Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly
180 185 190

Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
195 200 205

<210> 154
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 154
atgaacggcc tgaagatcga catccatgtc atcatcccgt atgaaggtct gagcggcgat 60

cagatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 120

aaggtgattc tgcactatgg cacactggta atcgacgggg ttacgccgaa catgatcgac 180

tatttcggac ggccgtatga aggcatcgcc gtgttcgacg gcaaaaagat cactgtaacc 240

gggaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 300

ctgctgttcc gcgtaaccat caacggagtg accggctggc ggctgtgcga gcgcattttg 360

gcgggaagtt ctggtggagg aagttctggt ggagagccta ctactgagaa cttgtacttc 420

cagagcgata acggaagttc tggtggagga agttctggtg gaatggtgtt tacactcgaa 480

gatttcgtag gggactggcg gcagacagcc ggctacaacc tggaccaagt ccttgagcag 540

ggcggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 600

gtcctgagcg gtgaa 615

<210> 155
<211> 205
<212> PRT

<213> Artificial Sequence

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

<400> 155

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Met Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
1               5                  10                  15

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
            20                  25                  30

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
        35                  40                  45

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
    50                  55                  60

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
65                  70                  75                  80

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
                85                  90                  95

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

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
        115                 120                 125

Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn
    130                 135                 140

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
145                 150                 155                 160

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
                165                 170                 175

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
            180                 185                 190

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
        195                 200                 205
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<210> 156
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 156
atgggcctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgatcag 60

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 120

gtgattctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 180

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaaccggg 240

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 300

ctgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg 360

ggaagttctg gtggaggaag ttctggtgga gagcctacta ctgagaactt gtacttccag 420

agcgataacg gaagttctgg tggaggaagt tctggtggaa tggtgtttac actcgaagat 480

ttcgtagggg actggcggca gacagccggc tacaacctgg accaagtcct tgagcagggc 540

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc 600

ctgagcggtg aaaac 615

<210> 157
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 157
Met Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
1 5 10 15

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
20 25 30

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
35 40 45

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
50 55 60

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
65 70 75 80

Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
85 90 95

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

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
115 120 125

Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly
130 135 140

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
145 150 155 160

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
165 170 175

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
180 185 190

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
195 200 205

<210> 158
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 158
atgctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcagatg 60

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 120

attctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 180

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 240

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 300

ttccgcgtaa ccatcaacgg agtgaccggc tggcggctgt gcgagcgcat tttggcggga 360

agttctggtg gaggaagttc tggtggagag cctactactg agaacttgta cttccagagc 420

gataacggaa gttctggtgg aggaagttct ggtggaatgg tgtttacact cgaagatttc 480

gtaggggact ggcggcagac agccggctac aacctggacc aagtccttga gcagggcggt 540

gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 600

agcggtgaaa acggc 615

<210> 159
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 159
Met Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
1 5 10 15

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
20 25 30

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
35 40 45

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
50 55 60

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
65 70 75 80

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
85 90 95

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
100 105 110

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
115 120 125

Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser
130 135 140

Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe
145 150 155 160

Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu
165 170 175

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
180 185 190

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly
195 200 205

<210> 160
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 160
atgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 60

cagatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 120

ctgcactatg gcacactggt aatcgacggg gttacgccga acatgatcga ctatttcgga 180

cggccgtatg aaggcatcgc cgtgttcgac ggcaaaaaga tcactgtaac cgggaccctg 240

tggaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 300

cgcgtaacca tcaacggagt gaccggctgg cggctgtgcg agcgcatttt ggcgggaagt 360

tctggtggag gaagttctgg tggagagcct actactgaga acttgtactt ccagagcgat 420

aacggaagtt ctggtggagg aagttctggt ggaatggtgt ttacactcga agatttcgta 480

ggggactggc ggcagacagc cggctacaac ctggaccaag tccttgagca gggcggtgtg 540

tccagtttgt ttcagaatct cggggtgtcc gtaactccga tccaaaggat tgtcctgagc 600

ggtgaaaacg gcctg 615

<210> 161
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 161
Met Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly
1 5 10 15

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
20 25 30

Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
35 40 45

Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
50 55 60

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
65 70 75 80

Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly
85 90 95

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
100 105 110

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
115 120 125

Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser
130 135 140

Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val
145 150 155 160

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
165 170 175

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
180 185 190

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
195 200 205

<210> 162
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 162
atgatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 60

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 120

cactatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 180

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 240

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 300

gtaaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc gggaagttct 360

ggtggaggaa gttctggtgg agagcctact actgagaact tgtacttcca gagcgataac 420

ggaagttctg gtggaggaag ttctggtgga atggtgttta cactcgaaga tttcgtaggg 480

gactggcggc agacagccgg ctacaacctg gaccaagtcc ttgagcaggg cggtgtgtcc 540

agtttgtttc agaatctcgg ggtgtccgta actccgatcc aaaggattgt cctgagcggt 600

gaaaacggcc tgaag 615

<210> 163
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 163
Met Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
1 5 10 15

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
20 25 30

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
35 40 45

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
50 55 60

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
65 70 75 80

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser

85 90 95

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
100 105 110

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
115 120 125

Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly
130 135 140

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
145 150 155 160

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
165 170 175

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
180 185 190

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
195 200 205

<210> 164
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 164
atggacatcc atgtcatcat cccgtatgaa ggtctgagcg gcgatcagat gggccagatc 60

gaaaaaattt ttaaggtggt gtaccctgtg gatgatcatc actttaaggt gattctgcac 120

tatggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 180

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 240

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 300

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt 360

ggaggaagtt ctggtggaga gcctactact gagaacttgt acttccagag cgataacgga 420

agttctggtg gaggaagttc tggtggaatg gtgtttacac tcgaagattt cgtaggggac 480

tggcggcaga cagccggcta caacctggac caagtccttg agcagggcgg tgtgtccagt 540

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 600

aacggcctga agatc 615

<210> 165
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 165
Met Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
1 5 10 15

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
20 25 30

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
35 40 45

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
50 55 60

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
65 70 75 80

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
85 90 95

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
100 105 110

Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro
115 120 125

Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly
130 135 140

Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
145 150 155 160

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
165 170 175

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
180 185 190

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
195 200 205

<210> 166
<211> 614
<212> DNA
<213> Artificial Sequence

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

<400> 166

atgatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 60

aaaattttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 120

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 180

gaaggcatcg ccgtgttcga cggcaaaaag atcactgtaa ccgggaccct gtggaacggc 240

aacaaaatta tcgacgagcg cctgatcaac cccgacggct ccctgctgtt ccgcgtaacc 300

atcaacggag tgaccggctg gcggctgtgc gagcgcattt tggcgggaag ttctggtgga 360

ggaagttctg gtggagagcc tactactgag aacttgtact tccagagcga taacggaagt 420

tctggtggag gaagttctgg tggaatggtg tttacactcg aagatttcgt aggggactgg 480

cggcagacag ccggctacaa cctggaccaa gtccttgagc agggcggtgt gtccagtttg 540

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 600

ggcctgaaga tcga 614

<210> 167
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 167
Met Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
1 5 10 15

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
20 25 30

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
35 40 45

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
50 55 60

Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
65 70 75 80

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
85 90 95

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
100 105 110

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
115 120 125

Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly
130 135 140

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
145 150 155 160

Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
165 170 175

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
180 185 190

Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
195 200 205

<210> 168
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 168
atggtcatca tcccgtatga aggtctgagc ggcgatcaga tgggccagat cgaaaaaatt 60

tttaaggtgg tgtaccctgt ggatgatcat cactttaagg tgattctgca ctatggcaca 120

ctggtaatcg acggggttac gccgaacatg atcgactatt tcggacggcc gtatgaaggc 180

atcgccgtgt tcgacggcaa aaagatcact gtaaccggga ccctgtggaa cggcaacaaa 240

attatcgacg agcgcctgat caaccccgac ggctccctgc tgttccgcgt aaccatcaac 300

ggagtgaccg gctggcggct gtgcgagcgc attttggcgg gaagttctgg tggaggaagt 360

tctggtggag agcctactac tgagaacttg tacttccaga gcgataacgg aagttctggt 420

ggaggaagtt ctggtggaat ggtgtttaca ctcgaagatt tcgtagggga ctggcggcag 480

acagccggct acaacctgga ccaagtcctt gagcagggcg gtgtgtccag tttgtttcag 540

aatctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 600

aagatcgaca tccat 615

<210> 169
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 169
Met Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
1 5 10 15

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
20 25 30

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
35 40 45

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
50 55 60

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
65 70 75 80

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
85 90 95

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu
100 105 110

Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu
115 120 125

Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser
130 135 140

Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln
145 150 155 160

Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser
165 170 175

Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
180 185 190

Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
195 200 205

<210> 170
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 170
atgggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 60

gtggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 120

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 180

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 240

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 300

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 360

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 420

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 480

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 540

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 600

atcatcccgt atgaa 615

<210> 171
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 171

Met Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
1 5 10 15

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
20 25 30

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
35 40 45

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
50 55 60

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

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
85 90 95

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
100 105 110

Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser
115 120 125

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
130 135 140

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
145 150 155 160

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
165 170 175

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
180 185 190

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu

195 200 205

<210> 172
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 172
atgggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 60

catcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 120

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 180

actgtaaccg ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 240

gacggctccc tgctgttccg cgtaaccatc aacggagtga ccggctggcg gctgtgcgag 300

cgcattttgg cgggaagttc tggtggagga agttctggtg gagagcctac tactgagaac 360

ttgtacttcc agagcgataa cggaagttct ggtggaggaa gttctggtgg aatggtgttt 420

acactcgaag atttcgtagg ggactggcgg cagacagccg gctacaacct ggaccaagtc 480

cttgagcagg gcggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 540

caaaggattg tcctgagcgg tgaaaacggc ctgaagatcg acatccatgt catcatcccg 600

tatgaaggtc tgagc 615

<210> 173
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 173
Met Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
1 5 10 15

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
20 25 30

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
35 40 45

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
50 55 60

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

Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
85 90 95

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
100 105 110

Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly
115 120 125

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
130 135 140

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
145 150 155 160

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
165 170 175

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
180 185 190

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
195 200 205

<210> 174
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 174
atgatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 60

aaggtgattc tgcactatgg cacactggta atcgacgggg ttacgccgaa catgatcgac 120

tatttcggac ggccgtatga aggcatcgcc gtgttcgacg gcaaaaagat cactgtaacc 180

gggaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 240

ctgctgttcc gcgtaaccat caacggagtg accggctggc ggctgtgcga gcgcattttg 300

gcgggaagtt ctggtggagg aagttctggt ggagagccta ctactgagaa cttgtacttc 360

cagagcgata acggaagttc tggtggagga agttctggtg gaatggtgtt tacactcgaa 420

gatttcgtag gggactggcg gcagacagcc ggctacaacc tggaccaagt ccttgagcag 480

ggcggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 540

gtcctgagcg gtgaaaacgg cctgaagatc gacatccatg tcatcatccc gtatgaaggt 600

ctgagcggcg atcag 615

<210> 175
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 175
Met Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
1 5 10 15

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
20 25 30

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
35 40 45

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
50 55 60

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

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
85 90 95

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

Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly
115 120 125

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
130 135 140

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
145 150 155 160

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
165 170 175

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
180 185 190

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
195 200 205

<210> 176
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 176
atgatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 60

ctgcactatg gcacactggt aatcgacggg gttacgccga acatgatcga ctatttcgga 120

cggccgtatg aaggcatcgc cgtgttcgac ggcaaaaaga tcactgtaac cgggaccctg 180

tggaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 240

cgcgtaacca tcaacggagt gaccggctgg cggctgtgcg agcgcatttt ggcgggaagt 300

tctggtggag gaagttctgg tggagagcct actactgaga acttgtactt ccagagcgat 360

aacggaagtt ctggtggagg aagttctggt ggaatggtgt ttacactcga agatttcgta 420

ggggactggc ggcagacagc cggctacaac ctggaccaag tccttgagca gggcggtgtg 480

tccagtttgt ttcagaatct cggggtgtcc gtaactccga tccaaaggat tgtcctgagc 540

ggtgaaaacg gcctgaagat cgacatccat gtcatcatcc cgtatgaagg tctgagcggc 600

gatcagatgg gccag 615

<210> 177
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 177

Met	Ile	Glu	Lys	Ile	Phe	Lys	Val	Val	Tyr	Pro	Val	Asp	Asp	His	His
1				5				10					15		
Phe	Lys	Val	Ile	Leu	His	Tyr	Gly	Thr	Leu	Val	Ile	Asp	Gly	Val	Thr
			20					25					30		
Pro	Asn	Met	Ile	Asp	Tyr	Phe	Gly	Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val
		35					40					45			
Phe	Asp	Gly	Lys	Lys	Ile	Thr	Val	Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn
	50					55					60				
Lys	Ile	Ile	Asp	Glu	Arg	Leu	Ile	Asn	Pro	Asp	Gly	Ser	Leu	Leu	Phe
65					70					75					80
Arg	Val	Thr	Ile	Asn	Gly	Val	Thr	Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile
				85					90					95	
Leu	Ala	Gly	Ser	Ser	Gly	Gly	Gly	Ser	Ser	Gly	Gly	Glu	Pro	Thr	Thr
			100					105					110		
Glu	Asn	Leu	Tyr	Phe	Gln	Ser	Asp	Asn	Gly	Ser	Ser	Gly	Gly	Gly	Ser
		115					120					125			
Ser	Gly	Gly	Met	Val	Phe	Thr	Leu	Glu	Asp	Phe	Val	Gly	Asp	Trp	Arg
	130					135					140				

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
145 150 155 160

Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
165 170 175

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
180 185 190

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
195 200 205

<210> 178
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 178
atgattttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 60

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 120

gaaggcatcg ccgtgttcga cggcaaaaag atcactgtaa ccgggaccct gtggaacggc 180

aacaaaatta tcgacgagcg cctgatcaac cccgacggct ccctgctgtt ccgcgtaacc 240

atcaacggag tgaccggctg gcggctgtgc gagcgcattt tggcgggaag ttctggtgga 300

ggaagttctg gtggagagcc tactactgag aacttgtact tccagagcga taacggaagt 360

tctggtggag gaagttctgg tggaatggtg tttacactcg aagatttcgt aggggactgg 420

cggcagacag ccggctacaa cctggaccaa gtccttgagc agggcggtgt gtccagtttg 480

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 540

ggcctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcagatg 600

ggccagatcg aaaaa 615

<210> 179
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 179
Met Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
1 5 10 15

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
20 25 30

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly

35 40 45

Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
50 55 60

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

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
85 90 95

Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu
100 105 110

Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
115 120 125

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
130 135 140

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
145 150 155 160

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
165 170 175

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
180 185 190

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
195 200 205

<210> 180
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 180
atggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 60

gtaatcgacg gggttacgcc gaacatgatc gactatttcg gacggccgta tgaaggcatc 120

gccgtgttcg acggcaaaaa gatcactgta accgggaccc tgtggaacgg caacaaaatt 180

atcgacgagc gcctgatcaa ccccgacggc tccctgctgt tccgcgtaac catcaacgga 240

gtgaccggct ggcggctgtg cgagcgcatt ttggcgggaa gttctggtgg aggaagttct 300

ggtggagagc ctactactga gaacttgtac ttccagagcg ataacggaag ttctggtgga 360

ggaagttctg gtggaatggt gtttacactc gaagatttcg taggggactg gcggcagaca 420

gccggctaca acctggacca agtccttgag cagggcggtg tgtccagttt gtttcagaat 480

ctcggggtgt ccgtaactcc gatccaaagg attgtcctga gcggtgaaaa cggcctgaag 540

atcgacatcc atgtcatcat cccgtatgaa ggtctgagcg gcgatcagat gggccagatc 600

gaaaaaattt ttaag 615

<210> 181
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 181
Met Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
1 5 10 15

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
20 25 30

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
35 40 45

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

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

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly
85 90 95

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

Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe
115 120 125

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
130 135 140

Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
145 150 155 160

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

Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
180 185 190

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
195 200 205

<210> 182
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 182
atggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 60

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 120

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 180

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 240

accggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 300

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 360

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 420

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 480

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaacgg cctgaagatc 540

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 600

aaaatttta aggtg 615

<210> 183
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 183
Met Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
1 5 10 15

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
20 25 30

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
35 40 45

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

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

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
85 90 95

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

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
115 120 125

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
130 135 140

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
145 150 155 160

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
165 170 175

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
180 185 190

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
195 200 205

<210> 184
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 184
atgtaccctg tggatgatca tcactttaag gtgattctgc actatggcac actggtaatc 60

gacggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 120

ttcgacggca aaaagatcac tgtaaccggg accctgtgga acggcaacaa aattatcgac 180

gagcgcctga tcaaccccga cggctccctg ctgttccgcg taaccatcaa cggagtgacc 240

ggctggcggc tgtgcgagcg cattttggcg ggaagttctg gtggaggaag ttctggtgga 300

gagcctacta ctgagaactt gtacttccag agcgataacg gaagttctgg tggaggaagt 360

tctggtggaa tggtgtttac actcgaagat ttcgtagggg actggcggca gacagccggc 420

tacaacctgg accaagtcct tgagcagggc ggtgtgtcca gtttgtttca gaatctcggg 480

gtgtccgtaa ctccgatcca aaggattgtc ctgagcggtg aaaacggcct gaagatcgac 540

atccatgtca tcatcccgta tgaaggtctg agcggcgatc agatgggcca gatcgaaaaa 600

atttttaagg tggtg 615

<210> 185
<211> 205
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 185
Met Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
1 5 10 15

Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly
20 25 30

Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val
35 40 45

Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile
50 55 60

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

Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly
85 90 95

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

Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu
115 120 125

Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp
130 135 140

Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly
145 150 155 160

Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly
165 170 175

Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly
180 185 190

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
195 200 205

<210> 186
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 186
atgcctgtgg atgatcatca ctttaaggtg attctgcact atggcacact ggtaatcgac 60

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 120

gacggcaaaa agatcactgt aaccgggacc ctgtggaacg gcaacaaaat tatcgacgag 180

cgcctgatca accccgacgg ctccctgctg ttccgcgtaa ccatcaacgg agtgaccggc 240

tggcggctgt gcgagcgcat tttggcggga agttctggtg gaggaagttc tggtggagag 300

cctactactg agaacttgta cttccagagc gataacggaa gttctggtgg aggaagttct 360

ggtggaatgg tgtttacact cgaagatttc gtaggggact ggcggcagac agccggctac 420

aacctggacc aagtccttga gcagggcggt gtgtccagtt tgtttcagaa tctcggggtg 480

tccgtaactc cgatccaaag gattgtcctg agcggtgaaa acggcctgaa gatcgacatc 540

catgtcatca tcccgtatga aggtctgagc ggcgatcaga tgggccagat cgaaaaaatt 600

tttaaggtgg tgtac 615

<210> 187
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 187

Met Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
1 5 10 15

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
20 25 30

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
35 40 45

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
50 55 60

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

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
85 90 95

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

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
115 120 125

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
130 135 140

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val

145 150 155 160

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
165 170 175

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
180 185 190

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
195 200 205

<210> 188
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 188
atggtggatg atcatcactt taaggtgatt ctgcactatg gcacactggt aatcgacggg 60

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 120

ggcaaaaaga tcactgtaac cgggaccctg tggaacggca acaaaattat cgacgagcgc 180

ctgatcaacc ccgacggctc cctgctgttc cgcgtaacca tcaacggagt gaccggctgg 240

cggctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 300

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 360

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 420

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 480

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 540

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 600

aaggtggtgt accct 615

<210> 189
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 189
Met Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
1 5 10 15

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
20 25 30

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
35 40 45

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

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

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
85 90 95

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

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
115 120 125

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
130 135 140

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
145 150 155 160

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
165 170 175

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
180 185 190

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
195 200 205

<210> 190
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 190
atggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 300

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 360

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 420

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 480

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 540

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 600

gtggtgtacc ctgtg 615

<210> 191
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 191

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Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1               5                   10                  15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
            20                  25                  30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
        35                  40                  45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65                  70                  75                  80

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
                85                  90                  95

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

Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe
        115                 120                 125

Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu
    130                 135                 140

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
145                 150                 155                 160

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
                165                 170                 175

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
            180                 185                 190

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
        195                 200                 205
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<210> 192
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 192
atggatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 60

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 120

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 180

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 240

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 300

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 360

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 420

caagtccttg agcagggcgg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 480

ccgatccaaa ggattgtcct gagcggtgaa aacggcctga agatcgacat ccatgtcatc 540

atcccgtatg aaggtctgag cggcgatcag atgggccaga tcgaaaaaat ttttaaggtg 600

gtgtaccctg tggat 615

<210> 193
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 193
Met Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
1 5 10 15

Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
20 25 30

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
35 40 45

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

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
65 70 75 80

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
85 90 95

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

Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val
115 120 125

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
130 135 140

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
145 150 155 160

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
165 170 175

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
180 185 190

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
195 200 205

<210> 194
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 194
atgcatcact ttaaggtgat tctgcactat ggcacactgg taatcgacgg ggttacgccg 60

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 120

atcactgtaa ccgggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 180

cccgacggct ccctgctgtt ccgcgtaacc atcaacggag tgaccggctg gcggctgtgc 240

gagcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 300

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 360

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 420

gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaac ggcctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgatcagatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgat 615

<210> 195
<211> 205
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 195
Met His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
1 5 10 15

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
20 25 30

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
35 40 45

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
50 55 60

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
65 70 75 80

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
85 90 95

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

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
195 200 205

<210> 196
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 196
atgcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 60

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 120

actgtaaccg ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 180

gacggctccc tgctgttccg cgtaaccatc aacggagtga ccggctggcg gctgtgcgag 240

cgcattttgg cgggaagttc tggtggagga agttctggtg gagagcctac tactgagaac 300

ttgtacttcc agagcgataa cggaagttct ggtggaggaa gttctggtgg aatggtgttt 360

acactcgaag atttcgtagg ggactggcgg cagacagccg gctacaacct ggaccaagtc 420

cttgagcagg gcggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 480

caaaggattg tcctgagcgg tgaaaacggc ctgaagatcg acatccatgt catcatcccg 540

tatgaaggtc tgagcggcga tcagatgggc cagatcgaaa aaatttttaa ggtggtgtac 600

cctgtggatg atcat 615

<210> 197
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 197
Met His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
1 5 10 15

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
20 25 30

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
35 40 45

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
50 55 60

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
65 70 75 80

Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro
85 90 95

Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly
100 105 110

Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
115 120 125

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
130 135 140

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
145 150 155 160

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
165 170 175

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
180 185 190

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
195 200 205

<210> 198
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 198
atgtttaagg tgattctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 60

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 120

gtaaccggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 180

ggctccctgc tgttccgcgt aaccatcaac ggagtgaccg gctggcggct gtgcgagcgc 240

attttggcgg gaagttctgg tggaggaagt tctggtggag agcctactac tgagaacttg 300

tacttccaga gcgataacgg aagttctggt ggaggaagtt ctggtggaat ggtgtttaca 360

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 420

gagcagggcg gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 480

aggattgtcc tgagcggtga aaacggcctg aagatcgaca tccatgtcat catcccgtat 540

gaaggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 600

gtggatgatc atcac 615

<210> 199
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 199
Met Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
1 5 10 15

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
20 25 30

Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
35 40 45

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

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
65                  70                  75                  80

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
                85                  90                  95

Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly
            100                 105                 110

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
        115                 120                 125

Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
    130                 135                 140

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
145                 150                 155                 160

Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val
                165                 170                 175

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
            180                 185                 190

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
        195                 200                 205
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<210> 200
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 200

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atgattctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat       60

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaaccggg      120

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg      180

ctgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg      240

ggaagttctg gtggaggaag ttctggtgga gagcctacta ctgagaactt gtacttccag      300

agcgataacg gaagttctgg tggaggaagt tctggtggaa tggtgtttac actcgaagat      360

ttcgtagggg actggcggca gacagccggc tacaacctgg accaagtcct tgagcagggc      420

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc      480

ctgagcggtg aaaacggcct gaagatcgac atccatgtca tcatcccgta tgaaggtctg      540
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agcggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 600

catcacttta aggtg 615

<210> 201
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 201
Met Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
1 5 10 15

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
20 25 30

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
35 40 45

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
50 55 60

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
65 70 75 80

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
85 90 95

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
100 105 110

Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
115 120 125

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
130 135 140

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val
145 150 155 160

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
165 170 175

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
180 185 190

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
195 200 205

<210> 202
<211> 616
<212> DNA
<213> Artificial Sequence

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

<400> 202
atgtatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 60

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 120

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 180

gtaaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc gggaagttct 240

ggtggaggaa gttctggtgg agagcctact actgagaact tgtacttcca gagcgataac 300

ggaagttctg gtggaggaag ttctggtgga atggtgttta cactcgaaga tttcgtaggg 360

gactggcggc agacagccgg ctacaacctg gaccaagtcc ttgagcaggg cggtgtgtcc 420

agtttgtttc agaatctcgg ggtgtccgta actccgatcc aaaggattgt cctgagcggt 480

gaaaacggcc tgaagatcga catccatgtc atcatcccgt atgaaggtct gagcggcgat 540

cagatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 600

aaggtgattc tgcacg 616

<210> 203
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 203
Met Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
1 5 10 15

Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
20 25 30

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

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

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

Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe
85 90 95

Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val

100 105 110

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
115 120 125

Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln
130 135 140

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
145 150 155 160

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
165 170 175

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
180 185 190

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
195 200 205

<210> 204
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 204
atgggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 60

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 120

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta 180

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt 240

ggaggaagtt ctggtggaga gcctactact gagaacttgt acttccagag cgataacgga 300

agttctggtg gaggaagttc tggtggaatg gtgtttacac tcgaagattt cgtaggggac 360

tggcggcaga cagccggcta caacctggac caagtccttg agcagggcgg tgtgtccagt 420

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 480

aacggcctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgatcag 540

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 600

gtgattctgc actat 615

<210> 205
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 205
Met Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
1 5 10 15

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
20 25 30

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

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

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

Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln
85 90 95

Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe
100 105 110

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
115 120 125

Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
130 135 140

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
145 150 155 160

Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
165 170 175

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
180 185 190

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
195 200 205

<210> 206
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 206
atgctggtaa tcgacggggt tacgccgaac atgatcgact atttcggacg gccgtatgaa 60

ggcatcgccg tgttcgacgg caaaaagatc actgtaaccg ggaccctgtg gaacggcaac 120

aaaattatcg acgagcgcct gatcaacccc gacggctccc tgctgttccg cgtaaccatc 180

aacggagtga ccggctggcg gctgtgcgag cgcattttgg cgggaagttc tggtggagga 240

agttctggtg gagagcctac tactgagaac ttgtacttcc agagcgataa cggaagttct 300

ggtggaggaa gttctggtgg aatggtgttt acactcgaag atttcgtagg ggactggcgg 360

cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 420

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 480

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 540

cagatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 600

ctgcactatg gcaca 615

<210> 207
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 207

Met	Leu	Val	Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe	Gly
1				5				10					15		
Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Lys	Ile	Thr	Val
			20					25					30		
Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp	Glu	Arg	Leu	Ile
		35					40					45			
Asn	Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile	Asn	Gly	Val	Thr
	50					55					60				
Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile	Leu	Ala	Gly	Ser	Ser	Gly	Gly	Gly
65					70					75					80
Ser	Ser	Gly	Gly	Glu	Pro	Thr	Thr	Glu	Asn	Leu	Tyr	Phe	Gln	Ser	Asp
				85					90					95	
Asn	Gly	Ser	Ser	Gly	Gly	Gly	Ser	Ser	Gly	Gly	Met	Val	Phe	Thr	Leu
			100					105					110		
Glu	Asp	Phe	Val	Gly	Asp	Trp	Arg	Gln	Thr	Ala	Gly	Tyr	Asn	Leu	Asp
		115					120					125			
Gln	Val	Leu	Glu	Gln	Gly	Gly	Val	Ser	Ser	Leu	Phe	Gln	Asn	Leu	Gly
	130					135					140				
Val	Ser	Val	Thr	Pro	Ile	Gln	Arg	Ile	Val	Leu	Ser	Gly	Glu	Asn	Gly
145					150					155					160

Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly
165 170 175

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
180 185 190

Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
195 200 205

<210> 208
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 208
atggacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 60

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 120

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 180

accggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 240

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 300

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 360

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 420

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaacgg cctgaagatc 480

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 540

aaaatttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 600

ggcacactgg taatc 615

<210> 209
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 209
Met Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
1 5 10 15

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
20 25 30

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
50 55 60

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
65 70 75 80

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

Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe
100 105 110

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

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
130 135 140

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
145 150 155 160

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
165 170 175

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
180 185 190

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
195 200 205

<210> 210
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 210
atgggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 60

ttcgacggca aaaagatcac tgtaaccggg accctgtgga acggcaacaa aattatcgac 120

gagcgcctga tcaaccccga cggctccctg ctgttccgcg taaccatcaa cggagtgacc 180

ggctggcggc tgtgcgagcg cattttggcg ggaagttctg gtggaggaag ttctggtgga 240

gagcctacta ctgagaactt gtacttccag agcgataacg gaagttctgg tggaggaagt 300

tctggtggaa tggtgtttac actcgaagat ttcgtagggg actggcggca gacagccggc 360

tacaacctgg accaagtcct tgagcagggc ggtgtgtcca gtttgtttca gaatctcggg 420

gtgtccgtaa ctccgatcca aaggattgtc ctgagcggtg aaaacggcct gaagatcgac 480

atccatgtca tcatcccgta tgaaggtctg agcggcgatc agatgggcca gatcgaaaaa 540

attttaagg tggtgtaccc tgtggatgat catcacttta aggtgattct gcactatggc 600

acactggtaa tcgac 615

<210> 211
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 211

Met Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
1 5 10 15

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
20 25 30

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

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
50 55 60

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
65 70 75 80

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

Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val
100 105 110

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
115 120 125

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

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

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
165 170 175

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
180 185 190

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
195 200 205

<210> 212

<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 212
atggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 60

gacggcaaaa agatcactgt aaccgggacc ctgtggaacg gcaacaaaat tatcgacgag 120

cgcctgatca accccgacgg ctccctgctg ttccgcgtaa ccatcaacgg agtgaccggc 180

tggcggctgt gcgagcgcat tttggcggga agttctggtg gaggaagttc tggtggagag 240

cctactactg agaacttgta cttccagagc gataacggaa gttctggtgg aggaagttct 300

ggtggaatgg tgtttacact cgaagatttc gtaggggact ggcggcagac agccggctac 360

aacctggacc aagtccttga gcagggcggt gtgtccagtt tgtttcagaa tctcggggtg 420

tccgtaactc cgatccaaag gattgtcctg agcggtgaaa acggcctgaa gatcgacatc 480

catgtcatca tcccgtatga aggtctgagc ggcgatcaga tgggccagat cgaaaaaatt 540

tttaaggtgg tgtaccctgt ggatgatcat cactttaagg tgattctgca ctatggcaca 600

ctggtaatcg acggg 615

<210> 213
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 213
Met Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
1 5 10 15

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
20 25 30

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
35 40 45

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
50 55 60

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
65 70 75 80

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

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
100 105 110

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
115 120 125

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
130 135 140

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

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
165 170 175

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
180 185 190

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
195 200 205

<210> 214
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 214
atgacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 60

ggcaaaaaga tcactgtaac cgggaccctg tggaacggca acaaaattat cgacgagcgc 120

ctgatcaacc ccgacggctc cctgctgttc cgcgtaacca tcaacggagt gaccggctgg 180

cggctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 240

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 300

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 360

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 420

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 480

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 540

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 600

gtaatcgacg gggtt 615

<210> 215
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 215
Met Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
1 5 10 15

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

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
35 40 45

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
50 55 60

Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro
65 70 75 80

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

Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
100 105 110

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
115 120 125

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
130 135 140

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

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
165 170 175

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys
180 185 190

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
195 200 205

<210> 216
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 216
atgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 60

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 120

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 180

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 240

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 300

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 360

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 420

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 480

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 540

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 600

atcgacgggg ttacg 615

<210> 217
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 217

Met Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
1 5 10 15

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

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
35 40 45

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
50 55 60

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
65 70 75 80

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

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
100 105 110

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

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
130 135 140

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

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
165 170 175

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
180 185 190

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
195 200 205

<210> 218
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 218
atgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 60

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 120

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 180

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 240

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 300

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 360

caagtccttg agcagggcgg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 420

ccgatccaaa ggattgtcct gagcggtgaa aacggcctga agatcgacat ccatgtcatc 480

atcccgtatg aaggtctgag cggcgatcag atgggccaga tcgaaaaaat ttttaaggtg 540

gtgtaccctg tggatgatca tcactttaag gtgattctgc actatggcac actggtaatc 600

gacggggtta cg 612

<210> 219
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 219
Met Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
1 5 10 15

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

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
35 40 45

Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile

50 55 60

Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr
65 70 75 80

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

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

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
115 120 125

Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
130 135 140

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
145 150 155 160

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
165 170 175

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
180 185 190

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
195 200

<210> 220
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 220
atgatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 60

atcactgtaa ccgggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 120

cccgacggct ccctgctgtt ccgcgtaacc atcaacggag tgaccggctg gcggctgtgc 180

gagcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 240

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 300

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 360

gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 420

atccaaagga ttgtcctgag cggtgaaaac ggcctgaaga tcgacatcca tgtcatcatc 480

ccgtatgaag gtctgagcgg cgatcagatg ggccagatcg aaaaaatttt taaggtggtg 540

taccctgtgg atgatcatca ctttaaggtg attctgcact atggcacact ggtaatcgac 600

ggggttacgc cgaac 615

<210> 221
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 221
Met Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
1 5 10 15

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

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
35 40 45

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu
50 55 60

Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu
65 70 75 80

Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser
85 90 95

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

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

Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
130 135 140

Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile
145 150 155 160

Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile
165 170 175

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
180 185 190

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
195 200 205

<210> 222
<211> 615

<212> DNA
<213> Artificial Sequence

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

<400> 222
atgtatttcg gacggccgta tgaaggcatc gccgtgttcg acggcaaaaa gatcactgta 60

accgggaccc tgtggaacgg caacaaaatt atcgacgagc gcctgatcaa ccccgacggc 120

tccctgctgt tccgcgtaac catcaacgga gtgaccggct ggcggctgtg cgagcgcatt 180

ttggcgggaa gttctggtgg aggaagttct ggtggagagc ctactactga gaacttgtac 240

ttccagagcg ataacggaag ttctggtgga ggaagttctg gtggaatggt gtttacactc 300

gaagatttcg taggggactg gcggcagaca gccggctaca acctggacca agtccttgag 360

cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 420

attgtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 480

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 540

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 600

ccgaacatga tcgac 615

<210> 223
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 223
Met Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
1 5 10 15

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

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
35 40 45

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
50 55 60

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
65 70 75 80

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
85 90 95

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

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
115 120 125

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
130 135 140

Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
145 150 155 160

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
165 170 175

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
180 185 190

Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
195 200 205

<210> 224
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 224
atgcggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 60

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 120

ttccgcgtaa ccatcaacgg agtgaccggc tggcggctgt gcgagcgcat tttggcggga 180

agttctggtg gaggaagttc tggtggagag cctactactg agaacttgta cttccagagc 240

gataacggaa gttctggtgg aggaagttct ggtggaatgg tgtttacact cgaagatttc 300

gtaggggact ggcggcagac agccggctac aacctggacc aagtccttga gcagggcggt 360

gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 420

agcggtgaaa acggcctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 480

ggcgatcaga tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 540

cactttaagg tgattctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 600

atcgactatt tcgga 615

<210> 225
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 225

```
Met Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
1               5                  10                  15

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

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
        35                  40                  45

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
    50                  55                  60

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

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
                85                  90                  95

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

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
        115                 120                 125

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
    130                 135                 140

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
145                 150                 155                 160

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
                165                 170                 175

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
            180                 185                 190

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly
        195                 200                 205


<210> 226
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 226
atggaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac       60

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgcgta      120

accatcaacg gagtgaccgg ctggcggctg tgcgagcgca ttttggcggg aagttctggt      180
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ggaggaagtt ctggtggaga gcctactact gagaacttgt acttccagag cgataacgga 240

agttctggtg gaggaagttc tggtggaatg gtgtttacac tcgaagattt cgtaggggac 300

tggcggcaga cagccggcta caacctggac caagtccttg agcagggcgg tgtgtccagt 360

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 420

aacggcctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgatcag 480

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 540

gtgattctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 600

ttcggacggc cgtat 615

<210> 227
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 227
Met Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
1 5 10 15

Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
20 25 30

Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
35 40 45

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
50 55 60

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

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
85 90 95

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

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
115 120 125

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
130 135 140

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
145 150 155 160

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp

165 170 175

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
180 185 190

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
195 200 205

<210> 228
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 228
atgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 60

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 120

accggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 180

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 240

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 300

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 360

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaacgg cctgaagatc 420

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 480

aaaatttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 540

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 600

gaaggcatcg tggcc 615

<210> 229
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 229
Met Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
1 5 10 15

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
20 25 30

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
35 40 45

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
50 55 60

Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly
65 70 75 80

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
85 90 95

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

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

Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val
130 135 140

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
145 150 155 160

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
165 170 175

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
180 185 190

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Val Ala
195 200 205

<210> 230
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 230
atggacggca aaaagatcac tgtaaccggg accctgtgga acggcaacaa aattatcgac 60

gagcgcctga tcaaccccga cggctccctg ctgttccgcg taaccatcaa cggagtgacc 120

ggctggcggc tgtgcgagcg cattttggcg ggaagttctg gtggaggaag ttctggtgga 180

gagcctacta ctgagaactt gtacttccag agcgataacg gaagttctgg tggaggaagt 240

tctggtggaa tggtgtttac actcgaagat ttcgtagggg actggcggca gacagccggc 300

tacaacctgg accaagtcct tgagcagggc ggtgtgtcca gtttgtttca gaatctcggg 360

gtgtccgtaa ctccgatcca aaggattgtc ctgagcggtg aaaacggcct gaagatcgac 420

atccatgtca tcatcccgta tgaaggtctg agcggcgatc agatgggcca gatcgaaaaa 480

atttttaagg tggtgtaccc tgtggatgat catcacttta aggtgattct gcactatggc 540

acactggtaa tcgacggggt tacgccgaac atgatcgact atttcggacg gccgtatgaa 600

ggcatcgccg tgttc 615

<210> 231
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 231

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Met Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
1               5                  10                  15

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
            20                  25                  30

Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile
        35                  40                  45

Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr
    50                  55                  60

Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser
65                  70                  75                  80

Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg
                85                  90                  95

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
            100                 105                 110

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

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
    130                 135                 140

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
145                 150                 155                 160

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
                165                 170                 175

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
            180                 185                 190

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
        195                 200                 205
```

<210> 232
<211> 615
<212> DNA

<213> Artificial Sequence

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

<400> 232
atgaaaaaga tcactgtaac cgggaccctg tggaacggca acaaaattat cgacgagcgc 60

ctgatcaacc ccgacggctc cctgctgttc cgcgtaacca tcaacggagt gaccggctgg 120

cggctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 180

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 240

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 300

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 360

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 420

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 480

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 540

gtaatcgacg gggttacgcc gaacatgatc gactatttcg gacggccgta tgaaggcatc 600

gccgtgttcg acggc 615

<210> 233
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 233
Met Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
1 5 10 15

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
20 25 30

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
35 40 45

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
50 55 60

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
65 70 75 80

Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
85 90 95

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
100 105 110

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

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
130 135 140

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
145 150 155 160

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
165 170 175

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
180 185 190

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly
195 200 205

<210> 234
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 234
atgaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 60

atcaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 120

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 180

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 240

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 300

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 360

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 420

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 480

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 540

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 600

gtgttcgacg gcaaa 615

<210> 235
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 235
Met Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile

1 5 10 15

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
20 25 30

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
35 40 45

Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu
50 55 60

Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
65 70 75 80

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
85 90 95

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
100 105 110

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

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
130 135 140

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
145 150 155 160

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
165 170 175

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
180 185 190

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
195 200 205

<210> 236
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 236
atgatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 60

aaccccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 120

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 180

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 240

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 300

caagtccttg agcagggcgg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 360

ccgatccaaa ggattgtcct gagcggtgaa aacggcctga agatcgacat ccatgtcatc 420

atcccgtatg aaggtctgag cggcgatcag atgggccaga tcgaaaaaat ttttaaggtg 480

gtgtaccctg tggatgatca tcactttaag gtgattctgc actatggcac actggtaatc 540

gacggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 600

ttcgacggca aaaag 615

<210> 237
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 237
Met Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
1 5 10 15

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
20 25 30

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
35 40 45

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
50 55 60

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
65 70 75 80

Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly
85 90 95

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
100 105 110

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
115 120 125

Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
130 135 140

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
145 150 155 160

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
165 170 175

Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly
180 185 190

Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
195 200 205

<210> 238
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 238
atggggaccc tgtggaacgg caacaaaatt atcgacgagc gcctgatcaa ccccgacggc 60

tccctgctgt tccgcgtaac catcaacgga gtgaccggct ggcggctgtg cgagcgcatt 120

ttggcgggaa gttctggtgg aggaagttct ggtggagagc ctactactga gaacttgtac 180

ttccagagcg ataacggaag ttctggtgga ggaagttctg gtggaatggt gtttacactc 240

gaagatttcg taggggactg gcggcagaca gccggctaca acctggacca agtccttgag 300

cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 360

attgtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 420

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 480

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 540

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 600

aagatcactg taacc 615

<210> 239
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 239
Met Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile
1 5 10 15

Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr
20 25 30

Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly
35 40 45

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

Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu
65 70 75 80

Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp
85 90 95

Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly
100 105 110

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

Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly
130 135 140

Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
145 150 155 160

Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
165 170 175

Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
180 185 190

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
195 200 205

<210> 240
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 240
atgaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 60

ctgctgttcc gcgtaaccat caacggagtg accggctggc ggctgtgcga gcgcattttg 120

gcgggaagtt ctggtggagg aagttctggt ggagagccta ctactgagaa cttgtacttc 180

cagagcgata acggaagttc tggtggagga agttctggtg gaatggtgtt tacactcgaa 240

gatttcgtag gggactggcg gcagacagcc ggctacaacc tggaccaagt ccttgagcag 300

ggcggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 360

gtcctgagcg gtgaaaacgg cctgaagatc gacatccatg tcatcatccc gtatgaaggt 420

ctgagcggcg atcagatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 480

gatcatcact ttaaggtgat tctgcactat ggcacactgg taatcgacgg ggttacgccg 540

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 600

atcactgtaa ccggg 615

<210> 241
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 241
Met Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
1 5 10 15

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
20 25 30

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
35 40 45

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

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
65 70 75 80

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
85 90 95

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
100 105 110

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

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
130 135 140

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
145 150 155 160

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
165 170 175

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
180 185 190

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
195 200 205

<210> 242
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 242
atgctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 60

ctgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg 120

ggaagttctg gtggaggaag ttctggtgga gagcctacta ctgagaactt gtacttccag 180

agcgataacg gaagttctgg tggaggaagt tctggtggaa tggtgtttac actcgaagat 240

ttcgtagggg actggcggca gacagccggc tacaacctgg accaagtcct tgagcagggc 300

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc 360

ctgagcggtg aaaacggcct gaagatcgac atccatgtca tcatcccgta tgaaggtctg 420

agcggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 480

catcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 540

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 600

actgtaaccg ggacc 615

<210> 243
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 243
Met Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
1 5 10 15

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

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
35 40 45

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

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
65 70 75 80

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
85 90 95

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
100 105 110

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys

115 120 125

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
130 135 140

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
145 150 155 160

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
165 170 175

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
180 185 190

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
195 200 205

<210> 244
<211> 616
<212> DNA
<213> Artificial Sequence

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

<400> 244
atgaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 60

cgcgtaacca tcaacggagt gaccggctgg cggctgtgcg agcgcatttt ggcgggaagt 120

tctggtggag gaagttctgg tggagagcct actactgaga acttgtactt ccagagcgat 180

aacggaagtt ctggtggagg aagttctggt ggaatggtgt ttacactcga agatttcgta 240

ggggactggc ggcagacagc cggctacaac ctggaccaag tccttgagca gggcggtgtg 300

tccagtttgt ttcagaatct cggggtgtcc gtaactccga tccaaaggat tgtcctgagc 360

ggtgaaaacg gcctgaagat cgacatccat gtcatcatcc cgtatgaagg tctgagcggc 420

gatcagatgg gccagatcga aaaaattttt aaggtggtgt accctgtgga tgatcatcac 480

tttaaggtga ttctgcacta tggcacactg gtaatcgacg gggttacgcc gaacatgatc 540

gactatttcg gacggccgta tgaaggcatc gccgtgttcg acggcaaaaa gatcactgta 600

accgggaccc tgtggg 616

<210> 245
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 245
Met Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly
1 5 10 15

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
20 25 30

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
35 40 45

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

Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val
65 70 75 80

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
85 90 95

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
100 105 110

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

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
130 135 140

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
145 150 155 160

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
165 170 175

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
180 185 190

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
195 200 205

<210> 246
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 246
atgaaaatta tcgacgagcg cctgatcaac cccgacggct ccctgctgtt ccgcgtaacc 60

atcaacggag tgaccggctg gcggctgtgc gagcgcattt tggcgggaag ttctggtgga 120

ggaagttctg gtggagagcc tactactgag aacttgtact tccagagcga taacggaagt 180

tctggtggag gaagttctgg tggaatggtg tttacactcg aagatttcgt aggggactgg 240

cggcagacag ccggctacaa cctggaccaa gtccttgagc agggcggtgt gtccagtttg 300

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 360

ggcctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcagatg 420

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 480

attctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 540

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 600

ctgtggaacg gcaac 615

<210> 247
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 247

Met Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
1 5 10 15

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
20 25 30

Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr
35 40 45

Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly
50 55 60

Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
65 70 75 80

Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
85 90 95

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
100 105 110

Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val
115 120 125

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
130 135 140

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
145 150 155 160

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
165 170 175

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly
180 185 190

Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
195 200 205

<210> 248
<211> 624
<212> DNA
<213> Artificial Sequence

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

<400> 248
atggacgagc gcctgatcaa ccccgacggc tccctgctgt tccgcgtaac catcaacgga 60

gtgaccggct ggcggctgtg cgagcgcatt ttggcgggaa gttctggtgg aggaagttct 120

ggtggagagc ctactactga gaacttgtac ttccagagcg ataacggaag ttctggtgga 180

ggaagttctg gtggaatggt gtttacactc gaagatttcg taggggactg gcggcagaca 240

gccggctaca acctggacca agtccttgag cagggcggtg tgtccagttt gtttcagaat 300

ctcggggtgt ccgtaactcc gatccaaagg attgtcctga gcggtgaaaa cggcctgaag 360

atcgacatcc atgtcatcat cccgtatgaa ggtctgagcg gcgatcagat gggccagatc 420

gaaaaaattt ttaaggtggt gtaccctgtg gatgatcatc actttaaggt gattctgcac 480

tatggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 540

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taaccgggac cctgtggaac 600

ggcaacaaaa ttatcgacga gcgc 624

<210> 249
<211> 208
<212> PRT
<213> Artificial Sequence

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

<400> 249
Met Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
1 5 10 15

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
20 25 30

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
35 40 45

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
50 55 60

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

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
85 90 95

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

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
115 120 125

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
130 135 140

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
145 150 155 160

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
165 170 175

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
180 185 190

Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
195 200 205

<210> 250
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 250
atggagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 60

accggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 120

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 180

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 240

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 300

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaacgg cctgaagatc 360

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 420

aaaattttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 480

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 540

gaaggcatcg ccgtgttcga cggcaaaaag atcactgtaa ccgggaccct gtggaacggc 600

aacaaaatta tcgac 615

<210> 251
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 251
Met Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
1 5 10 15

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
20 25 30

Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu
35 40 45

Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
50 55 60

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

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
85 90 95

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

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
115 120 125

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
130 135 140

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
145 150 155 160

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
165 170 175

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
180 185 190

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
195 200 205

<210> 252
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 252
atgcgcctga tcaaccccga cggctccctg ctgttccgcg taaccatcaa cggagtgacc 60

ggctggcggc tgtgcgagcg cattttggcg ggaagttctg gtggaggaag ttctggtgga 120

gagcctacta ctgagaactt gtacttccag agcgataacg gaagttctgg tggaggaagt 180

tctggtggaa tggtgtttac actcgaagat ttcgtagggg actggcggca gacagccggc 240

tacaacctgg accaagtcct tgagcagggc ggtgtgtcca gtttgtttca gaatctcggg 300

gtgtccgtaa ctccgatcca aaggattgtc ctgagcggtg aaaacggcct gaagatcgac 360

atccatgtca tcatcccgta tgaaggtctg agcggcgatc agatgggcca gatcgaaaaa 420

atttttaagg tggtgtaccc tgtggatgat catcacttta aggtgattct gcactatggc 480

acactggtaa tcgacggggt tacgccgaac atgatcgact atttcggacg gccgtatgaa 540

ggcatcgccg tgttcgacgg caaaaagatc actgtaaccg ggaccctgtg gaacggcaac 600

aaaattatcg acgag 615

<210> 253
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 253
Met Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
1 5 10 15

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
20 25 30

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
35 40 45

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
50 55 60

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

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
85 90 95

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
100 105 110

Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
115 120 125

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
130 135 140

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
145 150 155 160

Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly
165 170 175

Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val
180 185 190

Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu
195 200 205

<210> 254
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 254
atgctgatca accccgacgg ctccctgctg ttccgcgtaa ccatcaacgg agtgaccggc 60

tggcggctgt gcgagcgcat tttggcggga agttctggtg gaggaagttc tggtggagag 120

cctactactg agaacttgta cttccagagc gataacggaa gttctggtgg aggaagttct 180

ggtggaatgg tgtttacact cgaagatttc gtaggggact ggcggcagac agccggctac 240

aacctggacc aagtccttga gcagggcggt gtgtccagtt tgtttcagaa tctcggggtg 300

tccgtaactc cgatccaaag gattgtcctg agcggtgaaa acggcctgaa gatcgacatc 360

catgtcatca tcccgtatga aggtctgagc ggcgatcaga tgggccagat cgaaaaaatt 420

tttaaggtgg tgtaccctgt ggatgatcat cactttaagg tgattctgca ctatggcaca 480

ctggtaatcg acggggttac gccgaacatg atcgactatt tcggacggcc gtatgaaggc 540

atcgccgtgt tcgacggcaa aaagatcact gtaaccggga ccctgtggaa cggcaacaaa 600

attatcgacg agcgc 615

<210> 255
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 255
Met Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn
1 5 10 15

Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser
20 25 30

Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe
35 40 45

Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val
50 55 60

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
65 70 75 80

Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln
85 90 95

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
100 105 110

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
115 120 125

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
130 135 140

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
145 150 155 160

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
165 170 175

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
180 185 190

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
195 200 205

<210> 256
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 256
atgatcaacc ccgacggctc cctgctgttc cgcgtaacca tcaacggagt gaccggctgg 60

cggctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 120

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 180

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 240

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 300

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 360

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 420

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 480

gtaatcgacg gggttacgcc gaacatgatc gactatttcg gacggccgta tgaaggcatc 540

gccgtgttcg acggcaaaaa gatcactgta accgggaccc tgtggaacgg caacaaaatt 600

atcgacgagc gcctg 615

<210> 257
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 257

Met Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
1 5 10 15

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly
20 25 30

Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln
35 40 45

Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe
50 55 60

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
65 70 75 80

Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
85 90 95

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
100 105 110

Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
115 120 125

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
130 135 140

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
145 150 155 160

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
165 170 175

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
180 185 190

Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
195 200 205

<210> 258
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 258
atgaaccccg acggctccct gctgttccgc gtaaccatca acggagtgac cggctggcgg 60

ctgtgcgagc gcattttggc gggaagttct ggtggaggaa gttctggtgg agagcctact 120

actgagaact tgtacttcca gagcgataac ggaagttctg gtggaggaag ttctggtgga 180

atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 240

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 300

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 360

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 420

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 480

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 540

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 600

gacgagcgcc tgatc 615

<210> 259
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 259
Met Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
1 5 10 15

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
20 25 30

Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser
35 40 45

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
50 55 60

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu

65 70 75 80

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
85 90 95

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
100 105 110

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
115 120 125

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
130 135 140

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
145 150 155 160

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
165 170 175

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
180 185 190

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile
195 200 205

<210> 260
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 260
atgcccgacg gctccctgct gttccgcgta accatcaacg gagtgaccgg ctggcggctg 60

tgcgagcgca ttttggcggg aagttctggt ggaggaagtt ctggtggaga gcctactact 120

gagaacttgt acttccagag cgataacgga agttctggtg gaggaagttc tggtggaatg 180

gtgtttacac tcgaagattt cgtaggggac tggcggcaga cagccggcta caacctggac 240

caagtccttg agcagggcgg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 300

ccgatccaaa ggattgtcct gagcggtgaa aacggcctga agatcgacat ccatgtcatc 360

atcccgtatg aaggtctgag cggcgatcag atgggccaga tcgaaaaaat ttttaaggtg 420

gtgtaccctg tggatgatca tcactttaag gtgattctgc actatggcac actggtaatc 480

gacggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 540

ttcgacggca aaaagatcac tgtaaccggg accctgtgga acggcaacaa aattatcgac 600

gagcgcctga tcaac 615

<210> 261
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 261

Met	Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile	Asn	Gly	Val	Thr
1				5				10					15		
Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile	Leu	Ala	Gly	Ser	Ser	Gly	Gly	Gly
			20					25					30		
Ser	Ser	Gly	Gly	Glu	Pro	Thr	Thr	Glu	Asn	Leu	Tyr	Phe	Gln	Ser	Asp
		35					40					45			
Asn	Gly	Ser	Ser	Gly	Gly	Gly	Ser	Ser	Gly	Gly	Met	Val	Phe	Thr	Leu
	50					55					60				
Glu	Asp	Phe	Val	Gly	Asp	Trp	Arg	Gln	Thr	Ala	Gly	Tyr	Asn	Leu	Asp
65					70					75					80
Gln	Val	Leu	Glu	Gln	Gly	Gly	Val	Ser	Ser	Leu	Phe	Gln	Asn	Leu	Gly
				85					90					95	
Val	Ser	Val	Thr	Pro	Ile	Gln	Arg	Ile	Val	Leu	Ser	Gly	Glu	Asn	Gly
			100					105					110		
Leu	Lys	Ile	Asp	Ile	His	Val	Ile	Ile	Pro	Tyr	Glu	Gly	Leu	Ser	Gly
		115					120					125			
Asp	Gln	Met	Gly	Gln	Ile	Glu	Lys	Ile	Phe	Lys	Val	Val	Tyr	Pro	Val
	130					135					140				
Asp	Asp	His	His	Phe	Lys	Val	Ile	Leu	His	Tyr	Gly	Thr	Leu	Val	Ile
145					150					155					160
Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe	Gly	Arg	Pro	Tyr	Glu
				165					170					175	
Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Lys	Ile	Thr	Val	Thr	Gly	Thr	Leu
			180					185					190		
Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp	Glu	Arg	Leu	Ile	Asn			
		195					200					205			

<210> 262
<211> 615
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polynucleotide

<400> 262
atggacggct ccctgctgtt ccgcgtaacc atcaacggag tgaccggctg gcggctgtgc 60

gagcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 120

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 180

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 240

gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 300

atccaaagga ttgtcctgag cggtgaaaac ggcctgaaga tcgacatcca tgtcatcatc 360

ccgtatgaag gtctgagcgg cgatcagatg ggccagatcg aaaaaatttt taaggtggtg 420

taccctgtgg atgatcatca ctttaaggtg attctgcact atggcacact ggtaatcgac 480

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 540

gacggcaaaa agatcactgt aaccgggacc ctgtggaacg gcaacaaaat tatcgacgag 600

cgcctgatca acccc 615

<210> 263
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 263
Met Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
1 5 10 15

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
20 25 30

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

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
50 55 60

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
65 70 75 80

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
85 90 95

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
100 105 110

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
115 120 125

```
Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
    130                 135                 140

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
145                 150                 155                 160

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
                165                 170                 175

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
            180                 185                 190

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
        195                 200                 205
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<210> 264
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 264
atgggctccc tgctgttccg cgtaaccatc aacggagtga ccggctggcg gctgtgcgag 60

cgcattttgg cgggaagttc tggtggagga agttctggtg gagagcctac tactgagaac 120

ttgtacttcc agagcgataa cggaagttct ggtggaggaa gttctggtgg aatggtgttt 180

acactcgaag atttcgtagg ggactggcgg cagacagccg gctacaacct ggaccaagtc 240

cttgagcagg gcggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 300

caaaggattg tcctgagcgg tgaaaacggc ctgaagatcg acatccatgt catcatcccg 360

tatgaaggtc tgagcggcga tcagatgggc cagatcgaaa aaatttttaa ggtggtgtac 420

cctgtggatg atcatcactt taaggtgatt ctgcactatg gcacactggt aatcgacggg 480

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 540

ggcaaaaaga tcactgtaac cgggaccctg tggaacggca acaaaattat cgacgagcgc 600

ctgatcaacc ccgac 615

<210> 265
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 265
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Met Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
1               5                   10                  15
```

Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
20 25 30

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

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
50 55 60

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
65 70 75 80

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
85 90 95

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
100 105 110

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
115 120 125

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
130 135 140

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
145 150 155 160

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
165 170 175

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
180 185 190

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
195 200 205

<210> 266
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 266
atgtccctgc tgttccgcgt aaccatcaac ggagtgaccg gctggcggct gtgcgagcgc 60

attttggcgg gaagttctgg tggaggaagt tctggtggag agcctactac tgagaacttg 120

tacttccaga gcgataacgg aagttctggt ggaggaagtt ctggtggaat ggtgtttaca 180

ctcgaagatt tcgtagggga ctggcggcag acagccggct acaacctgga ccaagtcctt 240

gagcagggcg gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 300

aggattgtcc tgagcggtga aaacggcctg aagatcgaca tccatgtcat catcccgtat 360

gaaggtctga gcggcgatca gatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 420

gtggatgatc atcactttaa ggtgattctg cactatggca cactggtaat cgacggggtt 480

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 540

aaaaagatca ctgtaaccgg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 600

atcaaccccg acggc 615

<210> 267
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 267

Met Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
1 5 10 15

Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly
20 25 30

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

Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe
50 55 60

Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu
65 70 75 80

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
85 90 95

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
100 105 110

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
115 120 125

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
130 135 140

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
145 150 155 160

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
165 170 175

Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly

180 185 190

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly
195 200 205

<210> 268
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 268
atgctgctgt tccgcgtaac catcaacgga gtgaccggct ggcggctgtg cgagcgcatt 60

ttggcgggaa gttctggtgg aggaagttct ggtggagagc ctactactga gaacttgtac 120

ttccagagcg ataacggaag ttctggtgga ggaagttctg gtggaatggt gtttacactc 180

gaagatttcg taggggactg gcggcagaca gccggctaca acctggacca agtccttgag 240

cagggcggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 300

attgtcctga gcggtgaaaa cggcctgaag atcgacatcc atgtcatcat cccgtatgaa 360

ggtctgagcg gcgatcagat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 420

gatgatcatc actttaaggt gattctgcac tatggcacac tggtaatcga cggggttacg 480

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 540

aagatcactg taaccgggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 600

aaccccgacg gctcc 615

<210> 269
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 269
Met Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
1 5 10 15

Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly
20 25 30

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

Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val
50 55 60

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
65 70 75 80

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
85 90 95

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
100 105 110

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
115 120 125

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
130 135 140

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
145 150 155 160

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
165 170 175

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
180 185 190

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
195 200 205

<210> 270
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 270
atgctgttcc gcgtaaccat caacggagtg accggctggc ggctgtgcga gcgcattttg 60

gcgggaagtt ctggtggagg aagttctggt ggagagccta ctactgagaa cttgtacttc 120

cagagcgata acggaagttc tggtggagga agttctggtg gaatggtgtt tacactcgaa 180

gatttcgtag gggactggcg gcagacagcc ggctacaacc tggaccaagt ccttgagcag 240

ggcggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 300

gtcctgagcg gtgaaaacgg cctgaagatc gacatccatg tcatcatccc gtatgaaggt 360

ctgagcggcg atcagatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 420

gatcatcact ttaaggtgat tctgcactat ggcacactgg taatcgacgg ggttacgccg 480

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 540

atcactgtaa ccgggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 600

cccgacggct ccctg 615

<210> 271

<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 271
Met Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
1 5 10 15

Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
20 25 30

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

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
50 55 60

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
65 70 75 80

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
85 90 95

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
100 105 110

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
115 120 125

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
130 135 140

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
145 150 155 160

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
165 170 175

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
180 185 190

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
195 200 205

<210> 272
<211> 615
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 272
atgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg 60

ggaagttctg gtggaggaag ttctggtgga gagcctacta ctgagaactt gtacttccag 120

agcgataacg gaagttctgg tggaggaagt tctggtggaa tggtgtttac actcgaagat 180

ttcgtagggg actggcggca gacagccggc tacaacctgg accaagtcct tgagcagggc 240

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc 300

ctgagcggtg aaaacggcct gaagatcgac atccatgtca tcatcccgta tgaaggtctg 360

agcggcgatc agatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 420

catcacttta aggtgattct gcactatggc acactggtaa tcgacggggt tacgccgaac 480

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 540

actgtaaccg ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 600

gacggctccc tgctg 615

<210> 273
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 273
Met Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
1 5 10 15

Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro
20 25 30

Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly
35 40 45

Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
50 55 60

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
65 70 75 80

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
85 90 95

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
100 105 110

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
115 120 125

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys
130 135 140

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
145 150 155 160

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
165 170 175

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
180 185 190

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
195 200 205

<210> 274
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 274
atgaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc gggaagttct 60

ggtggaggaa gttctggtgg agagcctact actgagaact tgtacttcca gagcgataac 120

ggaagttctg gtggaggaag ttctggtgga atggtgttta cactcgaaga tttcgtaggg 180

gactggcggc agacagccgg ctacaacctg gaccaagtcc ttgagcaggg cggtgtgtcc 240

agtttgtttc agaatctcgg ggtgtccgta actccgatcc aaaggattgt cctgagcggt 300

gaaaacggcc tgaagatcga catccatgtc atcatcccgt atgaaggtct gagcggcgat 360

cagatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 420

aaggtgattc tgcactatgg cacactggta atcgacgggg ttacgccgaa catgatcgac 480

tatttcggac ggccgtatga aggcatcgcc gtgttcgacg gcaaaaagat cactgtaacc 540

gggaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 600

ctgctgttcc gcgta 615

<210> 275
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 275
Met Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu
1 5 10 15

Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu

20 25 30

Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser
35 40 45

Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln
50 55 60

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

Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
85 90 95

Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile
100 105 110

Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile
115 120 125

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
130 135 140

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
145 150 155 160

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

Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu
180 185 190

Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
195 200 205

<210> 276
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 276
atgaacggag tgaccggctg gcggctgtgc gagcgcattt tggcgggaag ttctggtgga 60

ggaagttctg gtggagagcc tactactgag aacttgtact tccagagcga taacggaagt 120

tctggtggag gaagttctgg tggaatggtg tttacactcg aagatttcgt aggggactgg 180

cggcagacag ccggctacaa cctggaccaa gtccttgagc agggcggtgt gtccagtttg 240

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 300

ggcctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcagatg 360

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 420

attctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 480

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 540

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 600

ttccgcgtaa ccatc 615

<210> 277
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 277

Met	Asn	Gly	Val	Thr	Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile	Leu	Ala	Gly
1				5				10				15			
Ser	Ser	Gly	Gly	Gly	Ser	Ser	Gly	Gly	Glu	Pro	Thr	Thr	Glu	Asn	Leu
		20					25					30			
Tyr	Phe	Gln	Ser	Asp	Asn	Gly	Ser	Ser	Gly	Gly	Gly	Ser	Ser	Gly	Gly
	35					40					45				
Met	Val	Phe	Thr	Leu	Glu	Asp	Phe	Val	Gly	Asp	Trp	Arg	Gln	Thr	Ala
50					55					60					
Gly	Tyr	Asn	Leu	Asp	Gln	Val	Leu	Glu	Gln	Gly	Gly	Val	Ser	Ser	Leu
65				70					75					80	
Phe	Gln	Asn	Leu	Gly	Val	Ser	Val	Thr	Pro	Ile	Gln	Arg	Ile	Val	Leu
			85					90					95		
Ser	Gly	Glu	Asn	Gly	Leu	Lys	Ile	Asp	Ile	His	Val	Ile	Ile	Pro	Tyr
		100					105					110			
Glu	Gly	Leu	Ser	Gly	Asp	Gln	Met	Gly	Gln	Ile	Glu	Lys	Ile	Phe	Lys
	115					120					125				
Val	Val	Tyr	Pro	Val	Asp	Asp	His	His	Phe	Lys	Val	Ile	Leu	His	Tyr
130					135					140					
Gly	Thr	Leu	Val	Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe
145				150					155					160	
Gly	Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Lys	Ile	Thr
			165					170					175		
Val	Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp	Glu	Arg	Leu
		180					185					190			

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
195 200 205

<210> 278
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 278
atgggagtga ccggctggcg gctgtgcgag cgcattttgg cgggaagttc tggtggagga 60

agttctggtg gagagcctac tactgagaac ttgtacttcc agagcgataa cggaagttct 120

ggtggaggaa gttctggtgg aatggtgttt acactcgaag atttcgtagg ggactggcgg 180

cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 240

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 300

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 360

cagatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 420

ctgcactatg gcacactggt aatcgacggg gttacgccga acatgatcga ctatttcgga 480

cggccgtatg aaggcatcgc cgtgttcgac ggcaaaaaga tcactgtaac cgggaccctg 540

tggaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 600

cgcgtaacca tcaac 615

<210> 279
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 279
Met Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
1 5 10 15

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
20 25 30

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
35 40 45

Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly
50 55 60

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
65 70 75 80

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
85 90 95

Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
100 105 110

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
115 120 125

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
130 135 140

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

Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val
165 170 175

Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile
180 185 190

Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn
195 200 205

<210> 280
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 280
atggtgaccg gctggcggct gtgcgagcgc attttggcgg gaagttctgg tggaggaagt 60

tctggtggag agcctactac tgagaacttg tacttccaga gcgataacgg aagttctggt 120

ggaggaagtt ctggtggaat ggtgtttaca ctcgaagatt tcgtagggga ctggcggcag 180

acagccggct acaacctgga ccaagtcctt gagcagggcg gtgtgtccag tttgtttcag 240

aatctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 300

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 360

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 420

cactatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 480

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 540

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 600

gtaaccatca acgga 615

<210> 281
<211> 205

<212> PRT
<213> Artificial Sequence

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

<400> 281
Met Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser
1 5 10 15

Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe
20 25 30

Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val
35 40 45

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
50 55 60

Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln
65 70 75 80

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
85 90 95

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
100 105 110

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
115 120 125

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
130 135 140

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
145 150 155 160

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
165 170 175

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
180 185 190

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
195 200 205

<210> 282
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 282
atgggctggc ggctgtgcga gcgcattttg gcgggaagtt ctggtggagg aagttctggt 60

ggagagccta ctactgagaa cttgtacttc cagagcgata acggaagttc tggtggagga 120

agttctggtg gaatggtgtt tacactcgaa gatttcgtag gggactggcg gcagacagcc 180

ggctacaacc tggaccaagt ccttgagcag ggcggtgtgt ccagtttgtt tcagaatctc 240

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaacgg cctgaagatc 300

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg atcagatggg ccagatcgaa 360

aaaatttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat tctgcactat 420

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 480

gaaggcatcg ccgtgttcga cggcaaaaag atcactgtaa ccgggaccct gtggaacggc 540

aacaaaatta tcgacgagcg cctgatcaac cccgacggct ccctgctgtt ccgcgtaacc 600

atcaacggag tgacc 615

<210> 283
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 283
Met Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly
1 5 10 15

Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser
20 25 30

Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr
35 40 45

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
50 55 60

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
65 70 75 80

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
85 90 95

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
100 105 110

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
115 120 125

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val

130 135 140

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

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
165 170 175

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
180 185 190

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr
195 200 205

<210> 284
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 284
atgctgtgcg agcgcatttt ggcgggaagt tctggtggag gaagttctgg tggagagcct 60

actactgaga acttgtactt ccagagcgat aacggaagtt ctggtggagg aagttctggt 120

ggaatggtgt ttacactcga agatttcgta ggggactggc ggcagacagc cggctacaac 180

ctggaccaag tccttgagca gggcggtgtg tccagtttgt ttcagaatct cggggtgtcc 240

gtaactccga tccaaaggat tgtcctgagc ggtgaaaacg gcctgaagat cgacatccat 300

gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg gccagatcga aaaaattttt 360

aaggtggtgt accctgtgga tgatcatcac tttaaggtga ttctgcacta tggcacactg 420

gtaatcgacg gggttacgcc gaacatgatc gactatttcg gacggccgta tgaaggcatc 480

gccgtgttcg acggcaaaaa gatcactgta accgggaccc tgtggaacgg caacaaaatt 540

atcgacgagc gcctgatcaa ccccgacggc tccctgctgt tccgcgtaac catcaacgga 600

gtgaccggct ggcgg 615

<210> 285
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 285
Met Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser
1 5 10 15

Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly
20 25 30

Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp
35 40 45

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
50 55 60

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
65 70 75 80

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
85 90 95

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
100 105 110

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
115 120 125

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
130 135 140

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

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
165 170 175

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
180 185 190

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
195 200 205

<210> 286
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 286
atgcgcattt tggcgggaag ttctggtgga ggaagttctg gtggagagcc tactactgag 60

aacttgtact tccagagcga taacggaagt tctggtggag gaagttctgg tggaatggtg 120

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 180

gtccttgagc agggcggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 240

atccaaagga ttgtcctgag cggtgaaaac ggcctgaaga tcgacatcca tgtcatcatc 300

ccgtatgaag gtctgagcgg cgatcagatg ggccagatcg aaaaaatttt taaggtggtg 360

taccctgtgg atgatcatca ctttaaggtg attctgcact atggcacact ggtaatcgac 420

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 480

gacggcaaaa agatcactgt aaccgggacc ctgtggaacg gcaacaaaat tatcgacgag 540

cgcctgatca accccgacgg ctccctgctg ttccgcgtaa ccatcaacgg agtgaccggc 600

tggcggctgt gcgag 615

<210> 287
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 287

Met Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu
1 5 10 15

Pro Thr Thr Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly
20 25 30

Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
35 40 45

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
50 55 60

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

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

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
100 105 110

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
115 120 125

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
130 135 140

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
145 150 155 160

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
165 170 175

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
180 185 190

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
195 200 205

<210> 288
<211> 389
<212> DNA
<213> Artificial Sequence

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

<400> 288
gagtgcaggt ggaaaccatc tccccaggag acgggcgcac cttccccaag cgcggccaga 60

cctgcgtggt gcactacacc gggatgcttg aagatggaaa gaaatttgat tcctcccggg 120

acagaaacaa gcccctttaag tttatgctag gcaagcagga ggtgatccga ggctgggaag 180

aaggggttgc ccagatgagt gtgggtcaga gagccaaact gactatatct ccagattatg 240

cctatggtgc cactgggcac ccaggcatca tcccaccaca tgccactctc gtcttcgatg 300

tggagcttct aaaactggaa ggaggaggga gctccggtgg aggcagcggt ggagtgaccg 360

gctggcggct gtgcgaacgc attctggcg 389

<210> 289
<211> 130
<212> PRT
<213> Artificial Sequence

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

<400> 289
Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe Pro
1 5 10 15

Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu Asp
20 25 30

Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys Phe
35 40 45

Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val Ala
50 55 60

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

Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala Thr
85 90 95

Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser Ser
100 105 110

Gly Gly Gly Ser Gly Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile
115 120 125

Leu Ala
130

<210> 290
<211> 795
<212> DNA
<213> Artificial Sequence

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

<400> 290
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 480

accggaggag gtggctcagg tggagggagc tccgtggcca tcctctggca tgagatgtgg 540

catgaaggcc tggaagaggc atctcgtttg tactttgggg aaaggaacgt gaaaggcatg 600

tttgaggtgc tggagccctt gcatgctatg atggaacggg gcccccagac tctgaaggaa 660

acatccttta atcaggccta tggtcgagat ttaatggagg cccaagagtg gtgcaggaag 720

tacatgaaat cagggaatgt caaggacctc acccaagcct gggacctcta ttatcatgtg 780

ttccgacgaa tctca 795

<210> 291
<211> 265
<212> PRT
<213> Artificial Sequence

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

<400> 291
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp
165 170 175

His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe
180 185 190

Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His
195 200 205

Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn
210 215 220

Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys
225 230 235 240

Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu
245 250 255

Tyr Tyr His Val Phe Arg Arg Ile Ser
260 265

<210> 292
<211> 825
<212> DNA
<213> Artificial Sequence

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

<400> 292
ggagtgcagg tggaaaccat ctccccagga gacgggcgca ccttccccaa gcgcggccag 60

acctgcgtgg tgcactacac cgggatgctt gaagatggaa agaaatttga ttcctcccgg 120

gacagaaaca agcccttaa gtttatgcta ggcaagcagg aggtgatccg aggctgggaa 180

gaaggggttg cccagatgag tgtgggtcag agagccaaac tgactatatc tccagattat 240

gcctatggtg ccactgggca cccaggcatc atcccaccac atgccactct cgtcttcgat 300

gtggagcttc taaaactgga aggaggaggg agctccggtg gaggcagcgg tatggtcttc 360

acactcgaag atttcgttgg ggactggcga cagacagccg gctacaacct ggaccaagtc 420

cttgaacagg gaggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 480

caaaggattg tcctgagcgg tgaaaatggg ctgaagatcg acatccatgt catcatcccg 540

tatgaaggtc tgagcggcga ccaaatgggc cagatcgaaa aaatttttaa ggtggtgtac 600

cctgtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 660

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 720

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 780

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaac 825

<210> 293
<211> 275
<212> PRT
<213> Artificial Sequence

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

<400> 293
Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe Pro
1 5 10 15

Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu Asp
20 25 30

Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys Phe
35 40 45

Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val Ala
50 55 60

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

Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala Thr
85 90 95

Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser Ser
100 105 110

Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
115 120 125

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
130 135 140

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
145 150 155 160

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
165 170 175

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
180 185 190

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys
195 200 205

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
210 215 220

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
225 230 235 240

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
245 250 255

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

Thr Ile Asn
275

<210> 294
<211> 354
<212> DNA
<213> Artificial Sequence

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

<400> 294
atgggagtga ccggctggcg gctgtgcgaa cgcattctgg cgggaggagg tggctcaggt 60

ggagggagct ccgtggccat cctctggcat gagatgtggc atgaaggcct ggaagaggca 120

tctcgtttgt actttgggga aaggaacgtg aaaggcatgt ttgaggtgct ggagcccttg 180

catgctatga tggaacgggg cccccagact ctgaaggaaa catcctttaa tcaggcctat 240

ggtcgagatt taatggaggc ccaagagtgg tgcaggaagt acatgaaatc agggaatgtc 300

aaggacctca cccaagcctg ggacctctat tatcatgtgt tccgacgaat ctca 354

<210> 295
<211> 118
<212> PRT

<213> Artificial Sequence

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

<400> 295
Met Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly
1 5 10 15

Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met
20 25 30

Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg
35 40 45

Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met
50 55 60

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

Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys
85 90 95

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

Val Phe Arg Arg Ile Ser
115

<210> 296
<211> 554
<212> DNA
<213> Artificial Sequence

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

<400> 296
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtacgccg 360

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 420

atcactgtaa cagggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 480

cccgacggct ccctgctgtt ccgagtaacc atcaacggag tgaccggctg gcggctgtgc 540

gaacgcattc tggc 554

<210> 297
<211> 184
<212> PRT
<213> Artificial Sequence

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

<400> 297
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
115 120 125

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
130 135 140

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
145 150 155 160

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
165 170 175

Trp Arg Leu Cys Glu Arg Ile Leu
180

<210> 298
<211> 624
<212> DNA
<213> Artificial Sequence

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

<400> 298
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttggaggagg tggctcaggt ggagggagct ccgtggccat cctctggcat 360

gagatgtggc atgaaggcct ggaagaggca tctcgtttgt actttgggga aaggaacgtg 420

aaaggcatgt ttgaggtgct ggagcccttg catgctatga tggaacgggg cccccagact 480

ctgaaggaaa catcctttaa tcaggcctat ggtcgagatt taatggaggc ccaagagtgg 540

tgcaggaagt acatgaaatc agggaatgtc aaggacctca cccaagcctg ggacctctat 600

tatcatgtgt tccgacgaat ctca 624

<210> 299
<211> 184
<212> PRT
<213> Artificial Sequence

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

<400> 299
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
115 120 125

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr

130 135 140

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
145 150 155 160

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
165 170 175

Trp Arg Leu Cys Glu Arg Ile Leu
180

<210> 300
<211> 516
<212> DNA
<213> Artificial Sequence

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

<400> 300
atgacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 60

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 120

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 180

cggctgtgcg aacgcattct ggcgggagga ggtggctcag gtggagggag ctccgtggcc 240

atcctctggc atgagatgtg gcatgaaggc ctggaagagg catctcgttt gtactttggg 300

gaaaggaacg tgaaaggcat gtttgaggtg ctggagccct tgcatgctat gatggaacgg 360

ggcccccaga ctctgaagga aacatccttt aatcaggcct atggtcgaga tttaatggag 420

gcccaagagt ggtgcaggaa gtacatgaaa tcagggaatg tcaaggacct cacccaagcc 480

tgggacctct attatcatgt gttccgacga atctca 516

<210> 301
<211> 172
<212> PRT
<213> Artificial Sequence

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

<400> 301
Met Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
1 5 10 15

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

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
35 40 45

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
50 55 60

Arg Ile Leu Ala Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala
65 70 75 80

Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg
85 90 95

Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu
100 105 110

Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr
115 120 125

Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp
130 135 140

Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala
145 150 155 160

Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
165 170

<210> 302
<211> 666
<212> DNA
<213> Artificial Sequence

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

<400> 302
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggtt 666

<210> 303
<211> 222
<212> PRT

<213> Artificial Sequence

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

<400> 303
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
210 215 220

<210> 304
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 304
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtgatgat 360

catcacttta aggtgatcct gcactatggc acactggtaa tcgacggggt tacgccgaac 420

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 480

actgtaacag ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 540

gacggctccc tgctgttccg agtaaccatc aacggagtga ccggctggcg gctgtgcgaa 600

cgcattctgg cg 612

<210> 305
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 305
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Asp Asp His His Phe Lys Val Ile Leu His
115 120 125

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
130 135 140

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
145 150 155 160

Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
165 170 175

Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
180 185 190

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
195 200

<210> 306
<211> 567
<212> DNA
<213> Artificial Sequence

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

<400> 306
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtgggagg aggtggctca ggtggaggga gctccgtggc catcctctgg 300

catgagatgt ggcatgaagg cctggaagag gcatctcgtt tgtactttgg ggaaaggaac 360

gtgaaaggca tgtttgaggt gctggagccc ttgcatgcta tgatggaacg gggcccccag 420

actctgaagg aaacatcctt taatcaggcc tatggtcgag atttaatgga ggcccaagag 480

tggtgcagga agtacatgaa atcagggaat gtcaaggacc tcacccaagc ctgggacctc 540

tattatcatg tgttccgacg aatctca 567

<210> 307
<211> 189
<212> PRT
<213> Artificial Sequence

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

<400> 307
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu

20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val
85 90 95

Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser
100 105 110

Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu
115 120 125

Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu
130 135 140

Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu
145 150 155 160

Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln
165 170 175

Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
180 185

<210> 308
<211> 255
<212> DNA
<213> Artificial Sequence

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

<400> 308
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtg 255

<210> 309
<211> 85
<212> PRT
<213> Artificial Sequence

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

<400> 309
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val
85

<210> 310
<211> 261
<212> DNA
<213> Artificial Sequence

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

<400> 310
atggatgatc atcactttaa ggtgatcctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaacagg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccga gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgaac gcattctggc g 261

<210> 311
<211> 87
<212> PRT
<213> Artificial Sequence

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

<400> 311
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala
85

<210> 312
<211> 609
<212> DNA
<213> Artificial Sequence

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

<400> 312
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtg 609

<210> 313
<211> 203
<212> PRT
<213> Artificial Sequence

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

<400> 313
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val
195 200

<210> 314
<211> 573
<212> DNA
<213> Artificial Sequence

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

<400> 314
atggatgatc atcactttaa ggtgatcctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaacagg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccga gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgaac gcattctggc gggaggaggt ggctcaggtg gagggagctc cgtggccatc 300

ctctggcatg agatgtggca tgaaggcctg gaagaggcat ctcgtttgta ctttggggaa 360

aggaacgtga aaggcatgtt tgaggtgctg gagcccttgc atgctatgat ggaacggggc 420

ccccagactc tgaaggaaac atcctttaat caggcctatg gtcgagattt aatggaggcc 480

caagagtggt gcaggaagta catgaaatca gggaatgtca aggacctcac ccaagcctgg 540

gacctctatt atcatgtgtt ccgacgaatc tca 573

<210> 315
<211> 191
<212> PRT
<213> Artificial Sequence

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

<400> 315

Met	Asp	Asp	His	His	Phe	Lys	Val	Ile	Leu	His	Tyr	Gly	Thr	Leu	Val
1				5				10						15	
Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe	Gly	Arg	Pro	Tyr
			20					25					30		
Glu	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Lys	Ile	Thr	Val	Thr	Gly	Thr
		35					40					45			
Leu	Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp	Glu	Arg	Leu	Ile	Asn	Pro	Asp
	50					55					60				
Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile	Asn	Gly	Val	Thr	Gly	Trp	Arg
65					70					75					80
Leu	Cys	Glu	Arg	Ile	Leu	Ala	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Ser
				85					90					95	
Ser	Val	Ala	Ile	Leu	Trp	His	Glu	Met	Trp	His	Glu	Gly	Leu	Glu	Glu
			100					105					110		
Ala	Ser	Arg	Leu	Tyr	Phe	Gly	Glu	Arg	Asn	Val	Lys	Gly	Met	Phe	Glu
		115					120					125			
Val	Leu	Glu	Pro	Leu	His	Ala	Met	Met	Glu	Arg	Gly	Pro	Gln	Thr	Leu
	130					135					140				
Lys	Glu	Thr	Ser	Phe	Asn	Gln	Ala	Tyr	Gly	Arg	Asp	Leu	Met	Glu	Ala
145					150					155					160
Gln	Glu	Trp	Cys	Arg	Lys	Tyr	Met	Lys	Ser	Gly	Asn	Val	Lys	Asp	Leu
				165					170					175	
Thr	Gln	Ala	Trp	Asp	Leu	Tyr	Tyr	His	Val	Phe	Arg	Arg	Ile	Ser	
			180					185					190		

<210> 316
<211> 2838
<212> DNA

<213> Artificial Sequence

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

<400> 316
atggcagaaa tcggtactgg ctttccattc gacccccatt atgtggaagt cctgggcgag 60

cgcatgcact acgtcgatgt tggtccgcgc gatggcaccc ctgtgctgtt cctgcacggt 120

aacccgacct cctcctacgt gtggcgcaac atcatcccgc atgttgcacc gacccatcgc 180

tgcattgctc cagacctgat cggtatgggc aaatccgaca aaccagacct gggttatttc 240

ttcgacgacc acgtccgctt catggatgcc ttcatcgaag ccctgggtct ggaagaggtc 300

gtcctggtca ttcacgactg gggctccgct ctgggtttcc actgggccaa gcgcaatcca 360

gagcgcgtca aaggtattgc atttatggag ttcatccgcc ctatcccgac ctgggacgaa 420

tggccagaat ttgcccgcga gaccttccag gccttccgca ccaccgacgt cggccgcaag 480

ctgatcatcg atcagaacgt ttttatcgag ggtacgctgc cgatgggtgt cgtccgcccg 540

ctgactgaag tcgagatgga ccattaccgc gagccgttcc tgaatcctgt tgaccgcgag 600

ccactgtggc gcttcccaaa cgagctgcca atcgccggtg agccagcgaa catcgtcgcg 660

ctggtcgaag aatacatgga ctggctgcac cagtcccctg tcccgaagct gctgttctgg 720

ggcaccccag gcgttctgat cccaccggcc gaagccgctc gcctggccaa aagcctgcct 780

aactgcaagg ctgtggacat cggcccgggt ctgaatctgc tgcaagaaga caacccggac 840

ctgatcggca gcgagatcgc gcgctggctg tcgacgctcg agatttccgg cgagccaacc 900

actgaggatc tgtactttca gagcgataac gcgatcgctt tcgaaggaga tagaaccatg 960

cagccagatc ccaggcctag cggggctggg gcctgctgcc gattcctgcc cctgcagtca 1020

cagtgccctg agggggcagg ggacgcggtg atgtacgcct ccactgagtg caaggcggag 1080

gtgacgccct cccagcatgg caaccgcacc ttcagctaca ccctggagga tcataccaag 1140

caggcctttg gcatcatgaa cgagctgcgg ctcagccagc agctgtgtga cgtcacactg 1200

caggtcaagt accaggatgc accggccgcc cagttcatgg cccacaaggt ggtgctggcc 1260

tcatccagcc ctgttttcaa ggccatgttc accaacgggc tgcgggagca gggcatggag 1320

gtggtgtcca ttgagggtat ccaccccaag gtcatggagc gcctcattga attcgcctac 1380

acggcctcca tctccatggg cgagaagtgt gtcctccacg tcatgaacgg cgctgtcatg 1440

taccagatcg acagcgttgt ccgtgcctgc agtgacttcc tggtgcagca gctggacccc 1500

agcaatgcca tcggcatcgc caacttcgct gagcagattg gctgtgtgga gttgcaccag 1560

cgtgcccggg agtacatcta catgcatttt ggggaggtgg ccaagcaaga ggagttcttc 1620

aacctgtccc actgccaact ggtgaccctc atcagccggg acgacctgaa cgtgcgctgc 1680

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cagatgcagc tgcagaagtg cgagatcctg cagtccgact cccgctgcaa ggactacctg 1860

gtcaagatct tcgaggagct caccctgcac aagcccacgc aggtgatgcc ctgccgggcg 1920

cccaaggtgg gccgcctgat ctacaccgcg ggcggctact tccgacagtc gctcagctac 1980

ctggaggctt acaaccccag taacggcacc tggctccggt tggcggacct gcaggtgccg 2040

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cagtggtcgc cctgcgcccc catgagcgtg ccccgtaacc gcatcggggt gggggtcatc 2220

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ggggtgggcg tggctgtcct caatcgtctg ctttatgccg tgggggggctt tgacgggaca 2400

aaccgcctta attcagctga gtgttactac ccagagagga acgagtggcg aatgatcaca 2460

gcaatgaaca ccatccgaag cggggcaggc gtctgcgtcc tgcacaactg tatctatgct 2520

gctgggggct atgatggtca ggaccagctg aacagcgtgg agcgctacga tgtggaaaca 2580

gagacgtgga ctttcgtagc ccccatgaag caccggcgaa gtgccctggg gatcactgtc 2640

caccagggga gaatctacgt ccttggaggc tatgatggtc acacgttcct ggacagtgtg 2700

gagtgttacg acccagatac agacacctgg agcgaggtga cccgaatgac atcgggccgg 2760

agtggggtgg gcgtggctgt caccatggag ccctgccgga agcagattga ccagcagaac 2820

tgtacctgtt acgtagtt 2838

<210> 317
<211> 5064
<212> DNA
<213> Artificial Sequence

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

<400> 317
tcaatattgg ccattagcca tattattcat tggttatata gcataaatca atattggcta 60

ttggccattg catacgttgt atctatatca taatatgtac atttatattg gctcatgtcc 120

aatatgaccg ccatgttggc attgattatt gactagttat taatagtaat caattacggg 180

gtcattagtt catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc 240

gcctggctga ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat 300

agtaacgcca atagggactt tccattgacg tcaatgggtg gagtatttac ggtaaactgc 360

ccacttggca gtacatcaag tgtatcatat gccaagtccg ccccctattg acgtcaatga 420

cggtaaatgg cccgcctggc attatgccca gtacatgacc ttacgggact ttcctacttg 480

gcagtacatc tacgtattag tcatcgctat taccatggtg atgcggtttt ggcagtacac 540

caatgggcgt ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt 600

caatgggagt ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaataaccc 660

cgccccgttg acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc 720

tggtttagtg aaccgtcaga tcactagaag ctttattgcg gtagtttatc acagttaaat 780

tgctaacgca gtcagtgctt ctgacacaac agtctcgaac ttaagctgca gaagttggtc 840

gtgaggcact gggcaggtaa gtatcaaggt tacaagacag gtttaaggag accaatagaa 900

actgggcttg tcgagacaga gaagactctt gcgtttctga taggcaccta ttggtcttac 960

tgacatccac tttgcctttc tctccacagg tgtccactcc cagttcaatt acagctctta 1020

aggctagagt attaatacga ctcactatag ggctagcgat cgccatgatg gacttggagc 1080

tgccgccgcc gggactcccg tcccagcagg acatggattt gattgacata ctttggaggc 1140

aagatataga tcttggagta agtcgagaag tatttgactt cagtcagcga cggaaagagt 1200

atgagctgga aaaacagaaa aaacttgaaa aggaaagaca agaacaactc caaaaggagc 1260

aagagaaagc ctttttcgct cagttacaac tagatgaaga gacaggtgaa tttctcccaa 1320

ttcagccagc ccagcacatc cagtcagaaa ccagttctct cggtggttca ggtggtggcg 1380

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gcctgaagat cgacatccat gtcatcatcc cgtatgaagg tctgagcggc gatcagatgg 1620

gccagatcga aaaaattttt aaggtggtgt accctgtgga tgatcatcac tttaaggtga 1680

ttctgcacta tggcacactg gtaatcgacg gggttacgcc gaacatgatc gactatttcg 1740

gacggccgta tgaaggcatc gccgtgttcg acggcaaaaa gatcactgta accgggaccc 1800

tgtggaacgg caacaaaatt atcgacgagc gcctgatcaa ccccgacggc tccctgctgt 1860

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ggccgcttcg agcagacatg ataagataca ttgatgagtt tggacaaacc acaactagaa 2100

tgcagtgaaa aaaatgcttt atttgtgaaa tttgtgatgc tattgcttta tttgtaacca 2160

ttataagctg caataaacaa gttaacaaca acaattgcat tcattttatg tttcaggttc 2220

agggggagat gtgggaggtt tttttaagca agtaaaacct ctacaaatgt ggtaaaatcg 2280

aattttaaca aaatattaac gcttacaatt tcctgatgcg gtattttctc cttacgcatc 2340

tgtgcggtat ttcacaccgc atacgcggat ctgcgcagca ccatggcctg aaataacctc 2400

tgaaagagga acttggttag gtaccttctg aggcggaaag aaccagctgt ggaatgtgtg 2460

tcagttaggg tgtggaaagt ccccaggctc cccagcaggc agaagtatgc aaagcatgca 2520

tctcaattag tcagcaacca ggtgtggaaa gtccccaggc tccccagcag gcagaagtat 2580

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tctcctgtca tctcaccttg ctcctgccga gaaagtatcc atcatggctg atgcaatgcg 3240

gcggctgcat acgcttgatc cggctacctg cccattcgac caccaagcga aacatcgcat 3300

cgagcgagca cgtactcgga tggaagccgg tcttgtcgat caggatgatc tggacgaaga 3360

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cgaggatctc gtcgtgaccc atggcgatgc ctgcttgccg aatatcatgg tggaaaatgg 3480

ccgcttttct ggattcatcg actgtggccg gctgggtgtg gcggaccgct atcaggacat 3540

agcgttggct acccgtgata ttgctgaaga gcttggcggc gaatgggctg accgcttcct 3600

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ccagtagctg acattcatcc ggggtcagca ccgtttctgc ggactggctt tctacccggt 3900

atcagctcac tcaaaggcgg taatacggtt atccacagaa tcaggggata acgcaggaaa 3960

gaacatgtga gcaaaaggcc agcaaaaggc caggaaccgt aaaaaggccg cgttgctggc 4020

gtttttccat aggctccgcc cccctgacga gcatcacaaa aatcgacgct caagtcagag 4080

gtggcgaaac ccgacaggac tataaagata ccaggcgttt ccccctggaa gctccctcgt 4140

gcgctctcct gttccgaccc tgccgcttac cggatacctg tccgcctttc tcccttcggg 4200

aagcgtggcg ctttctcata gctcacgctg taggtatctc agttcggtgt aggtcgttcg 4260

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taactatcgt cttgagtcca acccggtaag acacgactta tcgccactgg cagcagccac 4380

tggtaacagg attagcagag cgaggtatgt aggcggtgct acagagttct tgaagtggtg 4440

gcctaactac ggctacacta gaaggacagt atttggtatc tgcgctctgc tgaagccagt 4500

taccttcgga aaaagagttg gtagctcttg atccggcaaa caaaccaccg ctggtagcgg 4560

tggtttttt gtttgcaagc agcagattac gcgcagaaaa aaaggatttc aagaagatcc 4620

tttgatcttt tctacggggt ctgacgctca gtggaacgaa aactcacgtt aagggatttt 4680

ggtcatgaga ttatcaaaaa ggatcttcac ctagatcctt ttatagtccg gaaatacagg 4740

aacgcacgct ggatggccct tcgctgggat ggtgaaacca tgaaaaatgg cagcttcagt 4800

ggattaagtg ggggtaatgt ggcctgtacc ctctggttgc ataggtattc atacggttaa 4860

aatttatcag gcgcgattgc ggcagttttt cgggtggttt gttgccattt ttacctgtct 4920

gctgccgtga tcgcgctgaa cgcgttttag cggtgcgtac aattaaggga ttatggtaaa 4980

tccacttact gtctgccctc gtagccatcg agataaaccg cagtactccg gccacgatgc 5040

gtccggcgta gaggatcgag atct 5064

<210> 318
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 318
atggtcttca cactcgaaga tttcgtaggt gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg tggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaact gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 480

accggctggc ggctgtgcga acgcattctg gcg 513

<210> 319
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 319
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 320
<211> 636
<212> DNA
<213> Artificial Sequence

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

<400> 320
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcgaattcac acggctttcc gcccgaggtt 540

gaagagcaag ccgccggtac attgcctatg tcctgcgcac aagaaagcgg tatggaccgg 600

cacccagccg cttgtgcttc agctcgcatc aacgtc 636

<210> 321
<211> 597
<212> DNA
<213> Artificial Sequence

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

<400> 321
atgaactcct tctccacaag cgccttcggt ccagttgcct tctccctggg cctgctcctg 60

gtgttgcctg ctgccttccc tgccccagtg tttacactcg aagatttcgt aggggactgg 120

cggcagacag ccggctacaa cctggaccaa gtccttgaac agggcggtgt gtccagtttg 180

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 240

ggcctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcaaatg 300

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 360

atcctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 420

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 480

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 540

ttccgcgtaa ccatcaacgg agtgaccggc tggcggctgt gcgagcgcat tttggcg 597

<210> 322

<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 322
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 480

accggctggc ggctgtgcga acgcattctg gcg 513

<210> 323
<211> 636
<212> DNA
<213> Artificial Sequence

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

<400> 323
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 480

accggctggc ggctgtgcga acgcattctg gcgaattctc acggctttcc gcctgaggtt 540

gaagagcaag ccgccggtac attgcctatg tcctgcgcac aagaaagcgg tatggaccgg 600

cacccagccg cttgtgcttc agctcgcatc aacgtc 636

<210> 324
<211> 597
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 324
atgaactcct tctccacaag cgccttcggt ccagttgcct tctccctggg cctgctcctg 60

gtgttgcctg ctgccttccc tgccccagtc ttcacactcg aagatttcgt tggggactgg 120

cgacagacag ccggctacaa cctggaccaa gtccttgaac agggaggtgt gtccagtttg 180

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaat 240

gggctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgaccaaatg 300

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 360

atcctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 420

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aacagggacc 480

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 540

ttccgagtaa ccatcaacgg agtgaccggc tggcggctgt gcgaacgcat tctggcg 597

<210> 325
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 325
atggtcttca cactcgaaga tttcgtaggt gactggcgac agacagccgg ctacaacctg 60

gaccaagttc ttgaacaggg tggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccaatcc agaggatagt cctgagtggt gaaaatgggc tgaagatcga catccatgtc 180

atcatccctt atgaaggtct gagcggcgat cagatggggc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacggtg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat tactgtcact ggaaccctgt ggaatgggaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctca ctgctgttcc gagtaaccat caatggtgtt 480

accggctggc ggctctgcga acgcattcta gca 513

<210> 326
<211> 636
<212> DNA
<213> Artificial Sequence

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

<400> 326
atggtcttca cactcgaaga tttcgtaggt gactggcgac agacagccgg ctacaacctg 60

gaccaagttc ttgaacaggg tggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccaatcc agaggatagt cctgagtggt gaaaatgggc tgaagatcga catccatgtc 180

atcatccctt atgaaggtct gagcggcgat cagatggggc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacggtg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat tactgtcact ggaaccctgt ggaatgggaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctca ctgctgttcc gagtaaccat caatggtgtt 480

accggctggc ggctctgcga acgcattcta gcaaatagtc acggctttcc gcctgaggtt 540

gaagagcaag ccgccggtac attgcctatg tcctgcgcac aagaaagcgg tatggaccgg 600

cacccagccg cttgtgcttc agctcgcatc aacgtc 636

<210> 327
<211> 573
<212> DNA
<213> Artificial Sequence

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

<400> 327
atgaactcct tctccacaag cgccttcggt ccagtcgcct tctccctggg cctgctcctg 60

gtgttgcccg ctgcctttcc tgccccagtc ttcacactcg aagatttcgt aggtgactgg 120

cgacagacag ccggctacaa cctggaccaa gttcttgaac agggtggtgt gtccagtttg 180

tttcagaatc tcggggtgtc cgtaactcca atccagagga tagtcctgag tggtgaaaat 240

gggctgaaga tcgacatcca tgtcatcatc ccttatgaag gtctgagcgg cgatcagatg 300

gggcagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 360

atcctgcact atggcacact ggtaatcgac ggtgttacgc cgaacatgat cgactatttc 420

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agattactgt cactggaacc 480

ctgtggaatg ggaacaaaat tatcgacgag cgcctgatca accccgacgg ctcactgctg 540

ttccgagtaa ccatcaatgg tgttaccggc tgg 573

<210> 328
<211> 33
<212> PRT
<213> Artificial Sequence

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

<400> 328
Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn
1 5 10 15

Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly
20 25 30

Gly

<210> 329
<211> 18
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Gly, Ser, Ala, Ile, Val, or Lys

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid except Phe or Glu

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Phe, Tyr, or Trp

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

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Leu, Ile, Val, Met, or Phe

<220>
<221> MOD_RES
<222> (6)..(7)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Any amino acid except Lys

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Asn, His, or Gly

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Phe or Tyr

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Asp or Glu

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Leu, Ile, Val, Met, Phe, or Tyr

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Leu, Ile, Val, or Met

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid except Asn

<220>
<221> MOD_RES
<222> (17)..(17)
<223> Any amino acid except Gly

<220>
<221> MOD_RES
<222> (18)..(18)
<223> Leu, Ile, Val, Met, Ala, Lys, or Arg

<400> 329
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Xaa

<210> 330
<211> 18
<212> PRT
<213> Artificial Sequence

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

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Gly, Ser, Ala, Ile, Val, or Lys

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Any amino acid except Phe or Glu

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Phe, Tyr, or Trp

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

<220>
<221> MOD_RES
<222> (5)..(5)
<223> Leu, Ile, Val, Met, Phe, Ser, Tyr, or Gln

<220>
<221> MOD_RES
<222> (6)..(7)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (8)..(8)
<223> Any amino acid except Lys

<220>
<221> MOD_RES
<222> (9)..(9)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Asn, His, Gly, or Lys

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Asp or Glu

<220>
<221> MOD_RES
<222> (13)..(13)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Leu, Ile, Val, Met, Phe, or Tyr

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Leu, Ile, Val, Met, Trp, or Phe

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Any amino acid

<220>
<221> MOD_RES
<222> (17)..(17)
<223> Any amino acid except Gly

<220>
<221> MOD_RES
<222> (18)..(18)
<223> Leu, Ile, Val, Met, Ala, Lys, Arg, or Gly

<400> 330
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa

1 5 10 15

Xaa Xaa

<210> 331
<211> 672
<212> DNA
<213> Artificial Sequence

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

<400> 331
atgggcctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggctatcag 60

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 120

gtgattctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 180

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaaccggg 240

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 300

ctgttccgcg taaccatcaa cggagtgacc ggctggcggc tgtgcgagcg cattttggcg 360

ggaggaggtg gctcaggtgg agggagctcc gtggccatcc tctggcatga gatgtggcat 420

gaaggcctgg aagaggcatc tcgtttgtac tttggggaaa ggaacgtgaa aggcatgttt 480

gaggtgctgg agcccttgca tgctatgatg gaacggggcc cccagactct gaaggaaaca 540

tcctttaatc aggcctatgg tcgagattta atggaggccc aagagtggtg caggaagtac 600

atgaaatcag ggaatgtcaa ggacctcacc caagcctggg acctctatta tcatgtgttc 660

cgacgaatct ca 672

<210> 332
<211> 224
<212> PRT
<213> Artificial Sequence

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

<400> 332
Met Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
1 5 10 15

Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
20 25 30

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
35 40 45

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
50 55 60

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
65 70 75 80

Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro
85 90 95

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

Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu
130 135 140

Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe
145 150 155 160

Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr
165 170 175

Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu
180 185 190

Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp
195 200 205

Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
210 215 220

<210> 333
<211> 468
<212> DNA
<213> Artificial Sequence

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

<400> 333
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtctgtcc agtttgtttc agaaactcgg ggtgtccgta 120

acaccgatcc aaaagattgt cctgagcggt gaaaacggag gaggtggctc aggtggaggg 180

agctccgtgg ccatcctctg gcatgagatg tggcatgaag gcctggaaga ggcatctcgt 240

ttgtactttg gggaaaggaa cgtgaaaggc atgtttgagg tgctggagcc cttgcatgct 300

atgatggaac ggggccccca gactctgaag gaaacatcct ttaatcaggc ctatggtcga 360

gatttaatgg aggcccaaga gtggtgcagg aagtacatga aatcagggaa tgtcaaggac 420

ctcacccaag cctgggacct ctattatcat gtgttccgac gaatctca 468

<210> 334

<211> 156
<212> PRT
<213> Artificial Sequence

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

<400> 334
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Leu Ser Ser Leu
20 25 30

Phe Gln Lys Leu Gly Val Ser Val Thr Pro Ile Gln Lys Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala
50 55 60

Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg
65 70 75 80

Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu
85 90 95

Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr
100 105 110

Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp
115 120 125

Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala
130 135 140

Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
145 150 155

<210> 335
<211> 711
<212> DNA
<213> Artificial Sequence

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

<400> 335
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtggcctg 360

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggctatca gatgggccag 420

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 480

cactatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 540

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 600

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 660

gtaaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc g 711

<210> 336
<211> 237
<212> PRT
<213> Artificial Sequence

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

<400> 336
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Gly Leu Lys Ile Asp Ile His Val Ile Ile
115 120 125

Pro Tyr Glu Gly Leu Ser Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile
130 135 140

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
145 150 155 160

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
165 170 175

Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
180 185 190

Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu
195 200 205

Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn
210 215 220

Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
225 230 235

<210> 337
<211> 510
<212> DNA
<213> Artificial Sequence

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

<400> 337
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtg 360

tttacactcg aagatttcgt aggggactgg cggcagacag ccggctacaa cctggaccaa 420

gtccttgagc agggcggtct gtccagtttg tttcagaaac tcggggtgtc cgtaacaccg 480

atccaaaaga ttgtcctgag cggtgaaaac 510

<210> 338
<211> 170
<212> PRT
<213> Artificial Sequence

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

<400> 338
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Leu Ser Ser Leu Phe Gln Lys Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Lys Ile Val Leu Ser Gly Glu Asn
165 170

<210> 339
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 339
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

acaccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 340
<211> 171
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 340
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 341
<211> 513
<212> DNA
<213> Artificial Sequence

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

<400> 341
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gaacggctat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gcgcattttg gcg 513

<210> 342
<211> 171
<212> PRT
<213> Artificial Sequence

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

<400> 342
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Asn Gly Tyr Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
165 170

<210> 343
<211> 690
<212> DNA
<213> Artificial Sequence

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

<400> 343
atggtcctga gcggtgaaaa tgggctgaag atcgacatcc atgtcatcat cccgtatgaa 60

ggtctgagcg gcgaccaaat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 120

gatgatcatc actttaaggt gatcctgcac tatggcacac tggtaatcga cggggttacg 180

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 240

aagatcactg taacagggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 300

aaccccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 360

tgcgaacgca ttctggcggg aggaggtggc tcaggtggag ggagctccgt ggccatcctc 420

tggcatgaga tgtggcatga aggcctggaa gaggcatctc gtttgtactt tggggaaagg 480

aacgtgaaag gcatgtttga ggtgctggag cccttgcatg ctatgatgga acggggcccc 540

cagactctga aggaaacatc ctttaatcag gcctatggtc gagatttaat ggaggcccaa 600

gagtggtgca ggaagtacat gaaatcaggg aatgtcaagg acctcaccca agcctgggac 660

ctctattatc atgtgttccg acgaatctca 690

<210> 344
<211> 230
<212> PRT
<213> Artificial Sequence

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

<400> 344
Met Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
1 5 10 15

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
20 25 30

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
35 40 45

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
50 55 60

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
65 70 75 80

Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
85 90 95

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
100 105 110

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly
115 120 125

Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met
130 135 140

Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg
145 150 155 160

Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met
165 170 175

Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr
180 185 190

Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys
195 200 205

Ser Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His
210 215 220

Val Phe Arg Arg Ile Ser
225 230

<210> 345
<211> 492
<212> DNA
<213> Artificial Sequence

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

<400> 345
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga tt 492

<210> 346
<211> 164
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 346
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile

<210> 347
<211> 687
<212> DNA
<213> Artificial Sequence

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

<400> 347
atgctgagcg gtgaaaatgg gctgaagatc gacatccatg tcatcatccc gtatgaaggt 60

ctgagcggcg accaaatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 120

gatcatcact ttaaggtgat cctgcactat ggcacactgg taatcgacgg ggttacgccg 180

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 240

atcactgtaa cagggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 300

cccgacggct ccctgctgtt ccgagtaacc atcaacggag tgaccggctg gcggctgtgc 360

gaacgcattc tggcgggagg aggtggctca ggtggaggga gctccgtggc catcctctgg 420

catgagatgt ggcatgaagg cctggaagag gcatctcgtt tgtactttgg ggaaaggaac 480

gtgaaaggca tgtttgaggt gctggagccc ttgcatgcta tgatggaacg gggcccccag 540

actctgaagg aaacatcctt taatcaggcc tatggtcgag atttaatgga ggcccaagag 600

tggtgcagga agtacatgaa atcagggaat gtcaaggacc tcacccaagc ctgggacctc 660

tattatcatg tgttccgacg aatctca 687

<210> 348
<211> 229
<212> PRT
<213> Artificial Sequence

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

<400> 348
Met Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile
1 5 10 15

Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile
20 25 30

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
35 40 45

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
50 55 60

Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
65 70 75 80

Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu
85 90 95

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

Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp
130 135 140

His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn
145 150 155 160

Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu
165 170 175

Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly
180 185 190

Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser
195 200 205

Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val
210 215 220

Phe Arg Arg Ile Ser
225

<210> 349
<211> 495
<212> DNA
<213> Artificial Sequence

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

<400> 349
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtc 495

<210> 350
<211> 165
<212> PRT
<213> Artificial Sequence

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

<400> 350
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val

50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val
165

<210> 351
<211> 525
<212> DNA
<213> Artificial Sequence

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

<400> 351
atggacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 60

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 120

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 180

accggctggc ggctgtgcga acgcattctg gcgggaggag gtggctcagg tggagggagc 240

tccgtggcca tcctctggca tgagatgtgg catgaaggcc tggaagaggc atctcgtttg 300

tactttgggg aaaggaacgt gaaaggcatg tttgaggtgc tggagccctt gcatgctatg 360

atggaacggg gcccccagac tctgaaggaa acatccttta atcaggccta tggtcgagat 420

ttaatggagg cccaagagtg gtgcaggaag tacatgaaat cagggaatgt caaggacctc 480

acccaagcct gggacctcta ttatcatgtg ttccgacgaa tctca 525

<210> 352
<211> 175
<212> PRT
<213> Artificial Sequence

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

<400> 352
Met Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
1 5 10 15

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
20 25 30

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
50 55 60

Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser
65 70 75 80

Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu
85 90 95

Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu
100 105 110

Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu
115 120 125

Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala
130 135 140

Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu
145 150 155 160

Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
165 170 175

<210> 353
<211> 657
<212> DNA
<213> Artificial Sequence

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

<400> 353
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatc 657

<210> 354
<211> 219
<212> PRT
<213> Artificial Sequence

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

<400> 354

Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
210 215

<210> 355
<211> 522
<212> DNA
<213> Artificial Sequence

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

<400> 355
atgggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 60

ttcgacggca aaaagatcac tgtaacaggg accctgtgga acggcaacaa aattatcgac 120

gagcgcctga tcaaccccga cggctccctg ctgttccgag taaccatcaa cggagtgacc 180

ggctggcggc tgtgcgaacg cattctggcg ggaggaggtg gctcaggtgg agggagctcc 240

gtggccatcc tctggcatga gatgtggcat gaaggcctgg aagaggcatc tcgtttgtac 300

tttggggaaa ggaacgtgaa aggcatgttt gaggtgctgg agcccttgca tgctatgatg 360

gaacggggcc cccagactct gaaggaaaca tcctttaatc aggcctatgg tcgagattta 420

atggaggccc aagagtggtg caggaagtac atgaaatcag ggaatgtcaa ggacctcacc 480

caagcctggg acctctatta tcatgtgttc cgacgaatct ca 522

<210> 356
<211> 174
<212> PRT
<213> Artificial Sequence

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

<400> 356
Met Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
1 5 10 15

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
20 25 30

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

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
50 55 60

Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser
65 70 75 80

Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala
85 90 95

Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val
100 105 110

Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys
115 120 125

Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln
130 135 140

Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr
145 150 155 160

Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
165 170

<210> 357
<211> 660
<212> DNA
<213> Artificial Sequence

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

<400> 357
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

<210> 358
<211> 220
<212> PRT
<213> Artificial Sequence

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

<400> 358
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe

1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
210 215 220

<210> 359
<211> 519
<212> DNA
<213> Artificial Sequence

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

<400> 359
atggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 60

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 120

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 180

tggcggctgt gcgaacgcat tctggcggga ggaggtggct caggtggagg gagctccgtg 240

gccatcctct ggcatgagat gtggcatgaa ggcctggaag aggcatctcg tttgtacttt 300

ggggaaagga acgtgaaagg catgtttgag gtgctggagc ccttgcatgc tatgatggaa 360

cggggccccc agactctgaa ggaaacatcc tttaatcagg cctatggtcg agatttaatg 420

gaggcccaag agtggtgcag gaagtacatg aaatcaggga atgtcaagga cctcacccaa 480

gcctgggacc tctattatca tgtgttccga cgaatctca 519

<210> 360
<211> 173
<212> PRT
<213> Artificial Sequence

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

<400> 360
Met Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
1 5 10 15

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
20 25 30

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
35 40 45

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
50 55 60

Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val
65 70 75 80

Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser
85 90 95

Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu
100 105 110

Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu
115 120 125

Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu
130 135 140

Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln
145 150 155 160

Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
165 170

<210> 361
<211> 663
<212> DNA
<213> Artificial Sequence

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

<400> 361
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggg 663

<210> 362
<211> 221
<212> PRT
<213> Artificial Sequence

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

<400> 362
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala

85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
210 215 220

<210> 363
<211> 396
<212> DNA
<213> Artificial Sequence

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

<400> 363
atgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 60

cggctgtgcg aacgcattct ggcgggagga ggtggctcag gtggagggag ctccgtggcc 120

atcctctggc atgagatgtg gcatgaaggc ctggaagagg catctcgttt gtactttggg 180

gaaaggaacg tgaaaggcat gtttgaggtg ctggagccct tgcatgctat gatggaacgg 240

ggcccccaga ctctgaagga aacatccttt aatcaggcct atggtcgaga tttaatggag 300

gcccaagagt ggtgcaggaa gtacatgaaa tcagggaatg tcaaggacct cacccaagcc 360

tgggacctct attatcatgt gttccgacga atctca 396

<210> 364
<211> 132
<212> PRT
<213> Artificial Sequence

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

<400> 364
Met Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
1 5 10 15

Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly
20 25 30

Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His
35 40 45

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

Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg
65 70 75 80

Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg
85 90 95

Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly
100 105 110

Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe
115 120 125

Arg Arg Ile Ser
130

<210> 365
<211> 786
<212> DNA
<213> Artificial Sequence

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

<400> 365
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctg 786

<210> 366
<211> 262
<212> PRT
<213> Artificial Sequence

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

<400> 366
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe

195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu
260

<210> 367
<211> 390
<212> DNA
<213> Artificial Sequence

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

<400> 367
atgcccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 60

tgcgaacgca ttctggcggg aggaggtggc tcaggtggag ggagctccgt ggccatcctc 120

tggcatgaga tgtggcatga aggcctggaa gaggcatctc gtttgtactt tggggaaagg 180

aacgtgaaag gcatgtttga ggtgctggag cccttgcatg ctatgatgga acggggcccc 240

cagactctga aggaaacatc ctttaatcag gcctatggtc gagatttaat ggaggcccaa 300

gagtggtgca ggaagtacat gaaatcaggg aatgtcaagg acctcaccca agcctgggac 360

ctctattatc atgtgttccg acgaatctca 390

<210> 368
<211> 130
<212> PRT
<213> Artificial Sequence

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

<400> 368
Met Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr
1 5 10 15

Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly
20 25 30

Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly
35 40 45

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

Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro
65 70 75 80

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

Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val
100 105 110

Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg
115 120 125

Ile Ser
130

<210> 369
<211> 792
<212> DNA
<213> Artificial Sequence

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

<400> 369
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca ac 792

<210> 370
<211> 264
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 370

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Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1               5                  10                  15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
            20                  25                  30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
        35                  40                  45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
    50                  55                  60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65                  70                  75                  80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
                85                  90                  95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
            100                 105                 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
        115                 120                 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
    130                 135                 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145                 150                 155                 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
                165                 170                 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
            180                 185                 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
        195                 200                 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
    210                 215                 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225                 230                 235                 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
                245                 250                 255

Ile Ile Asp Glu Arg Leu Ile Asn
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260

<210> 371
<211> 384
<212> DNA
<213> Artificial Sequence

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

<400> 371
atgggctccc tgctgttccg agtaaccatc aacggagtga ccggctggcg gctgtgcgaa 60

cgcattctgg cgggaggagg tggctcaggt ggagggagct ccgtggccat cctctggcat 120

gagatgtggc atgaaggcct ggaagaggca tctcgtttgt actttgggga aaggaacgtg 180

aaaggcatgt ttgaggtgct ggagcccttg catgctatga tggaacgggg cccccagact 240

ctgaaggaaa catcctttaa tcaggcctat ggtcgagatt taatggaggc ccaagagtgg 300

tgcaggaagt acatgaaatc agggaatgtc aaggacctca cccaagcctg ggacctctat 360

tatcatgtgt tccgacgaat ctca 384

<210> 372
<211> 128
<212> PRT
<213> Artificial Sequence

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

<400> 372
Met Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
1 5 10 15

Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly
20 25 30

Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu
35 40 45

Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe
50 55 60

Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr
65 70 75 80

Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu
85 90 95

Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp
100 105 110

Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
115 120 125

<210> 373
<211> 798
<212> DNA
<213> Artificial Sequence

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

<400> 373
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagcactt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgac 798

<210> 374
<211> 266
<212> PRT
<213> Artificial Sequence

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

<400> 374
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys His Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp

65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
260 265

<210> 375
<211> 381
<212> DNA
<213> Artificial Sequence

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

<400> 375
atgtccctgc tgttccgagt aaccatcaac ggagtgaccg gctggcggct gtgcgaacgc 60

attctggcgg gaggaggtgg ctcaggtgga gggagctccg tggccatcct ctggcatgag 120

atgtggcatg aaggcctgga agaggcatct cgtttgtact ttggggaaag gaacgtgaaa 180

ggcatgtttg aggtgctgga gcccttgcat gctatgatgg aacggggccc ccagactctg 240

aaggaaacat cctttaatca ggcctatggt cgagatttaa tggaggccca agagtggtgc 300

aggaagtaca tgaaatcagg gaatgtcaag gacctcaccc aagcctggga cctctattat 360

catgtgttcc gacgaatctc a 381

<210> 376
<211> 127
<212> PRT
<213> Artificial Sequence

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

<400> 376
Met Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
1 5 10 15

Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser
20 25 30

Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu
35 40 45

Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu
50 55 60

Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu
65 70 75 80

Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala
85 90 95

Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu
100 105 110

Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
115 120 125

<210> 377
<211> 801
<212> DNA
<213> Artificial Sequence

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

<400> 377
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg c 801

<210> 378
<211> 267
<212> PRT
<213> Artificial Sequence

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

<400> 378

Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro

145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly
260 265

<210> 379
<211> 357
<212> DNA
<213> Artificial Sequence

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

<400> 379
atgaacggag tgaccggctg gcggctgtgc gaacgcattc tggcgggagg aggtggctca 60

ggtggaggga gctccgtggc catcctctgg catgagatgt ggcatgaagg cctggaagag 120

gcatctcgtt tgtactttgg ggaaaggaac gtgaaaggca tgtttgaggt gctggagccc 180

ttgcatgcta tgatggaacg gggcccccag actctgaagg aaacatcctt taatcaggcc 240

tatggtcgag atttaatgga ggcccaagag tggtgcagga agtacatgaa atcagggaat 300

gtcaaggacc tcacccaagc ctgggacctc tattatcatg tgttccgacg aatctca 357

<210> 380
<211> 119
<212> PRT
<213> Artificial Sequence

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

<400> 380
Met Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu
20 25 30

Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu
35 40 45

Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met
50 55 60

Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala
65 70 75 80

Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met
85 90 95

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

His Val Phe Arg Arg Ile Ser
115

<210> 381
<211> 825
<212> DNA
<213> Artificial Sequence

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

<400> 381
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatc 825

<210> 382

<211> 275
<212> PRT
<213> Artificial Sequence

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

<400> 382

```
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1               5                  10                  15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
            20                  25                  30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
        35                  40                  45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
    50                  55                  60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65                  70                  75                  80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
                85                  90                  95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
            100                 105                 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
        115                 120                 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
    130                 135                 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145                 150                 155                 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
                165                 170                 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
            180                 185                 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
        195                 200                 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
    210                 215                 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225                 230                 235                 240
```

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile
275

<210> 383
<211> 351
<212> DNA
<213> Artificial Sequence

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

<400> 383
atggtgaccg gctggcggct gtgcgaacgc attctggcgg gaggaggtgg ctcaggtgga 60

gggagctccg tggccatcct ctggcatgag atgtggcatg aaggcctgga agaggcatct 120

cgtttgtact ttggggaaag gaacgtgaaa ggcatgtttg aggtgctgga gcccttgcat 180

gctatgatgg aacggggccc ccagactctg aaggaaacat cctttaatca ggcctatggt 240

cgagatttaa tggaggccca agagtggtgc aggaagtaca tgaaatcagg gaatgtcaag 300

gacctcaccc aagcctggga cctctattat catgtgttcc gacgaatctc a 351

<210> 384
<211> 117
<212> PRT
<213> Artificial Sequence

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

<400> 384
Met Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly
1 5 10 15

Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp
20 25 30

His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn
35 40 45

Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu
50 55 60

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

Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser
85 90 95

Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val
100 105 110

Phe Arg Arg Ile Ser
115

<210> 385
<211> 831
<212> DNA
<213> Artificial Sequence

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

<400> 385
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg a 831

<210> 386
<211> 277
<212> PRT
<213> Artificial Sequence

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

<400> 386
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys

35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly
275

<210> 387
<211> 327
<212> DNA
<213> Artificial Sequence

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

<400> 387
atgcgcattc tggcgggagg aggtggctca ggtggaggga gctccgtggc catcctctgg 60

catgagatgt ggcatgaagg cctggaagag gcatctcgtt tgtactttgg ggaaaggaac 120

gtgaaaggca tgtttgaggt gctggagccc ttgcatgcta tgatggaacg gggcccccag 180

actctgaagg aaacatcctt taatcaggcc tatggtcgag atttaatgga ggcccaagag 240

tggtgcagga agtacatgaa atcagggaat gtcaaggacc tcacccaagc ctgggacctc 300

tattatcatg tgttccgacg aatctca 327

<210> 388
<211> 109
<212> PRT
<213> Artificial Sequence

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

<400> 388
Met Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val
1 5 10 15

Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser
20 25 30

Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu
35 40 45

Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu
50 55 60

Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu
65 70 75 80

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

Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
100 105

<210> 389
<211> 855
<212> DNA
<213> Artificial Sequence

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

<400> 389
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcggctgt gcgaa 855

<210> 390
<211> 285
<212> PRT
<213> Artificial Sequence

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

<400> 390
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly

115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
275 280 285

<210> 391
<211> 501
<212> DNA
<213> Artificial Sequence

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

<400> 391
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag c 501

<210> 392
<211> 167
<212> PRT
<213> Artificial Sequence

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

<400> 392
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser
165

<210> 393
<211> 681
<212> DNA
<213> Artificial Sequence

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

<400> 393

atgggtgaaa atgggctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 60

ggcgaccaaa tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 120

cactttaagg tgatcctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 180

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 240

gtaacaggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 300

ggctccctgc tgttccgagt aaccatcaac ggagtgaccg gctggcggct gtgcgaacgc 360

attctggcgg gaggaggtgg ctcaggtgga gggagctccg tggccatcct ctggcatgag 420

atgtggcatg aaggcctgga agaggcatct cgtttgtact ttggggaaag gaacgtgaaa 480

ggcatgtttg aggtgctgga gcccttgcat gctatgatgg aacggggccc ccagactctg 540

aaggaaacat cctttaatca ggcctatggt cgagatttaa tggaggccca agagtggtgc 600

aggaagtaca tgaaatcagg gaatgtcaag gacctcaccc aagcctggga cctctattat 660

catgtgttcc gacgaatctc a 681

<210> 394
<211> 227
<212> PRT
<213> Artificial Sequence

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

<400> 394

Met Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
1 5 10 15

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
20 25 30

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
35 40 45

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
50 55 60

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
65 70 75 80

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
85 90 95

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

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser
115 120 125

Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu

130 135 140

Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys
145 150 155 160

Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly
165 170 175

Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp
180 185 190

Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn
195 200 205

Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg
210 215 220

Arg Ile Ser
225

<210> 395
<211> 507
<212> DNA
<213> Artificial Sequence

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

<400> 395
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaa 507

<210> 396
<211> 169
<212> PRT
<213> Artificial Sequence

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

<400> 396
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu
165

<210> 397
<211> 675
<212> DNA
<213> Artificial Sequence

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

<400> 397
atgaatgggc tgaagatcga catccatgtc atcatcccgt atgaaggtct gagcggcgac 60

caaatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 120

aaggtgatcc tgcactatgg cacactggta atcgacgggg ttacgccgaa catgatcgac 180

tatttcggac ggccgtatga aggcatcgcc gtgttcgacg gcaaaaagat cactgtaaca 240

gggaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 300

ctgctgttcc gagtaaccat caacggagtg accggctggc ggctgtgcga acgcattctg 360

gcgggaggag gtggctcagg tggagggagc tccgtggcca tcctctggca tgagatgtgg 420

catgaaggcc tggaagaggc atctcgtttg tactttgggg aaaggaacgt gaaaggcatg 480

tttgaggtgc tggagccctt gcatgctatg atggaacggg gcccccagac tctgaaggaa 540

acatccttta atcaggccta tggtcgagat ttaatggagg cccaagagtg gtgcaggaag 600

tacatgaaat cagggaatgt caaggacctc acccaagcct gggacctcta ttatcatgtg 660

ttccgacgaa tctca 675

<210> 398
<211> 225
<212> PRT
<213> Artificial Sequence

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

<400> 398

Met Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
1 5 10 15

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
20 25 30

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
35 40 45

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
50 55 60

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
65 70 75 80

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
85 90 95

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

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu
130 135 140

Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met
145 150 155 160

Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln
165 170 175

Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met
180 185 190

Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys

195 200 205

Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile
210 215 220

Ser
225

<210> 399
<211> 606
<212> DNA
<213> Artificial Sequence

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

<400> 399
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccct 606

<210> 400
<211> 202
<212> PRT
<213> Artificial Sequence

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

<400> 400
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
195 200

<210> 401
<211> 576
<212> DNA
<213> Artificial Sequence

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

<400> 401
atggtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 60

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 120

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 180

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 240

cggctgtgcg aacgcattct ggcgggagga ggtggctcag gtggagggag ctccgtggcc 300

atcctctggc atgagatgtg gcatgaaggc ctggaagagg catctcgttt gtactttggg 360

gaaaggaacg tgaaaggcat gtttgaggtg ctggagccct tgcatgctat gatggaacgg 420

ggcccccaga ctctgaagga aacatccttt aatcaggcct atggtcgaga tttaatggag 480

gcccaagagt ggtgcaggaa gtacatgaaa tcagggaatg tcaaggacct cacccaagcc 540

tgggacctct attatcatgt gttccgacga atctca 576

<210> 402
<211> 192
<212> PRT
<213> Artificial Sequence

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

<400> 402
Met Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
1 5 10 15

Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
20 25 30

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
35 40 45

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

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

Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly
85 90 95

Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu
100 105 110

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

Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr
130 135 140

Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu
145 150 155 160

Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp
165 170 175

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

<210> 403
<211> 612
<212> DNA
<213> Artificial Sequence

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

<400> 403
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg at 612

<210> 404
<211> 204
<212> PRT
<213> Artificial Sequence

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

<400> 404
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
195 200

<210> 405
<211> 570
<212> DNA
<213> Artificial Sequence

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

<400> 405
atggatcatc actttaaggt gatcctgcac tatggcacac tggtaatcga cggggttacg 60

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 120

aagatcactg taacagggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 180

aaccccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 240

tgcgaacgca ttctggcggg aggaggtggc tcaggtggag ggagctccgt ggccatcctc 300

tggcatgaga tgtggcatga aggcctggaa gaggcatctc gtttgtactt tggggaaagg 360

aacgtgaaag gcatgtttga ggtgctggag cccttgcatg ctatgatgga acggggcccc 420

cagactctga aggaaacatc ctttaatcag gcctatggtc gagatttaat ggaggcccaa 480

gagtggtgca ggaagtacat gaaatcaggg aatgtcaagg acctcaccca agcctgggac 540

ctctattatc atgtgttccg acgaatctca 570

<210> 406
<211> 190
<212> PRT
<213> Artificial Sequence

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

<400> 406
Met Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile
1 5 10 15

Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
20 25 30

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu

35 40 45

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

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
65 70 75 80

Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser
85 90 95

Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala
100 105 110

Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val
115 120 125

Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys
130 135 140

Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln
145 150 155 160

Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr
165 170 175

Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
180 185 190

<210> 407
<211> 726
<212> DNA
<213> Artificial Sequence

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

<400> 407
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggc 726

<210> 408
<211> 242
<212> PRT
<213> Artificial Sequence

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

<400> 408
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly

<210> 409
<211> 456
<212> DNA
<213> Artificial Sequence

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

<400> 409
atgaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 60

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 120

cggctgtgcg aacgcattct ggcgggagga ggtggctcag gtggagggag ctccgtggcc 180

atcctctggc atgagatgtg gcatgaaggc ctggaagagg catctcgttt gtactttggg 240

gaaaggaacg tgaaaggcat gtttgaggtg ctggagccct tgcatgctat gatggaacgg 300

ggcccccaga ctctgaagga aacatccttt aatcaggcct atggtcgaga tttaatggag 360

gcccaagagt ggtgcaggaa gtacatgaaa tcagggaatg tcaaggacct cacccaagcc 420

tgggacctct attatcatgt gttccgacga atctca 456

<210> 410
<211> 152
<212> PRT
<213> Artificial Sequence

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

<400> 410
Met Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
1 5 10 15

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
20 25 30

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
35 40 45

Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His
50 55 60

Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly

65 70 75 80

Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala
85 90 95

Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln
100 105 110

Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr
115 120 125

Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr
130 135 140

Tyr His Val Phe Arg Arg Ile Ser
145 150

<210> 411
<211> 729
<212> DNA
<213> Artificial Sequence

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

<400> 411
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaa 729

<210> 412
<211> 243
<212> PRT
<213> Artificial Sequence

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

<400> 412
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys

<210> 413
<211> 453

<212> DNA
<213> Artificial Sequence

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

<400> 413
atgaagatca ctgtaacagg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 60

atcaaccccg acggctccct gctgttccga gtaaccatca acggagtgac cggctggcgg 120

ctgtgcgaac gcattctggc gggaggaggt ggctcaggtg gagggagctc cgtggccatc 180

ctctggcatg agatgtggca tgaaggcctg gaagaggcat ctcgtttgta ctttggggaa 240

aggaacgtga aaggcatgtt tgaggtgctg gagcccttgc atgctatgat ggaacggggc 300

ccccagactc tgaaggaaac atcctttaat caggcctatg gtcgagattt aatggaggcc 360

caagagtggt gcaggaagta catgaaatca gggaatgtca aggacctcac ccaagcctgg 420

gacctctatt atcatgtgtt ccgacgaatc tca 453

<210> 414
<211> 151
<212> PRT
<213> Artificial Sequence

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

<400> 414
Met Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
1 5 10 15

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
20 25 30

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly
35 40 45

Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu
50 55 60

Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu
65 70 75 80

Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met
85 90 95

Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala
100 105 110

Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met
115 120 125

Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr

130 135 140

His Val Phe Arg Arg Ile Ser
145 150

<210> 415
<211> 864
<212> DNA
<213> Artificial Sequence

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

<400> 415
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcggctgt gcgaacgcat tctg 864

<210> 416
<211> 864
<212> DNA
<213> Artificial Sequence

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

<400> 416
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcggctgt gcgaacgcat tctg 864

<210> 417
<211> 288
<212> PRT
<213> Artificial Sequence

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

<400> 417
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro

145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu
275 280 285

<210> 418
<211> 318
<212> DNA
<213> Artificial Sequence

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

<400> 418
atggcgggag gaggtggctc aggtggaggg agctccgtgg ccatcctctg gcatgagatg 60

tggcatgaag gcctggaaga ggcatctcgt ttgtactttg gggaaaggaa cgtgaaaggc 120

atgtttgagg tgctggagcc cttgcatgct atgatggaac ggggccccca gactctgaag 180

gaaacatcct ttaatcaggc ctatggtcga gatttaatgg aggcccaaga gtggtgcagg 240

aagtacatga aatcagggaa tgtcaaggac ctcacccaag cctgggacct ctattatcat 300

gtgttccgac gaatctca 318

<210> 419
<211> 106
<212> PRT
<213> Artificial Sequence

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

<400> 419

155193_1

Met Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala Ile Leu
1 5 10 15

Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr
20 25 30

Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu
35 40 45

His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe
50 55 60

Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg
65 70 75 80

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

Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
100 105

<210> 420
<211> 858
<212> DNA
<213> Artificial Sequence

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

<400> 420
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcggctgt gcgaacgc 858

<210> 421
<211> 286
<212> PRT
<213> Artificial Sequence

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

<400> 421
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe

225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
275 280 285

<210> 422
<211> 324
<212> DNA
<213> Artificial Sequence

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

<400> 422
atgattctgg cgggaggagg tggctcaggt ggagggagct ccgtggccat cctctggcat 60

gagatgtggc atgaaggcct ggaagaggca tctcgtttgt actttgggga aaggaacgtg 120

aaaggcatgt ttgaggtgct ggagcccttg catgctatga tggaacgggg cccccagact 180

ctgaaggaaa catcctttaa tcaggcctat ggtcgagatt taatggaggc ccaagagtgg 240

tgcaggaagt acatgaaatc agggaatgtc aaggacctca cccaagcctg ggacctctat 300

tatcatgtgt tccgacgaat ctca 324

<210> 423
<211> 108
<212> PRT
<213> Artificial Sequence

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

<400> 423
Met Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Val Ala
1 5 10 15

Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg
20 25 30

Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu
35 40 45

Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr
50 55 60

Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp
65 70 75 80

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

Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
100 105

<210> 424
<211> 852
<212> DNA
<213> Artificial Sequence

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

<400> 424
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcggctgt gc 852

<210> 425
<211> 284
<212> PRT
<213> Artificial Sequence

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

<400> 425
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys

35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
275 280

<210> 426
<211> 330
<212> DNA
<213> Artificial Sequence

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

<400> 426
atggaacgca ttctggcggg aggaggtggc tcaggtggag ggagctccgt ggccatcctc 60

tggcatgaga tgtggcatga aggcctggaa gaggcatctc gtttgtactt tggggaaagg 120

aacgtgaaag gcatgtttga ggtgctggag cccttgcatg ctatgatgga acggggcccc 180

cagactctga aggaaacatc ctttaatcag gcctatggtc gagatttaat ggaggcccaa 240

gagtggtgca ggaagtacat gaaatcaggg aatgtcaagg acctcaccca agcctgggac 300

ctctattatc atgtgttccg acgaatctca 330

<210> 427
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Dinoflagellate
luciferase consensus sequence

<220>
<221> MOD_RES
<222> (6)..(6)
<223> Val or Ile

<220>
<221> MOD_RES
<222> (11)..(11)
<223> Ala, Val, Thr, or Lys

<220>
<221> MOD_RES
<222> (12)..(12)
<223> Ala or Glu

<220>
<221> MOD_RES
<222> (16)..(16)
<223> Glu, Lys, Thr, or Gln

<220>
<221> MOD_RES
<222> (17)..(17)
<223> Ala or Val

<220>
<221> MOD_RES
<222> (18)..(18)
<223> Val or Ile

<400> 427
Gly Arg Trp Ile Thr Xaa Ser Gly Gly Gln Xaa Xaa Phe Ile Lys Xaa
1 5 10 15

Xaa Xaa

<210> 428

<211> 110
<212> PRT
<213> Artificial Sequence

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

<400> 428
Met Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser
1 5 10 15

Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu Glu Ala
20 25 30

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

Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys
50 55 60

Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln
65 70 75 80

Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr
85 90 95

Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg Ile Ser
100 105 110

<210> 429
<211> 846
<212> DNA
<213> Artificial Sequence

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

<400> 429
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

tggcgg 846

<210> 430
<211> 282
<212> PRT
<213> Artificial Sequence

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

<400> 430
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val Thr Gly Trp Arg
275 280

<210> 431
<211> 336
<212> DNA
<213> Artificial Sequence

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

<400> 431
atgctgtgcg aacgcattct ggcgggagga ggtggctcag gtggagggag ctccgtggcc 60

atcctctggc atgagatgtg gcatgaaggc ctggaagagg catctcgttt gtactttggg 120

gaaaggaacg tgaaaggcat gtttgaggtg ctggagccct tgcatgctat gatggaacgg 180

ggcccccaga ctctgaagga aacatccttt aatcaggcct atggtcgaga tttaatggag 240

gcccaagagt ggtgcaggaa gtacatgaaa tcagggaatg tcaaggacct cacccaagcc 300

tgggacctct attatcatgt gttccgacga atctca 336

<210> 432
<211> 112
<212> PRT
<213> Artificial Sequence

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

<400> 432
Met Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly Gly Gly
1 5 10 15

Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly Leu Glu
20 25 30

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

Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro Gln Thr
50 55 60

Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu
65 70 75 80

Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val Lys Asp
85 90 95

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

<210> 433
<211> 840
<212> DNA
<213> Artificial Sequence

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

<400> 433
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 840

<210> 434
<211> 280
<212> PRT
<213> Artificial Sequence

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

<400> 434
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

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Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
            20                  25                  30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
        35                  40                  45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
    50                  55                  60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65                  70                  75                  80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
                85                  90                  95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
            100                 105                 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
        115                 120                 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
    130                 135                 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145                 150                 155                 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
                165                 170                 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
            180                 185                 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
        195                 200                 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
    210                 215                 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225                 230                 235                 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
                245                 250                 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
            260                 265                 270

Val Thr Ile Asn Gly Val Thr Gly
        275                 280
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<210> 435
<211> 342
<212> DNA
<213> Artificial Sequence

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

<400> 435
atgtggcggc tgtgcgaacg cattctggcg ggaggaggtg gctcaggtgg agggagctcc 60

gtggccatcc tctggcatga gatgtggcat gaaggcctgg aagaggcatc tcgtttgtac 120

tttggggaaa ggaacgtgaa aggcatgttt gaggtgctgg agcccttgca tgctatgatg 180

gaacggggcc cccagactct gaaggaaaca tcctttaatc aggcctatgg tcgagattta 240

atggaggccc aagagtggtg caggaagtac atgaaatcag ggaatgtcaa ggacctcacc 300

caagcctggg acctctatta tcatgtgttc cgacgaatct ca 342

<210> 436
<211> 114
<212> PRT
<213> Artificial Sequence

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

<400> 436
Met Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His Glu Gly
20 25 30

Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val Lys Gly
35 40 45

Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg Gly Pro
50 55 60

Gln Thr Leu Lys Glu Thr Ser Phe Asn Gln Ala Tyr Gly Arg Asp Leu
65 70 75 80

Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly Asn Val
85 90 95

Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe Arg Arg
100 105 110

Ile Ser

<210> 437

<211> 834
<212> DNA
<213> Artificial Sequence

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

<400> 437
atgggagtgc aggtggaaac catctcccca ggagacgggc gcaccttccc caagcgcggc 60

cagacctgcg tggtgcacta caccgggatg cttgaagatg gaaagaaatt tgattcctcc 120

cgggacagaa acaagccctt taagtttatg ctaggcaagc aggaggtgat ccgaggctgg 180

gaagaagggg ttgcccagat gagtgtgggt cagagagcca aactgactat atctccagat 240

tatgcctatg gtgccactgg gcacccaggc atcatcccac cacatgccac tctcgtcttc 300

gatgtggagc ttctaaaact ggaaggagga gggagctccg gtggaggcag cggtatggtc 360

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 420

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 480

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 540

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 600

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 660

ggggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 720

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 780

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtg 834

<210> 438
<211> 278
<212> PRT
<213> Artificial Sequence

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

<400> 438
Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Gly Ser
100 105 110

Ser Gly Gly Gly Ser Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly
115 120 125

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
130 135 140

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
145 150 155 160

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
165 170 175

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
180 185 190

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
195 200 205

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
210 215 220

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
225 230 235 240

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
245 250 255

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
260 265 270

Val Thr Ile Asn Gly Val
275

<210> 439
<211> 348
<212> DNA
<213> Artificial Sequence

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

<400> 439
atgaccggct ggcggctgtg cgaacgcatt ctggcgggag gaggtggctc aggtggaggg 60

agctccgtgg ccatcctctg gcatgagatg tggcatgaag gcctggaaga ggcatctcgt 120

ttgtactttg gggaaaggaa cgtgaaaggc atgtttgagg tgctggagcc cttgcatgct 180

atgatggaac ggggccccca gactctgaag gaaacatcct ttaatcaggc ctatggtcga 240

gatttaatgg aggcccaaga gtggtgcagg aagtacatga aatcagggaa tgtcaaggac 300

ctcacccaag cctgggacct ctattatcat gtgttccgac gaatctca 348

<210> 440
<211> 116
<212> PRT
<213> Artificial Sequence

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

<400> 440
Met Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Gly Gly Gly
1 5 10 15

Ser Gly Gly Gly Ser Ser Val Ala Ile Leu Trp His Glu Met Trp His
20 25 30

Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr Phe Gly Glu Arg Asn Val
35 40 45

Lys Gly Met Phe Glu Val Leu Glu Pro Leu His Ala Met Met Glu Arg
50 55 60

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

Asp Leu Met Glu Ala Gln Glu Trp Cys Arg Lys Tyr Met Lys Ser Gly
85 90 95

Asn Val Lys Asp Leu Thr Gln Ala Trp Asp Leu Tyr Tyr His Val Phe
100 105 110

Arg Arg Ile Ser
115

<210> 441
<211> 447
<212> DNA
<213> Artificial Sequence

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

<400> 441
atgtatgaaa gctttattga gtcactgcca ttccttaaat ctttggagtt ttctgcacgc 60

ctgaaagtag tagatgtgat aggcaccaaa gtatacaacg atggagaaca aatcattgct 120

cagggagatt cggctgattc ttttttcatt attgaatctg gagaagtgaa aattactatg 180

aaaagaaagg gtaaatcaga agtggaagag aatggtgcag tagaaatcgc tcgatgctcg 240

cggggacagt actttggaga gcttgccctg gtaactaaca aacctcgagc agcttctgcc 300

cacgccattg ggactgtcaa atgtttagca atggatgtgc aagcatttga aaggcttctg 360

ggaccttgca tggaaattat gaaaaggaac atcgctacct atgaagaaca gttagttgcc 420

ctgtatggaa cgaacatgga tattgta 447

<210> 442
<211> 149
<212> PRT
<213> Artificial Sequence

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

<400> 442
Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu
1 5 10 15

Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr
20 25 30

Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe
35 40 45

Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly
50 55 60

Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser
65 70 75 80

Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg
85 90 95

Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp
100 105 110

Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys
115 120 125

Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr
130 135 140

Asn Met Asp Ile Val
145

<210> 443
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 443

atgacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 60

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 120

ctgaagatcg acatccatgt catcatcccg tatgaaggtc tgagcggcga tcagatgggc 180

cagatcgaaa aaatttttaa ggtggtgtac cctgtggatg atcatcactt taaggtgatt 240

ctgcactatg gcacactggt aatcgacggg gttacgccga acatgatcga ctatttcgga 300

cggccgtatg aaggcatcgc cgtgttcgac ggcaaaaaga tcactgtaac cgggaccctg 360

tggaacggca acaaaattat cgacgagcgc ctgatcaacc ccgacggctc cctgctgttc 420

cgcgtaacca tcaacggagt gaccggctgg cggctgtgcg agcgcatttt ggcgggaagt 480

tctggtggag gaagttctgg tggagagcct actactgaga acttgtactt ccagagcgat 540

aacggaagtt ctggtggagg aagttctggt ggaatggtgt ttacactcga agatttcgta 600

ggggactggc ggcag 615

<210> 444
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 444

Met	Thr	Ala	Gly	Tyr	Asn	Leu	Asp	Gln	Val	Leu	Glu	Gln	Gly	Gly	Val
1				5				10					15		
Ser	Ser	Leu	Phe	Gln	Asn	Leu	Gly	Val	Ser	Val	Thr	Pro	Ile	Gln	Arg
			20				25					30			
Ile	Val	Leu	Ser	Gly	Glu	Asn	Gly	Leu	Lys	Ile	Asp	Ile	His	Val	Ile
		35				40					45				
Ile	Pro	Tyr	Glu	Gly	Leu	Ser	Gly	Asp	Gln	Met	Gly	Gln	Ile	Glu	Lys
	50				55					60					
Ile	Phe	Lys	Val	Val	Tyr	Pro	Val	Asp	Asp	His	His	Phe	Lys	Val	Ile
65				70					75					80	
Leu	His	Tyr	Gly	Thr	Leu	Val	Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile
				85					90					95	
Asp	Tyr	Phe	Gly	Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys
			100					105					110		
Lys	Ile	Thr	Val	Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp
		115					120					125			
Glu	Arg	Leu	Ile	Asn	Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile
	130					135					140				

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser
145 150 155 160

Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr Glu Asn Leu Tyr
165 170 175

Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met
180 185 190

Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln
195 200 205

<210> 445
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 445
atgcatgtca tcatcccgta tgaaggtctg agcggcgatc agatgggcca gatcgaaaaa 60

atttttaagg tggtgtaccc tgtggatgat catcacttta aggtgattct gcactatggc 120

acactggtaa tcgacggggt tacgccgaac atgatcgact atttcggacg gccgtatgaa 180

ggcatcgccg tgttcgacgg caaaaagatc actgtaaccg ggaccctgtg gaacggcaac 240

aaaattatcg acgagcgcct gatcaacccc gacggctccc tgctgttccg cgtaaccatc 300

aacggagtga ccggctggcg gctgtgcgag cgcattttgg cgggaagttc tggtggagga 360

agttctggtg gagagcctac tactgagaac ttgtacttcc agagcgataa cggaagttct 420

ggtggaggaa gttctggtgg aatggtgttt acactcgaag atttcgtagg ggactggcgg 480

cagacagccg gctacaacct ggaccaagtc cttgagcagg gcggtgtgtc cagtttgttt 540

cagaatctcg gggtgtccgt aactccgatc caaaggattg tcctgagcgg tgaaaacggc 600

ctgaagatcg acatc 615

<210> 446
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 446
Met His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
1 5 10 15

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
20 25 30

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
35 40 45

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
50 55 60

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
65 70 75 80

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
85 90 95

Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile
100 105 110

Leu Ala Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Glu Pro Thr Thr
115 120 125

Glu Asn Leu Tyr Phe Gln Ser Asp Asn Gly Ser Ser Gly Gly Gly Ser
130 135 140

Ser Gly Gly Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg
145 150 155 160

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
165 170 175

Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
180 185 190

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
195 200 205

<210> 447
<211> 615
<212> DNA
<213> Artificial Sequence

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

<400> 447
atggtaatcg acggggttac gccgaacatg atcgactatt tcggacggcc gtatgaaggc 60

atcgccgtgt tcgacggcaa aaagatcact gtaaccggga ccctgtggaa cggcaacaaa 120

attatcgacg agcgcctgat caaccccgac ggctccctgc tgttccgcgt aaccatcaac 180

ggagtgaccg gctggcggct gtgcgagcgc attttggcgg gaagttctgg tggaggaagt 240

tctggtggag agcctactac tgagaacttg tacttccaga gcgataacgg aagttctggt 300

ggaggaagtt ctggtggaat ggtgtttaca ctcgaagatt tcgtagggga ctggcggcag 360

acagccggct acaacctgga ccaagtcctt gagcagggcg gtgtgtccag tttgtttcag 420

aatctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 480

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 540

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 600

cactatggca cactg 615

<210> 448
<211> 205
<212> PRT
<213> Artificial Sequence

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

<400> 448
Met Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
1 5 10 15

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

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
35 40 45

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

Trp Arg Leu Cys Glu Arg Ile Leu Ala Gly Ser Ser Gly Gly Gly Ser
65 70 75 80

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

Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Met Val Phe Thr Leu Glu
100 105 110

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
115 120 125

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
130 135 140

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
145 150 155 160

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
165 170 175

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
180 185 190

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu

195 200 205

<210> 449
<211> 2019
<212> DNA
<213> Homo sapiens

<400> 449
atggctgacg ttttcccggg caacgactcc acggcgtctc aggacgtggc caaccgcttc 60

gcccgcaaag gggcgctgag gcagaagaac gtgcacgagg tgaaggacca caaattcatc 120

gcgcgcttct tcaagcagcc caccttctgc agccactgca ccgacttcat ctgggggttt 180

gggaaacaag gcttccagtg ccaagtttgc tgttttgtgg tccacaagag gtgccatgaa 240

tttgttactt tttcttgtcc gggtgcggat aagggacccg acactgatga ccccaggagc 300

aagcacaagt tcaaaatcca cacttacgga agccccacct tctgcgatca ctgtgggtca 360

ctgctctatg gacttatcca tcaagggatg aaatgtgaca cctgcgatat gaacgttcac 420

aagcaatgcg tcatcaatgt ccccagcctc tgcggaatgg atcacactga gaagaggggg 480

cggatttacc taaaggctga ggttgctgat gaaaagctcc atgtcacagt acgagatgca 540

aaaaatctaa tccctatgga tccaaacggg ctttcagatc cttatgtgaa gctgaaactt 600

attcctgatc ccaagaatga aagcaagcaa aaaaccaaaa ccatccgctc cacactaaat 660

ccgcagtgga atgagtcctt tacattcaaa ttgaaacctt cagacaaaga ccgacgactg 720

tctgtagaaa tctgggactg ggatcgaaca acaaggaatg acttcatggg atccctttcc 780

tttggagttt cggagctgat gaagatgccg gccagtggat ggtacaagtt gcttaaccaa 840

gaagaaggtg agtactacaa cgtacccatt ccggaagggg acgaggaagg aaacatggaa 900

ctcaggcaga aattcgagaa agccaaactt ggccctgctg gcaacaaagt catcagtccc 960

tctgaagaca ggaaacaacc ttccaacaac cttgaccgag tgaaactcac ggacttcaat 1020

ttcctcatgg tgttgggaaa ggggagtttt ggaaaggtga tgcttgccga caggaagggc 1080

acagaagaac tgtatgcaat caaaatcctg aagaaggatg tggtgattca ggatgatgac 1140

gtggagtgca ccatggtaga aaagcgagtc ttggccctgc ttgacaaacc cccgttcttg 1200

acgcagctgc actcctgctt ccagacagtg gatcggctgt acttcgtcat ggaatatgtc 1260

aacggtgggg acctcatgta ccacattcag caagtaggaa aatttaagga accacaagca 1320

gtattctatg cggcagagat ttccatcgga ttgttctttc ttcataaaag aggaatcatt 1380

tatagggatc tgaagttaga taacgtcatg ttggattcag aaggacatat caaaattgct 1440

gactttggga tgtgcaagga acacatgatg gatggagtca cgaccaggac cttctgtggg 1500

actccagatt atatcgcccc agagataatc gcttatcagc cgtatggaaa atctgtggac 1560

tggtgggcct atggcgtcct gttgtatgaa atgcttgccg ggcagcctcc atttgatggt 1620

gaagatgaag acgagctatt tcagtctatc atggagcaca acgtttccta tccaaaatcc 1680

ttgtccaagg aggctgtttc tatctgcaaa ggactgatga ccaaacaccc agccaagcgg 1740

ctgggctgtg ggcctgaggg ggagagggac gtgagagagc atgccttctt ccggaggatc 1800

gactgggaaa aactggagaa cagggagatc cagccaccat tcaagcccaa agtgtgtggc 1860

aaaggagcag agaactttga caagttcttc acacgaggac agcccgtctt aacaccacct 1920

gatcagctgg ttattgctaa catagaccag tctgattttg aagggttctc gtatgtcaac 1980

ccccagtttg tgcaccccat cttacagagt gcagtagtt 2019

<210> 450
<211> 673
<212> PRT
<213> Homo sapiens

<400> 450
Met Ala Asp Val Phe Pro Gly Asn Asp Ser Thr Ala Ser Gln Asp Val
1 5 10 15

Ala Asn Arg Phe Ala Arg Lys Gly Ala Leu Arg Gln Lys Asn Val His
20 25 30

Glu Val Lys Asp His Lys Phe Ile Ala Arg Phe Phe Lys Gln Pro Thr
35 40 45

Phe Cys Ser His Cys Thr Asp Phe Ile Trp Gly Phe Gly Lys Gln Gly
50 55 60

Phe Gln Cys Gln Val Cys Cys Phe Val Val His Lys Arg Cys His Glu
65 70 75 80

Phe Val Thr Phe Ser Cys Pro Gly Ala Asp Lys Gly Pro Asp Thr Asp
85 90 95

Asp Pro Arg Ser Lys His Lys Phe Lys Ile His Thr Tyr Gly Ser Pro
100 105 110

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

Gly Met Lys Cys Asp Thr Cys Asp Met Asn Val His Lys Gln Cys Val
130 135 140

Ile Asn Val Pro Ser Leu Cys Gly Met Asp His Thr Glu Lys Arg Gly
145 150 155 160

Arg Ile Tyr Leu Lys Ala Glu Val Ala Asp Glu Lys Leu His Val Thr
165 170 175

Val Arg Asp Ala Lys Asn Leu Ile Pro Met Asp Pro Asn Gly Leu Ser
180 185 190

Asp Pro Tyr Val Lys Leu Lys Leu Ile Pro Asp Pro Lys Asn Glu Ser
195 200 205

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Lys Gln Lys Thr Lys Thr Ile Arg Ser Thr Leu Asn Pro Gln Trp Asn
    210                 215                 220

Glu Ser Phe Thr Phe Lys Leu Lys Pro Ser Asp Lys Asp Arg Arg Leu
225                 230                 235                 240

Ser Val Glu Ile Trp Asp Trp Asp Arg Thr Thr Arg Asn Asp Phe Met
                245                 250                 255

Gly Ser Leu Ser Phe Gly Val Ser Glu Leu Met Lys Met Pro Ala Ser
            260                 265                 270

Gly Trp Tyr Lys Leu Leu Asn Gln Glu Glu Gly Glu Tyr Tyr Asn Val
        275                 280                 285

Pro Ile Pro Glu Gly Asp Glu Glu Gly Asn Met Glu Leu Arg Gln Lys
    290                 295                 300

Phe Glu Lys Ala Lys Leu Gly Pro Ala Gly Asn Lys Val Ile Ser Pro
305                 310                 315                 320

Ser Glu Asp Arg Lys Gln Pro Ser Asn Asn Leu Asp Arg Val Lys Leu
                325                 330                 335

Thr Asp Phe Asn Phe Leu Met Val Leu Gly Lys Gly Ser Phe Gly Lys
            340                 345                 350

Val Met Leu Ala Asp Arg Lys Gly Thr Glu Glu Leu Tyr Ala Ile Lys
        355                 360                 365

Ile Leu Lys Lys Asp Val Val Ile Gln Asp Asp Asp Val Glu Cys Thr
    370                 375                 380

Met Val Glu Lys Arg Val Leu Ala Leu Leu Asp Lys Pro Pro Phe Leu
385                 390                 395                 400

Thr Gln Leu His Ser Cys Phe Gln Thr Val Asp Arg Leu Tyr Phe Val
                405                 410                 415

Met Glu Tyr Val Asn Gly Gly Asp Leu Met Tyr His Ile Gln Gln Val
            420                 425                 430

Gly Lys Phe Lys Glu Pro Gln Ala Val Phe Tyr Ala Ala Glu Ile Ser
        435                 440                 445

Ile Gly Leu Phe Phe Leu His Lys Arg Gly Ile Ile Tyr Arg Asp Leu
    450                 455                 460

Lys Leu Asp Asn Val Met Leu Asp Ser Glu Gly His Ile Lys Ile Ala
465                 470                 475                 480
```

Asp Phe Gly Met Cys Lys Glu His Met Met Asp Gly Val Thr Thr Arg
485 490 495

Thr Phe Cys Gly Thr Pro Asp Tyr Ile Ala Pro Glu Ile Ile Ala Tyr
500 505 510

Gln Pro Tyr Gly Lys Ser Val Asp Trp Trp Ala Tyr Gly Val Leu Leu
515 520 525

Tyr Glu Met Leu Ala Gly Gln Pro Pro Phe Asp Gly Glu Asp Glu Asp
530 535 540

Glu Leu Phe Gln Ser Ile Met Glu His Asn Val Ser Tyr Pro Lys Ser
545 550 555 560

Leu Ser Lys Glu Ala Val Ser Ile Cys Lys Gly Leu Met Thr Lys His
565 570 575

Pro Ala Lys Arg Leu Gly Cys Gly Pro Glu Gly Glu Arg Asp Val Arg
580 585 590

Glu His Ala Phe Phe Arg Arg Ile Asp Trp Glu Lys Leu Glu Asn Arg
595 600 605

Glu Ile Gln Pro Pro Phe Lys Pro Lys Val Cys Gly Lys Gly Ala Glu
610 615 620

Asn Phe Asp Lys Phe Phe Thr Arg Gly Gln Pro Val Leu Thr Pro Pro
625 630 635 640

Asp Gln Leu Val Ile Ala Asn Ile Asp Gln Ser Asp Phe Glu Gly Phe
645 650 655

Ser Tyr Val Asn Pro Gln Phe Val His Pro Ile Leu Gln Ser Ala Val
660 665 670

Val

<210> 451
<211> 2334
<212> DNA
<213> Homo sapiens

<400> 451
atggactcca aagaatcatt aactcctggt agagaagaaa accccagcag tgtgcttgct 60

caggagaggg gagatgtgat ggacttctat aaaaccctaa gaggaggagc tactgtgaag 120

gtttctgcgt cttcaccctc actggctgtc gcttctcaat cagactccaa gcagcgaaga 180

cttttggttg attttccaaa aggctcagta agcaatgcgc agcagccaga tctgtccaaa 240

gcagtttcac tctcaatggg actgtatatg ggagagacag aaacaaaagt gatgggaaat 300

gacctgggat tcccacagca gggccaaatc agcctttcct cgggggaaac agacttaaag 360

cttttggaag aaagcattgc aaacctcaat aggtcgacca gtgttccaga gaaccccaag 420

agttcagcat ccactgctgt gtctgctgcc cccacagaga aggagtttcc aaaaactcac 480

tctgatgtat cttcagaaca gcaacatttg aagggccaga ctggcaccaa cggtggcaat 540

gtgaaattgt ataccacaga ccaaagcacc tttgacattt tgcaggattt ggagttttct 600

tctgggtccc caggtaaaga gacgaatgag agtccttgga gatcagacct gttgatagat 660

gaaaactgtt tgctttctcc tctggcggga gaagacgatt cattcctttt ggaaggaaac 720

tcgaatgagg actgcaagcc tctcatttta ccggacacta aacccaaaat taaggataat 780

ggagatctgg ttttgtcaag ccccagtaat gtaacactgc cccaagtgaa aacagaaaaa 840

gaagatttca tcgaactctg caccctgggg gtaattaagc aagagaaact gggcacagtt 900

tactgtcagg caagctttcc tggagcaaat ataattggta ataaaatgtc tgccatttct 960

gttcatggtg tgagtacctc tggaggacag atgtaccact atgacatgaa tacagcatcc 1020

ctttctcaac agcaggatca gaagcctatt tttaatgtca ttccaccaat tcccgttggt 1080

tccgaaaatt ggaataggtg ccaaggatct ggagatgaca acttgacttc tctggggact 1140

ctgaacttcc ctggtcgaac agtttttttct aatggctatt caagccccag catgagacca 1200

gatgtaagct ctcctccatc cagctcctca acagcaacaa caggaccacc tcccaaactc 1260

tgcctggtgt gctctgatga agcttcagga tgtcattatg gagtcttaac ttgtggaagc 1320

tgtaaagttt tcttcaaaag agcagtggaa ggacagcaca attacctatg tgctggaagg 1380

aatgattgca tcatcgataa aattcgaaga aaaaactgcc cagcatgccg ctatcgaaaa 1440

tgtcttcagg ctggaatgaa cctggaagct cgaaaaacaa agaaaaaaat aaaaggaatt 1500

cagcaggcca ctacaggagt ctcacaagaa acctctgaaa atcctggtaa caaaacaata 1560

gttcctgcaa cgttaccaca actcacccct accctggtgt cactgttgga ggttattgaa 1620

cctgaagtgt tatatgcagg atatgatagc tctgttccag actcaacttg gaggatcatg 1680

actacgctca acatgttagg agggcggcaa gtgattgcag cagtgaaatg ggcaaaggca 1740

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atgtttctta tggcatttgc tctggggtgg agatcatata gacaatcaag tgcaaacctg 1860

ctgtgttttg ctcctgatct gattattaat gagcagagaa tgactctacc ctgcatgtac 1920

gaccaatgta aacacatgct gtatgtttcc tctgagttac acaggcttca ggtatcttat 1980

gaagagtatc tctgtatgaa aaccttactg cttctctctt cagttcctaa ggacggtctg 2040

aagagccaag agctatttga tgaaattaga atgacctaca tcaaagagct aggaaaagcc 2100

attgtcaaga gggaaggaaa ctccagccag aactggcagc ggttttatca actgacaaaa 2160

ctcttggatt ctatgcatga agtggttgaa aatctcctta actattgctt ccaaacattt 2220

ttggataaga ccatgagtat tgaattcccc gagatgttag ctgaaatcat caccaatcag 2280

ataccaaaat attcaaatgg aaatatcaaa aaacttctgt ttcatcaaaa ggtt 2334

<210> 452
<211> 778
<212> PRT
<213> Homo sapiens

<400> 452
Met Asp Ser Lys Glu Ser Leu Thr Pro Gly Arg Glu Glu Asn Pro Ser
1 5 10 15

Ser Val Leu Ala Gln Glu Arg Gly Asp Val Met Asp Phe Tyr Lys Thr
20 25 30

Leu Arg Gly Gly Ala Thr Val Lys Val Ser Ala Ser Ser Pro Ser Leu
35 40 45

Ala Val Ala Ser Gln Ser Asp Ser Lys Gln Arg Arg Leu Leu Val Asp
50 55 60

Phe Pro Lys Gly Ser Val Ser Asn Ala Gln Gln Pro Asp Leu Ser Lys
65 70 75 80

Ala Val Ser Leu Ser Met Gly Leu Tyr Met Gly Glu Thr Glu Thr Lys
85 90 95

Val Met Gly Asn Asp Leu Gly Phe Pro Gln Gln Gly Gln Ile Ser Leu
100 105 110

Ser Ser Gly Glu Thr Asp Leu Lys Leu Leu Glu Glu Ser Ile Ala Asn
115 120 125

Leu Asn Arg Ser Thr Ser Val Pro Glu Asn Pro Lys Ser Ser Ala Ser
130 135 140

Thr Ala Val Ser Ala Ala Pro Thr Glu Lys Glu Phe Pro Lys Thr His
145 150 155 160

Ser Asp Val Ser Ser Glu Gln Gln His Leu Lys Gly Gln Thr Gly Thr
165 170 175

Asn Gly Gly Asn Val Lys Leu Tyr Thr Thr Asp Gln Ser Thr Phe Asp
180 185 190

Ile Leu Gln Asp Leu Glu Phe Ser Ser Gly Ser Pro Gly Lys Glu Thr
195 200 205

Asn Glu Ser Pro Trp Arg Ser Asp Leu Leu Ile Asp Glu Asn Cys Leu
210 215 220

Leu Ser Pro Leu Ala Gly Glu Asp Asp Ser Phe Leu Leu Glu Gly Asn
225 230 235 240

Ser Asn Glu Asp Cys Lys Pro Leu Ile Leu Pro Asp Thr Lys Pro Lys

245 250 255

Ile Lys Asp Asn Gly Asp Leu Val Leu Ser Ser Pro Ser Asn Val Thr
260 265 270

Leu Pro Gln Val Lys Thr Glu Lys Glu Asp Phe Ile Glu Leu Cys Thr
275 280 285

Pro Gly Val Ile Lys Gln Glu Lys Leu Gly Thr Val Tyr Cys Gln Ala
290 295 300

Ser Phe Pro Gly Ala Asn Ile Ile Gly Asn Lys Met Ser Ala Ile Ser
305 310 315 320

Val His Gly Val Ser Thr Ser Gly Gly Gln Met Tyr His Tyr Asp Met
325 330 335

Asn Thr Ala Ser Leu Ser Gln Gln Gln Asp Gln Lys Pro Ile Phe Asn
340 345 350

Val Ile Pro Pro Ile Pro Val Gly Ser Glu Asn Trp Asn Arg Cys Gln
355 360 365

Gly Ser Gly Asp Asp Asn Leu Thr Ser Leu Gly Thr Leu Asn Phe Pro
370 375 380

Gly Arg Thr Val Phe Ser Asn Gly Tyr Ser Ser Pro Ser Met Arg Pro
385 390 395 400

Asp Val Ser Ser Pro Pro Ser Ser Ser Ser Thr Ala Thr Thr Gly Pro
405 410 415

Pro Pro Lys Leu Cys Leu Val Cys Ser Asp Glu Ala Ser Gly Cys His
420 425 430

Tyr Gly Val Leu Thr Cys Gly Ser Cys Lys Val Phe Phe Lys Arg Ala
435 440 445

Val Glu Gly Gln His Asn Tyr Leu Cys Ala Gly Arg Asn Asp Cys Ile
450 455 460

Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro Ala Cys Arg Tyr Arg Lys
465 470 475 480

Cys Leu Gln Ala Gly Met Asn Leu Glu Ala Arg Lys Thr Lys Lys Lys
485 490 495

Ile Lys Gly Ile Gln Gln Ala Thr Thr Gly Val Ser Gln Glu Thr Ser
500 505 510

Glu Asn Pro Gly Asn Lys Thr Ile Val Pro Ala Thr Leu Pro Gln Leu

515 520 525

Thr Pro Thr Leu Val Ser Leu Leu Glu Val Ile Glu Pro Glu Val Leu
530 535 540

Tyr Ala Gly Tyr Asp Ser Ser Val Pro Asp Ser Thr Trp Arg Ile Met
545 550 555 560

Thr Thr Leu Asn Met Leu Gly Gly Arg Gln Val Ile Ala Ala Val Lys
565 570 575

Trp Ala Lys Ala Ile Pro Gly Phe Arg Asn Leu His Leu Asp Asp Gln
580 585 590

Met Thr Leu Leu Gln Tyr Ser Trp Met Phe Leu Met Ala Phe Ala Leu
595 600 605

Gly Trp Arg Ser Tyr Arg Gln Ser Ser Ala Asn Leu Leu Cys Phe Ala
610 615 620

Pro Asp Leu Ile Ile Asn Glu Gln Arg Met Thr Leu Pro Cys Met Tyr
625 630 635 640

Asp Gln Cys Lys His Met Leu Tyr Val Ser Ser Glu Leu His Arg Leu
645 650 655

Gln Val Ser Tyr Glu Glu Tyr Leu Cys Met Lys Thr Leu Leu Leu Leu
660 665 670

Ser Ser Val Pro Lys Asp Gly Leu Lys Ser Gln Glu Leu Phe Asp Glu
675 680 685

Ile Arg Met Thr Tyr Ile Lys Glu Leu Gly Lys Ala Ile Val Lys Arg
690 695 700

Glu Gly Asn Ser Ser Gln Asn Trp Gln Arg Phe Tyr Gln Leu Thr Lys
705 710 715 720

Leu Leu Asp Ser Met His Glu Val Val Glu Asn Leu Leu Asn Tyr Cys
725 730 735

Phe Gln Thr Phe Leu Asp Lys Thr Met Ser Ile Glu Phe Pro Glu Met
740 745 750

Leu Ala Glu Ile Ile Thr Asn Gln Ile Pro Lys Tyr Ser Asn Gly Asn
755 760 765

Ile Lys Lys Leu Leu Phe His Gln Lys Val
770 775

<210> 453

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

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

<400> 453
ggtggttcag gtggtggcgg gagcggtgga gggagcagcg gtggagcgat cgcc 54

<210> 454
<211> 18
<212> PRT
<213> Artificial Sequence

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

<400> 454
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Gly Gly Ala
1 5 10 15

Ile Ala

<210> 455
<211> 51
<212> DNA
<213> Artificial Sequence

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

<400> 455
tctctcggtg gttcaggtgg tggcgggagc ggtggaggga gcagcggtgg a 51

<210> 456
<211> 17
<212> PRT
<213> Artificial Sequence

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

<400> 456
Ser Leu Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Ser Ser Gly
1 5 10 15

Gly

<210> 457
<211> 11
<212> DNA
<213> Artificial Sequence

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

oligonucleotide

<400> 457
gctcgagcgg a 11

<210> 458
<211> 4
<212> PRT
<213> Artificial Sequence

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

<400> 458
Gly Ser Ser Gly
1

<210> 459
<211> 1080
<212> DNA
<213> Homo sapiens

<400> 459
atgattctca actcttctac tgaagatggt attaaaagaa tccaagatga ttgtcccaaa 60

gctggaaggc ataattacat atttgtcatg attcctactt tatacagtat catctttgtg 120

gtgggaatat ttggaaacag cttggtggtg atagtcattt acttttatat gaagctgaag 180

actgtggcca gtgtttttct tttgaattta gcactggctg acttatgctt tttactgact 240

ttgccactat gggctgtcta cacagctatg gaataccgct ggccctttgg caattaccta 300

tgtaagattg cttcagccag cgtcagtttc aacctgtacg ctagtgtgtt tctactcacg 360

tgtctcagca ttgatcgata cctggctatt gttcacccaa tgaagtcccg ccttcgacgc 420

acaatgcttg tagccaaagt cacctgcatc atcatttggc tgctggcagg cttggccagt 480

ttgccagcta taatccatcg aaatgtattt ttcattgaga acaccaatat tacagtttgt 540

gctttccatt atgagtccca aaattcaacc cttccgatag ggctgggcct gaccaaaaat 600

atactgggtt tcctgtttcc ttttctgatc attcttacaa gttatactct tatttggaag 660

gccctaaaga aggcttatga aattcagaag aacaaaccaa gaaatgatga tatttttaag 720

ataattatgg caattgtgct tttctttttc ttttcctgga ttccccacca aatattcact 780

tttctggatg tattgattca actaggcatc atacgtgact gtagaattgc agatattgtg 840

gacacggcca tgcctatcac catttgtata gcttatttta acaattgcct gaatcctctt 900

ttttatggct ttctggggaa aaaatttaaa agatattttc tccagcttct aaaatatatt 960

cccccaaaag ccaaatccca ctcaaacctt tcaacaaaaa tgagcacgct ttcctaccgc 1020

ccctcagata atgtaagctc atccaccaag aagcctgcac catgttttga ggttgagtga 1080

<210> 460
<211> 359
<212> PRT
<213> Homo sapiens

<400> 460

Met Ile Leu Asn Ser Ser Thr Glu Asp Gly Ile Lys Arg Ile Gln Asp
1 5 10 15

Asp Cys Pro Lys Ala Gly Arg His Asn Tyr Ile Phe Val Met Ile Pro
20 25 30

Thr Leu Tyr Ser Ile Ile Phe Val Val Gly Ile Phe Gly Asn Ser Leu
35 40 45

Val Val Ile Val Ile Tyr Phe Tyr Met Lys Leu Lys Thr Val Ala Ser
50 55 60

Val Phe Leu Leu Asn Leu Ala Leu Ala Asp Leu Cys Phe Leu Leu Thr
65 70 75 80

Leu Pro Leu Trp Ala Val Tyr Thr Ala Met Glu Tyr Arg Trp Pro Phe
85 90 95

Gly Asn Tyr Leu Cys Lys Ile Ala Ser Ala Ser Val Ser Phe Asn Leu
100 105 110

Tyr Ala Ser Val Phe Leu Leu Thr Cys Leu Ser Ile Asp Arg Tyr Leu
115 120 125

Ala Ile Val His Pro Met Lys Ser Arg Leu Arg Arg Thr Met Leu Val
130 135 140

Ala Lys Val Thr Cys Ile Ile Ile Trp Leu Leu Ala Gly Leu Ala Ser
145 150 155 160

Leu Pro Ala Ile Ile His Arg Asn Val Phe Phe Ile Glu Asn Thr Asn
165 170 175

Ile Thr Val Cys Ala Phe His Tyr Glu Ser Gln Asn Ser Thr Leu Pro
180 185 190

Ile Gly Leu Gly Leu Thr Lys Asn Ile Leu Gly Phe Leu Phe Pro Phe
195 200 205

Leu Ile Ile Leu Thr Ser Tyr Thr Leu Ile Trp Lys Ala Leu Lys Lys
210 215 220

Ala Tyr Glu Ile Gln Lys Asn Lys Pro Arg Asn Asp Asp Ile Phe Lys
225 230 235 240

Ile Ile Met Ala Ile Val Leu Phe Phe Phe Phe Ser Trp Ile Pro His
245 250 255

Gln Ile Phe Thr Phe Leu Asp Val Leu Ile Gln Leu Gly Ile Ile Arg
260 265 270

Asp Cys Arg Ile Ala Asp Ile Val Asp Thr Ala Met Pro Ile Thr Ile
275 280 285

Cys Ile Ala Tyr Phe Asn Asn Cys Leu Asn Pro Leu Phe Tyr Gly Phe
290 295 300

Leu Gly Lys Lys Phe Lys Arg Tyr Phe Leu Gln Leu Leu Lys Tyr Ile
305 310 315 320

Pro Pro Lys Ala Lys Ser His Ser Asn Leu Ser Thr Lys Met Ser Thr
325 330 335

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

Ala Pro Cys Phe Glu Val Glu
355

<210> 461
<211> 87
<212> DNA
<213> Homo sapiens

<400> 461
atgaactcct tctccacaag cgccttcggt ccagttgcct tctccctggg gctgctcctg 60

gtgttgcctg ctgccttccc tgcccca 87

<210> 462
<211> 29
<212> PRT
<213> Homo sapiens

<400> 462
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> 463
<211> 597
<212> DNA
<213> Artificial Sequence

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

<400> 463
atgaactcct tctccacaag cgccttcggt ccagttgcct tctccctggg gctgctcctg 60

gtgttgcctg ctgccttccc tgccccagtg tttacactcg aagatttcgt aggggactgg 120

cggcagacag ccggctacaa cctggaccaa gtccttgagc agggcggtgt gtccagtttg 180

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaac 240

ggcctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgatcagatg 300

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 360

attctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 420

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aaccgggacc 480

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 540

ttccgcgtaa ccatcaacgg agtgaccggc tggcggctgt gcgagcgcat tttggcg 597

<210> 464
<211> 199
<212> PRT
<213> Artificial Sequence

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

<400> 464

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 Val Phe Thr
20 25 30

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
35 40 45

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
50 55 60

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
65 70 75 80

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
85 90 95

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
100 105 110

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
115 120 125

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
130 135 140

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
145 150 155 160

Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
165 170 175

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg

180 185 190

Leu Cys Glu Arg Ile Leu Ala
195

<210> 465
<211> 591
<212> DNA
<213> Artificial Sequence

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

<400> 465
atggcttact ccacactgtt catcattgct ctcacagccg tcgtaacaca agcctcctcc 60

acacagaaaa gcaacctgac agtgtttaca ctcgaagatt tcgtagggga ctggcggcag 120

acagccggct acaacctgga ccaagtcctt gagcagggcg gtgtgtccag tttgtttcag 180

aatctcgggg tgtccgtaac tccgatccaa aggattgtcc tgagcggtga aaacggcctg 240

aagatcgaca tccatgtcat catcccgtat gaaggtctga gcggcgatca gatgggccag 300

atcgaaaaaa tttttaaggt ggtgtaccct gtggatgatc atcactttaa ggtgattctg 360

cactatggca cactggtaat cgacggggtt acgccgaaca tgatcgacta tttcggacgg 420

ccgtatgaag gcatcgccgt gttcgacggc aaaaagatca ctgtaaccgg gaccctgtgg 480

aacggcaaca aaattatcga cgagcgcctg atcaaccccg acggctccct gctgttccgc 540

gtaaccatca acggagtgac cggctggcgg ctgtgcgagc gcattttggc g 591

<210> 466
<211> 197
<212> PRT
<213> Artificial Sequence

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

<400> 466
Met Ala Tyr Ser Thr Leu Phe Ile Ile Ala Leu Thr Ala Val Val Thr
1 5 10 15

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

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
35 40 45

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
50 55 60

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
65 70 75 80

Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp
85 90 95

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
100 105 110

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
115 120 125

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
130 135 140

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
145 150 155 160

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
165 170 175

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
180 185 190

Glu Arg Ile Leu Ala
195

<210> 467
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 467
atgttcgttg gggactggcg acagacagcc ggctacaacc tggaccaagt ccttgaacag 60

ggaggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 120

gtcctgagcg gtgaaaatgg gctgaagatc gacatccatg tcatcatccc gtatgaaggt 180

ctgagcggcg accaaatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 240

gatcatcact ttaaggtgat cctgcactat ggcacactgg taatcgacgg ggttacgccg 300

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 360

atcactgtaa cagggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 420

cccgacggct ccctgctgtt ccgagtaacc atcaacggag tgaccggctg gcggctgtgc 480

gaacgcattc tggctagctc aagcggaggt tcaggcggtt ccggaatgta tgaaagcttt 540

attgagtcac tgccattcct taaatctttg gagttttctg cacgcctgaa agtagtagat 600

gtgataggca ccaaagtata caacgatgga gaacaaatca ttgctcaggg agattcggct 660

gattcttttt tcattattga atctggagaa gtgaaaatta ctatgaaaag aaagggtaaa 720

tcagaagtgg aagagaatgg tgcagtagaa atcgctcgat gctcgcgggg acagtacttt 780

ggagagcttg ccctggtaac taacaaacct cgagcagctt ctgcccacgc cattgggact 840

gtcaaatgtt tagcaatgga tgtgcaagca tttgaaaggc ttctgggacc ttgcatggaa 900

attatgaaaa ggaacatcgc tacctatgaa gaacagttag ttgccctgta tggaacgaac 960

atggatattg tagggtcagg tggatctgga ggtagctctt ctatggtctt cacactcgaa 1020

gat 1023

<210> 468
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 468

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Met Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
1               5                  10                  15

Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val
            20                  25                  30

Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu
        35                  40                  45

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

Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp
65                  70                  75                  80

Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp
                85                  90                  95

Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
            100                 105                 110

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
        115                 120                 125

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
    130                 135                 140

Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
145                 150                 155                 160

Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met
                165                 170                 175

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
            180                 185                 190
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Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn
195 200 205

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
210 215 220

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
225 230 235 240

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
245 250 255

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
260 265 270

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
275 280 285

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
290 295 300

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
305 310 315 320

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val
325 330 335

Phe Thr Leu Glu Asp
340

<210> 469
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 469
atgcagacag ccggctacaa cctggaccaa gtccttgaac agggaggtgt gtccagtttg 60

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaat 120

gggctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgaccaaatg 180

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 240

atcctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 300

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aacagggacc 360

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 420

ttccgagtaa ccatcaacgg agtgaccggc tggcggctgt gcgaacgcat tctggctagc 480

tcaagcggag gttcaggcgg ttccggaatg tatgaaagct ttattgagtc actgccattc 540

cttaaatctt tggagttttc tgcacgcctg aaagtagtag atgtgatagg caccaaagta 600

tacaacgatg gagaacaaat cattgctcag ggagattcgg ctgattcttt tttcattatt 660

gaatctggag aagtgaaaat tactatgaaa agaaagggta aatcagaagt ggaagagaat 720

ggtgcagtag aaatcgctcg atgctcgcgg ggacagtact ttggagagct tgccctggta 780

actaacaaac ctcgagcagc ttctgcccac gccattggga ctgtcaaatg tttagcaatg 840

gatgtgcaag catttgaaag gcttctggga ccttgcatgg aaattatgaa aaggaacatc 900

gctacctatg aagaacagtt agttgccctg tatggaacga acatggatat tgtagggtca 960

ggtggatctg gaggtagctc ttctatggtc ttcacactcg aagatttcgt tggggactgg 1020

cga 1023

<210> 470
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 470
Met Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
1 5 10 15

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
20 25 30

Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val
35 40 45

Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu
50 55 60

Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val
65 70 75 80

Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met
85 90 95

Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly
100 105 110

Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
115 120 125

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
130 135 140

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser
145 150 155 160

Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu
165 170 175

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

Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile
195 200 205

Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu
210 215 220

Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn
225 230 235 240

Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu
245 250 255

Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile
260 265 270

Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu
275 280 285

Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu
290 295 300

Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser
305 310 315 320

Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe
325 330 335

Val Gly Asp Trp Arg
340

<210> 471
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 471
atgggtgaaa atgggctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 60

ggcgaccaaa tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 120

cactttaagg tgatcctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 180

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 240

gtaacaggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 300

ggctccctgc tgttccgagt aaccatcaac ggagtgaccg gctggcggct gtgcgaacgc 360

attctggcta gctcaagcgg aggttcaggc ggttccggaa tgtatgaaag ctttattgag 420

tcactgccat tccttaaatc tttggagttt tctgcacgcc tgaaagtagt agatgtgata 480

ggcaccaaag tatacaacga tggagaacaa atcattgctc agggagattc ggctgattct 540

tttttcatta ttgaatctgg agaagtgaaa attactatga aaagaaaggg taaatcagaa 600

gtggaagaga atggtgcagt agaaatcgct cgatgctcgc ggggacagta ctttggagag 660

cttgccctgg taactaacaa acctcgagca gcttctgccc acgccattgg gactgtcaaa 720

tgtttagcaa tggatgtgca agcatttgaa aggcttctgg gaccttgcat ggaaattatg 780

aaaaggaaca tcgctaccta tgaagaacag ttagttgccc tgtatggaac gaacatggat 840

attgtagggt caggtggatc tggaggtagc tcttctatgg tcttcacact cgaagatttc 900

gttggggact ggcgacagac agccggctac aacctggacc aagtccttga acagggaggt 960

gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 1020

agc 1023

<210> 472
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 472
Met Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
1 5 10 15

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
20 25 30

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
35 40 45

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
50 55 60

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
65 70 75 80

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
85 90 95

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

Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly

115 120 125

Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe
130 135 140

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

Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp
165 170 175

Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr
180 185 190

Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu
195 200 205

Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val
210 215 220

Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys
225 230 235 240

Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys
245 250 255

Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val
260 265 270

Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly
275 280 285

Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp
290 295 300

Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly
305 310 315 320

Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln
325 330 335

Arg Ile Val Leu Ser
340

<210> 473
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 473
atgctgaaga tcgacatcca tgtcatcatc ccgtatgaag gtctgagcgg cgaccaaatg 60

ggccagatcg aaaaaatttt taaggtggtg taccctgtgg atgatcatca ctttaaggtg 120

atcctgcact atggcacact ggtaatcgac ggggttacgc cgaacatgat cgactatttc 180

ggacggccgt atgaaggcat cgccgtgttc gacggcaaaa agatcactgt aacagggacc 240

ctgtggaacg gcaacaaaat tatcgacgag cgcctgatca accccgacgg ctccctgctg 300

ttccgagtaa ccatcaacgg agtgaccggc tggcggctgt gcgaacgcat tctggctagc 360

tcaagcggag gttcaggcgg ttccggaatg tatgaaagct ttattgagtc actgccattc 420

cttaaatctt tggagttttc tgcacgcctg aaagtagtag atgtgatagg caccaaagta 480

tacaacgatg gagaacaaat cattgctcag ggagattcgg ctgattcttt tttcattatt 540

gaatctggag aagtgaaaat tactatgaaa agaaagggta aatcagaagt ggaagagaat 600

ggtgcagtag aaatcgctcg atgctcgcgg ggacagtact ttggagagct tgccctggta 660

actaacaaac ctcgagcagc ttctgcccac gccattggga ctgtcaaatg tttagcaatg 720

gatgtgcaag catttgaaag gcttctggga ccttgcatgg aaattatgaa aaggaacatc 780

gctacctatg aagaacagtt agttgccctg tatggaacga acatggatat tgtagggtca 840

ggtggatctg gaggtagctc ttctatggtc ttcacactcg aagatttcgt tggggactgg 900

cgacagacag ccggctacaa cctggaccaa gtccttgaac agggaggtgt gtccagtttg 960

tttcagaatc tcggggtgtc cgtaactccg atccaaagga ttgtcctgag cggtgaaaat 1020

ggg 1023

<210> 474
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 474
Met Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
1 5 10 15

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
20 25 30

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
35 40 45

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
50 55 60

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
65 70 75 80

```
Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp
                85                  90                  95

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
            100                 105                 110

Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser
        115                 120                 125

Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu
    130                 135                 140

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

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
                165                 170                 175

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
            180                 185                 190

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
        195                 200                 205

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
    210                 215                 220

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
225                 230                 235                 240

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
                245                 250                 255

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
            260                 265                 270

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser
        275                 280                 285

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
    290                 295                 300

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
305                 310                 315                 320

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
                325                 330                 335

Ser Gly Glu Asn Gly
            340
```

<210> 475
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 475
atggacatcc atgtcatcat cccgtatgaa ggtctgagcg gcgaccaaat gggccagatc 60

gaaaaaattt ttaaggtggt gtaccctgtg gatgatcatc actttaaggt gatcctgcac 120

tatggcacac tggtaatcga cggggttacg ccgaacatga tcgactattt cggacggccg 180

tatgaaggca tcgccgtgtt cgacggcaaa aagatcactg taacagggac cctgtggaac 240

ggcaacaaaa ttatcgacga gcgcctgatc aaccccgacg gctccctgct gttccgagta 300

accatcaacg gagtgaccgg ctggcggctg tgcgaacgca ttctggctag ctcaagcgga 360

ggttcaggcg gttccggaat gtatgaaagc tttattgagt cactgccatt ccttaaatct 420

ttggagtttt ctgcacgcct gaaagtagta gatgtgatag gcaccaaagt atacaacgat 480

ggagaacaaa tcattgctca gggagattcg gctgattctt ttttcattat tgaatctgga 540

gaagtgaaaa ttactatgaa aagaaagggt aaatcagaag tggaagagaa tggtgcagta 600

gaaatcgctc gatgctcgcg gggacagtac tttggagagc ttgccctggt aactaacaaa 660

cctcgagcag cttctgccca cgccattggg actgtcaaat gtttagcaat ggatgtgcaa 720

gcatttgaaa ggcttctggg accttgcatg gaaattatga aaaggaacat cgctacctat 780

gaagaacagt tagttgccct gtatggaacg aacatggata ttgtagggtc aggtggatct 840

ggaggtagct cttctatggt cttcacactc gaagatttcg ttggggactg gcgacagaca 900

gccggctaca acctggacca agtccttgaa cagggaggtg tgtccagttt gtttcagaat 960

ctcggggtgt ccgtaactcc gatccaaagg attgtcctga gcggtgaaaa tgggctgaag 1020

atc 1023

<210> 476
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 476
Met Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
1 5 10 15

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
20 25 30

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
35 40 45

```
Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
    50                  55                  60

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
65                  70                  75                  80

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
                85                  90                  95

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
            100                 105                 110

Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr
        115                 120                 125

Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser
    130                 135                 140

Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp
145                 150                 155                 160

Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile
                165                 170                 175

Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser
            180                 185                 190

Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly
        195                 200                 205

Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala
    210                 215                 220

Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln
225                 230                 235                 240

Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn
                245                 250                 255

Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met
            260                 265                 270

Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe
        275                 280                 285

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
    290                 295                 300

Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn
305                 310                 315                 320
```

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
325 330 335

Asn Gly Leu Lys Ile
340

<210> 477
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 477
atggtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 60

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 120

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 180

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 240

cggctgtgcg aacgcattct ggctagctca agcggaggtt caggcggttc cggaatgtat 300

gaaagcttta ttgagtcact gccattcctt aaatctttgg agttttctgc acgcctgaaa 360

gtagtagatg tgataggcac caaagtatac aacgatggag aacaaatcat tgctcaggga 420

gattcggctg attctttttt cattattgaa tctggagaag tgaaaattac tatgaaaaga 480

aagggtaaat cagaagtgga agagaatggt gcagtagaaa tcgctcgatg ctcgcgggga 540

cagtactttg gagagcttgc cctggtaact aacaaacctc gagcagcttc tgcccacgcc 600

attgggactg tcaaatgttt agcaatggat gtgcaagcat ttgaaaggct tctgggacct 660

tgcatggaaa ttatgaaaag gaacatcgct acctatgaag aacagttagt tgccctgtat 720

ggaacgaaca tggatattgt agggtcaggt ggatctggag gtagctcttc tatggtcttc 780

acactcgaag atttcgttgg ggactggcga cagacagccg gctacaacct ggaccaagtc 840

cttgaacagg gaggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 900

caaaggattg tcctgagcgg tgaaaatggg ctgaagatcg acatccatgt catcatcccg 960

tatgaaggtc tgagcggcga ccaaatgggc cagatcgaaa aaatttttaa ggtggtgtac 1020

cct 1023

<210> 478
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 478
Met Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
1 5 10 15

```
Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro
            20                  25                  30

Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly
        35                  40                  45

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

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

Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly
                85                  90                  95

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

Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys
        115                 120                 125

Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp
    130                 135                 140

Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg
145                 150                 155                 160

Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg
                165                 170                 175

Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys
            180                 185                 190

Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala
        195                 200                 205

Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile
    210                 215                 220

Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr
225                 230                 235                 240

Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser
                245                 250                 255

Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
            260                 265                 270

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
        275                 280                 285
```

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val
290 295 300

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro
305 310 315 320

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
325 330 335

Lys Val Val Tyr Pro
340

<210> 479
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 479
atggatgatc atcactttaa ggtgatcctg cactatggca cactggtaat cgacggggtt 60

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 120

aaaaagatca ctgtaacagg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 180

atcaaccccg acggctccct gctgttccga gtaaccatca acggagtgac cggctggcgg 240

ctgtgcgaac gcattctggc tagctcaagc ggaggttcag gcggttccgg aatgtatgaa 300

agctttattg agtcactgcc attccttaaa tctttggagt tttctgcacg cctgaaagta 360

gtagatgtga taggcaccaa agtatacaac gatggagaac aaatcattgc tcagggagat 420

tcggctgatt ctttttcat tattgaatct ggagaagtga aaattactat gaaaagaaag 480

ggtaaatcag aagtggaaga gaatggtgca gtagaaatcg ctcgatgctc gcggggacag 540

tactttggag agcttgccct ggtaactaac aaacctcgag cagcttctgc ccacgccatt 600

gggactgtca aatgtttagc aatggatgtg caagcatttg aaaggcttct gggaccttgc 660

atggaaatta tgaaaaggaa catcgctacc tatgaagaac agttagttgc cctgtatgga 720

acgaacatgg atattgtagg gtcaggtgga tctggaggta gctcttctat ggtcttcaca 780

ctcgaagatt tcgttgggga ctggcgacag acagccggct acaacctgga ccaagtcctt 840

gaacagggag gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 900

aggattgtcc tgagcggtga aaatgggctg aagatcgaca tccatgtcat catcccgtat 960

gaaggtctga gcggcgacca aatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 1020

gtg 1023

<210> 480
<211> 341
<212> PRT

<213> Artificial Sequence

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

<400> 480
Met Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
1 5 10 15

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
20 25 30

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
35 40 45

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
65 70 75 80

Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser
85 90 95

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

Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val
115 120 125

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
130 135 140

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
145 150 155 160

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
165 170 175

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
180 185 190

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
195 200 205

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
210 215 220

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
225 230 235 240

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser

245 250 255

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
260 265 270

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
275 280 285

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
290 295 300

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
305 310 315 320

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
325 330 335

Val Val Tyr Pro Val
340

<210> 481
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 481
atgacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 60

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 120

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 180

cggctgtgcg aacgcattct ggctagctca agcggaggtt caggcggttc cggaatgtat 240

gaaagcttta ttgagtcact gccattcctt aaatctttgg agttttctgc acgcctgaaa 300

gtagtagatg tgataggcac caaagtatac aacgatggag aacaaatcat tgctcaggga 360

gattcggctg attcttttt cattattgaa tctggagaag tgaaaattac tatgaaaaga 420

aagggtaaat cagaagtgga agagaatggt gcagtagaaa tcgctcgatg ctcgcgggga 480

cagtactttg gagagcttgc cctggtaact aacaaacctc gagcagcttc tgcccacgcc 540

attgggactg tcaaatgttt agcaatggat gtgcaagcat ttgaaaggct tctgggacct 600

tgcatggaaa ttatgaaaag gaacatcgct acctatgaag aacagttagt tgccctgtat 660

ggaacgaaca tggatattgt agggtcaggt ggatctggag gtagctcttc tatggtcttc 720

acactcgaag atttcgttgg ggactggcga cagacagccg gctacaacct ggaccaagtc 780

cttgaacagg gaggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 840

caaaggattg tcctgagcgg tgaaaatggg ctgaagatcg acatccatgt catcatcccg 900

tatgaaggtc tgagcggcga ccaaatgggc cagatcgaaa aaatttttaa ggtggtgtac 960

cctgtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 1020

gtt 1023

<210> 482
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 482
Met Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
1 5 10 15

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

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
35 40 45

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
50 55 60

Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr
65 70 75 80

Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser
85 90 95

Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp
100 105 110

Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile
115 120 125

Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser
130 135 140

Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly
145 150 155 160

Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala
165 170 175

Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln
180 185 190

Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn
195 200 205

Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met
210 215 220

Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe
225 230 235 240

Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn
245 250 255

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

Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu
275 280 285

Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu
290 295 300

Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr
305 310 315 320

Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu
325 330 335

Val Ile Asp Gly Val
340

<210> 483
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 483
atgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 60

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 120

accggctggc ggctgtgcga acgcattctg gctagctcaa gcggaggttc aggcggttcc 180

ggaatgtatg aaagctttat tgagtcactg ccattcctta aatctttgga gttttctgca 240

cgcctgaaag tagtagatgt gataggcacc aaagtataca acgatggaga acaaatcatt 300

gctcagggag attcggctga ttctttttc attattgaat ctggagaagt gaaaattact 360

atgaaaagaa agggtaaatc agaagtggaa gagaatggtg cagtagaaat cgctcgatgc 420

tcgcggggac agtactttgg agagcttgcc ctggtaacta acaaacctcg agcagcttct 480

gcccacgcca ttgggactgt caaatgttta gcaatggatg tgcaagcatt tgaaaggctt 540

ctgggacctt gcatggaaat tatgaaaagg aacatcgcta cctatgaaga acagttagtt 600

gccctgtatg gaacgaacat ggatattgta gggtcaggtg gatctggagg tagctcttct 660

atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 720

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 780

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 840

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 900

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 960

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 1020

gtg 1023

<210> 484
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 484

Met Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
1 5 10 15

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
20 25 30

Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg
35 40 45

Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu
50 55 60

Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala
65 70 75 80

Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly
85 90 95

Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile
100 105 110

Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu
115 120 125

Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln
130 135 140

Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser
145 150 155 160

Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala
165 170 175

Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile
180 185 190

Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp
195 200 205

Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr
210 215 220

Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu
225 230 235 240

Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu
245 250 255

Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn
260 265 270

Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser
275 280 285

Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro
290 295 300

Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val
305 310 315 320

Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
325 330 335

Glu Gly Ile Ala Val
340

<210> 485
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 485
atgaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 60

ctgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 120

cggctgtgcg aacgcattct ggctagctca agcggaggtt caggcggttc cggaatgtat 180

gaaagcttta ttgagtcact gccattcctt aaatctttgg agttttctgc acgcctgaaa 240

gtagtagatg tgataggcac caaagtatac aacgatggag aacaaatcat tgctcaggga 300

gattcggctg attcttttt cattattgaa tctggagaag tgaaaattac tatgaaaaga 360

aagggtaaat cagaagtgga agagaatggt gcagtagaaa tcgctcgatg ctcgcgggga 420

cagtactttg gagagcttgc cctggtaact aacaaacctc gagcagcttc tgcccacgcc 480

attgggactg tcaaatgttt agcaatggat gtgcaagcat ttgaaaggct tctgggacct 540

tgcatggaaa ttatgaaaag gaacatcgct acctatgaag aacagttagt tgccctgtat 600

ggaacgaaca tggatattgt agggtcaggt ggatctggag gtagctcttc tatggtcttc 660

acactcgaag atttcgttgg ggactggcga cagacagccg gctacaacct ggaccaagtc 720

cttgaacagg gaggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 780

caaaggattg tcctgagcgg tgaaaatggg ctgaagatcg acatccatgt catcatcccg 840

tatgaaggtc tgagcggcga ccaaatgggc cagatcgaaa aaatttttaa ggtggtgtac 900

cctgtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 960

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 1020

ggc 1023

<210> 486
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 486
Met Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
1 5 10 15

Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val
20 25 30

Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala
35 40 45

Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile
50 55 60

Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys
65 70 75 80

Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile
85 90 95

Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly
100 105 110

Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu
115 120 125

Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly
130 135 140

Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala
145 150 155 160

Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg
165 170 175

Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr
180 185 190

Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly
195 200 205

Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp
210 215 220

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
225 230 235 240

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
245 250 255

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
260 265 270

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
275 280 285

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
290 295 300

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
305 310 315 320

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

Ala Val Phe Asp Gly
340

<210> 487
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 487
atgaagatca ctgtaacagg gaccctgtgg aacggcaaca aaattatcga cgagcgcctg 60

atcaaccccg acggctccct gctgttccga gtaaccatca acggagtgac cggctggcgg 120

ctgtgcgaac gcattctggc tagctcaagc ggaggttcag gcggttccgg aatgtatgaa 180

agctttattg agtcactgcc attccttaaa tctttggagt tttctgcacg cctgaaagta 240

gtagatgtga taggcaccaa agtatacaac gatggagaac aaatcattgc tcagggagat 300

tcggctgatt ctttttcat tattgaatct ggagaagtga aaattactat gaaaagaaag 360

ggtaaatcag aagtggaaga gaatggtgca gtagaaatcg ctcgatgctc gcggggacag 420

tactttggag agcttgccct ggtaactaac aaacctcgag cagcttctgc ccacgccatt 480

gggactgtca aatgtttagc aatggatgtg caagcatttg aaaggcttct gggaccttgc 540

atggaaatta tgaaaaggaa catcgctacc tatgaagaac agttagttgc cctgtatgga 600

acgaacatgg atattgtagg gtcaggtgga tctggaggta gctcttctat ggtcttcaca 660

ctcgaagatt tcgttgggga ctggcgacag acagccggct acaacctgga ccaagtcctt 720

gaacagggag gtgtgtccag tttgtttcag aatctcgggg tgtccgtaac tccgatccaa 780

aggattgtcc tgagcggtga aaatgggctg aagatcgaca tccatgtcat catcccgtat 840

gaaggtctga gcggcgacca aatgggccag atcgaaaaaa tttttaaggt ggtgtaccct 900

gtggatgatc atcactttaa ggtgatcctg cactatggca cactggtaat cgacggggtt 960

acgccgaaca tgatcgacta tttcggacgg ccgtatgaag gcatcgccgt gttcgacggc 1020

aaa 1023

<210> 488
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 488
Met Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile
1 5 10 15

Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr
20 25 30

Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser
35 40 45

Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu
50 55 60

Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val
65 70 75 80

Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile
85 90 95

Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu

100 105 110

Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn
115 120 125

Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu
130 135 140

Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile
145 150 155 160

Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu
165 170 175

Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu
180 185 190

Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser
195 200 205

Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe
210 215 220

Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu
225 230 235 240

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
245 250 255

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
260 265 270

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
275 280 285

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
290 295 300

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
305 310 315 320

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
325 330 335

Val Phe Asp Gly Lys
340

<210> 489
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 489
atgatcactg taacagggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 60

aaccccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 120

tgcgaacgca ttctggctag ctcaagcgga ggttcaggcg gttccggaat gtatgaaagc 180

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 240

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 300

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 360

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 420

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 480

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 540

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 600

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctatggt cttcacactc 660

gaagatttcg ttggggactg gcgacagaca gccggctaca acctggacca agtccttgaa 720

cagggaggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 780

attgtcctga gcggtgaaaa tgggctgaag atcgacatcc atgtcatcat cccgtatgaa 840

ggtctgagcg gcgaccaaat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 900

gatgatcatc actttaaggt gatcctgcac tatggcacac tggtaatcga cggggttacg 960

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 1020

aag 1023

<210> 490
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 490
Met Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
1 5 10 15

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
20 25 30

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser
35 40 45

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
50 55 60

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Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val
65                  70                  75                  80

Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
                85                  90                  95

Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val
            100                 105                 110

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
        115                 120                 125

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
    130                 135                 140

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
145                 150                 155                 160

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
                165                 170                 175

Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
            180                 185                 190

Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly
        195                 200                 205

Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val
    210                 215                 220

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
225                 230                 235                 240

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
                245                 250                 255

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
            260                 265                 270

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
        275                 280                 285

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
    290                 295                 300

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
305                 310                 315                 320

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
                325                 330                 335
```

Phe Asp Gly Lys Lys
340

<210> 491
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 491
atgaccctgt ggaacggcaa caaaattatc gacgagcgcc tgatcaaccc cgacggctcc 60

ctgctgttcc gagtaaccat caacggagtg accggctggc ggctgtgcga acgcattctg 120

gctagctcaa gcggaggttc aggcggttcc ggaatgtatg aaagctttat tgagtcactg 180

ccattcctta aatctttgga gttttctgca cgcctgaaag tagtagatgt gataggcacc 240

aaagtataca acgatggaga acaaatcatt gctcagggag attcggctga ttctttttc 300

attattgaat ctggagaagt gaaaattact atgaaaagaa agggtaaatc agaagtggaa 360

gagaatggtg cagtagaaat cgctcgatgc tcgcggggac agtactttgg agagcttgcc 420

ctggtaacta acaaacctcg agcagcttct gcccacgcca ttgggactgt caaatgttta 480

gcaatggatg tgcaagcatt tgaaaggctt ctgggacctt gcatggaaat tatgaaaagg 540

aacatcgcta cctatgaaga acagttagtt gccctgtatg gaacgaacat ggatattgta 600

gggtcaggtg gatctggagg tagctcttct atggtcttca cactcgaaga tttcgttggg 660

gactggcgac agacagccgg ctacaacctg gaccaagtcc ttgaacaggg aggtgtgtcc 720

agtttgtttc agaatctcgg ggtgtccgta actccgatcc aaaggattgt cctgagcggt 780

gaaaatgggc tgaagatcga catccatgtc atcatcccgt atgaaggtct gagcggcgac 840

caaatgggcc agatcgaaaa aatttttaag gtggtgtacc ctgtggatga tcatcacttt 900

aaggtgatcc tgcactatgg cacactggta atcgacgggg ttacgccgaa catgatcgac 960

tatttcggac ggccgtatga aggcatcgcc gtgttcgacg gcaaaaagat cactgtaaca 1020

ggg 1023

<210> 492
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 492
Met Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
1 5 10 15

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
20 25 30

```
Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly
        35                  40                  45

Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys
    50                  55                  60

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

Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala
                85                  90                  95

Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys
            100                 105                 110

Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala
        115                 120                 125

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

Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu
145                 150                 155                 160

Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu
                165                 170                 175

Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu
            180                 185                 190

Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser
        195                 200                 205

Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln
    210                 215                 220

Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser
225                 230                 235                 240

Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile
                245                 250                 255

Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile
            260                 265                 270

Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile
        275                 280                 285

Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu
    290                 295                 300
```

His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp
305 310 315 320

Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys
325 330 335

Ile Thr Val Thr Gly
340

<210> 493
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 493
atgcccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 60

tgcgaacgca ttctggctag ctcaagcgga ggttcaggcg gttccggaat gtatgaaagc 120

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 180

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 240

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 300

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 360

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 420

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 480

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 540

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctatggt cttcacactc 600

gaagatttcg ttggggactg gcgacagaca gccggctaca acctggacca agtccttgaa 660

cagggaggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 720

attgtcctga gcggtgaaaa tgggctgaag atcgacatcc atgtcatcat cccgtatgaa 780

ggtctgagcg gcgaccaaat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 840

gatgatcatc actttaaggt gatcctgcac tatggcacac tggtaatcga cggggttacg 900

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 960

aagatcactg taacagggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 1020

aac 1023

<210> 494
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 494
Met Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr
1 5 10 15

Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser
20 25 30

Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu
35 40 45

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

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

Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met
85 90 95

Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile
100 105 110

Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr
115 120 125

Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys
130 135 140

Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met
145 150 155 160

Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala
165 170 175

Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly
180 185 190

Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg
195 200 205

Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val
210 215 220

Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg
225 230 235 240

Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
245 250 255

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
260 265 270

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
275 280 285

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
290 295 300

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
305 310 315 320

Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
325 330 335

Glu Arg Leu Ile Asn
340

<210> 495
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 495
atgtccctgc tgttccgagt aaccatcaac ggagtgaccg gctggcggct gtgcgaacgc 60

attctggcta gctcaagcgg aggttcaggc ggttccggaa tgtatgaaag ctttattgag 120

tcactgccat tccttaaatc tttggagttt tctgcacgcc tgaaagtagt agatgtgata 180

ggcaccaaag tatacaacga tggagaacaa atcattgctc agggagattc ggctgattct 240

tttttcatta ttgaatctgg agaagtgaaa attactatga aaagaaaggg taaatcagaa 300

gtggaagaga atggtgcagt agaaatcgct cgatgctcgc ggggacagta ctttggagag 360

cttgccctgg taactaacaa acctcgagca gcttctgccc acgccattgg gactgtcaaa 420

tgtttagcaa tggatgtgca agcatttgaa aggcttctgg gaccttgcat ggaaattatg 480

aaaaggaaca tcgctaccta tgaagaacag ttagttgccc tgtatggaac gaacatggat 540

attgtagggt caggtggatc tggaggtagc tcttctatgg tcttcacact cgaagatttc 600

gttggggact ggcgacagac agccggctac aacctggacc aagtccttga acagggaggt 660

gtgtccagtt tgtttcagaa tctcggggtg tccgtaactc cgatccaaag gattgtcctg 720

agcggtgaaa atgggctgaa gatcgacatc catgtcatca tcccgtatga aggtctgagc 780

ggcgaccaaa tgggccagat cgaaaaaatt tttaaggtgg tgtaccctgt ggatgatcat 840

cactttaagg tgatcctgca ctatggcaca ctggtaatcg acggggttac gccgaacatg 900

atcgactatt tcggacggcc gtatgaaggc atcgccgtgt tcgacggcaa aaagatcact 960

gtaacaggga ccctgtggaa cggcaacaaa attatcgacg agcgcctgat caaccccgac 1020

ggc 1023

<210> 496
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 496
Met Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
1 5 10 15

Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser
20 25 30

Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu
35 40 45

Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val
50 55 60

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
65 70 75 80

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
85 90 95

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
100 105 110

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

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
130 135 140

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
145 150 155 160

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
165 170 175

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser
180 185 190

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
195 200 205

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
210 215 220

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu

225 230 235 240

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
245 250 255

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
260 265 270

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
275 280 285

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
290 295 300

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
305 310 315 320

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
325 330 335

Ile Asn Pro Asp Gly
340

<210> 497
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 497
atgggagtga ccggctggcg gctgtgcgaa cgcattctgg ctagctcaag cggaggttca 60

ggcggttccg gaatgtatga aagctttatt gagtcactgc cattccttaa atctttggag 120

ttttctgcac gcctgaaagt agtagatgtg ataggcacca aagtatacaa cgatggagaa 180

caaatcattg ctcagggaga ttcggctgat tctttttca ttattgaatc tggagaagtg 240

aaaattacta tgaaaagaaa gggtaaatca gaagtggaag agaatggtgc agtagaaatc 300

gctcgatgct cgcggggaca gtactttgga gagcttgccc tggtaactaa caaacctcga 360

gcagcttctg cccacgccat tgggactgtc aaatgtttag caatggatgt gcaagcattt 420

gaaaggcttc tgggaccttg catggaaatt atgaaaagga acatcgctac ctatgaagaa 480

cagttagttg ccctgtatgg aacgaacatg gatattgtag ggtcaggtgg atctggaggt 540

agctcttcta tggtcttcac actcgaagat ttcgttgggg actggcgaca gacagccggc 600

tacaacctgg accaagtcct tgaacaggga ggtgtgtcca gtttgtttca gaatctcggg 660

gtgtccgtaa ctccgatcca aaggattgtc ctgagcggtg aaaatgggct gaagatcgac 720

atccatgtca tcatcccgta tgaaggtctg agcggcgacc aaatgggcca gatcgaaaaa 780

atttttaagg tggtgtaccc tgtggatgat catcacttta aggtgatcct gcactatggc 840

acactggtaa tcgacggggt tacgccgaac atgatcgact atttcggacg gccgtatgaa 900

ggcatcgccg tgttcgacgg caaaaagatc actgtaacag ggaccctgtg gaacggcaac 960

aaaattatcg acgagcgcct gatcaacccc gacggctccc tgctgttccg agtaaccatc 1020

aac 1023

<210> 498
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 498
Met Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser
1 5 10 15

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
20 25 30

Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val
35 40 45

Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
50 55 60

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

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
85 90 95

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
100 105 110

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
115 120 125

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
130 135 140

Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
145 150 155 160

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

Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val
180 185 190

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
195 200 205

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
210 215 220

Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp
225 230 235 240

Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly
245 250 255

Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His
260 265 270

Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr
275 280 285

Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val
290 295 300

Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn
305 310 315 320

Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe
325 330 335

Arg Val Thr Ile Asn
340

<210> 499
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 499
atggtcttca cactcgaaga tagcgctagc ggaggttcag gcggttccgg aatgtatgaa 60

agctttattg agtcactgcc attccttaaa tctttggagt tttctgcacg cctgaaagta 120

gtagatgtga taggcaccaa agtatacaac gatggagaac aaatcattgc tcagggagat 180

tcggctgatt ctttttttcat tattgaatct ggagaagtga aaattactat gaaaagaaag 240

ggtaaatcag aagtggaaga gaatggtgca gtagaaatcg ctcgatgctc gcggggacag 300

tactttggag agcttgccct ggtaactaac aaacctcgag cagcttctgc ccacgccatt 360

gggactgtca aatgtttagc aatggatgtg caagcatttg aaaggcttct gggaccttgc 420

atggaaatta tgaaaaggaa catcgctacc tatgaagaac agttagttgc cctgtatgga 480

acgaacatgg atattgtagg gtcaggtgga tctggaggta gctcttcttt cgttggggac 540

tggcgacaga cagccggcta caacctggac caagtccttg aacagggagg tgtgtccagt 600

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 660

aatgggctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 500
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 500
Met Val Phe Thr Leu Glu Asp Ser Ala Ser Gly Gly Ser Gly Gly Ser
1 5 10 15

Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu
20 25 30

Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val
35 40 45

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
50 55 60

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
65 70 75 80

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
85 90 95

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
100 105 110

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
115 120 125

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
130 135 140

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
145 150 155 160

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser

165 170 175

Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
180 185 190

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
195 200 205

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
210 215 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225 230 235 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 501
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 501
atggtcttca cactcgaaga tttcgttggg gactggcgaa gcgctagcgg aggttcaggc 60

ggttccggaa tgtatgaaag ctttattgag tcactgccat tccttaaatc tttggagttt 120

tctgcacgcc tgaaagtagt agatgtgata ggcaccaaag tatacaacga tggagaacaa 180

atcattgctc agggagattc ggctgattct tttttcatta ttgaatctgg agaagtgaaa 240

attactatga aaagaaaggg taaatcagaa gtggaagaga atggtgcagt agaaatcgct 300

cgatgctcgc ggggacagta ctttggagag cttgccctgg taactaacaa acctcgagca 360

gcttctgccc acgccattgg gactgtcaaa tgtttagcaa tggatgtgca agcatttgaa 420

aggcttctgg gaccttgcat ggaaattatg aaaaggaaca tcgctaccta tgaagaacag 480

ttagttgccc tgtatggaac gaacatggat attgtagggt caggtggatc tggaggtagc 540

tcttctcaga cagccggcta caacctggac caagtccttg aacagggagg tgtgtccagt 600

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 660

aatgggctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 502
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 502
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Ser Ala Ser
1 5 10 15

Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu
20 25 30

Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp
35 40 45

Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln
50 55 60

Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys
65 70 75 80

Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala
85 90 95

Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala
100 105 110

Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr
115 120 125

Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly
130 135 140

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Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln
145                 150                 155                 160

Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly
                165                 170                 175

Ser Gly Gly Ser Ser Ser Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val
            180                 185                 190

Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
        195                 200                 205

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
    210                 215                 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225                 230                 235                 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
                245                 250                 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
            260                 265                 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
        275                 280                 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 503
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 503
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aagcgctagc ggaggttcag gcggttccgg aatgtatgaa 120

agctttattg agtcactgcc attccttaaa tctttggagt tttctgcacg cctgaaagta 180

gtagatgtga taggcaccaa agtatacaac gatggagaac aaatcattgc tcagggagat 240

tcggctgatt ctttttcat tattgaatct ggagaagtga aaattactat gaaaagaaag 300

ggtaaatcag aagtggaaga gaatggtgca gtagaaatcg ctcgatgctc gcggggacag 360

tactttggag agcttgccct ggtaactaac aaacctcgag cagcttctgc ccacgccatt 420

gggactgtca aatgtttagc aatggatgtg caagcatttg aaaggcttct gggaccttgc 480

atggaaatta tgaaaaggaa catcgctacc tatgaagaac agttagttgc cctgtatgga 540

acgaacatgg atattgtagg gtcaggtgga tctggaggta gctcttctgg tgtgtccagt 600

ttgtttcaga atctcggggt gtccgtaact ccgatccaaa ggattgtcct gagcggtgaa 660

aatgggctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 504
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 504
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Ser Ala Ser Gly Gly
20 25 30

Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe
35 40 45

Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile
50 55 60

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

Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr
85 90 95

Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu
100 105 110

Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val
115 120 125

Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys
130 135 140

Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys
145 150 155 160

Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val
165 170 175

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

Gly Ser Ser Ser Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser
195 200 205

Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys
210 215 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225 230 235 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 505
<211> 1020
<212> DNA
<213> Artificial Sequence

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

polynucleotide

<400> 505
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattag cgctagcgga ggttcaggcg gttccggaat gtatgaaagc 180

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 240

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 300

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 360

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 420

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 480

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 540

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 600

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctgtcct gagcggtgaa 660

aatgggctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 506
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 506
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Ser Ala
35 40 45

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
50 55 60

Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val
65 70 75 80

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Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
                85                  90                  95

Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val
            100                 105                 110

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
        115                 120                 125

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
    130                 135                 140

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
145                 150                 155                 160

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
                165                 170                 175

Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
            180                 185                 190

Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly
        195                 200                 205

Gly Ser Gly Gly Ser Ser Ser Val Leu Ser Gly Glu Asn Gly Leu Lys
    210                 215                 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225                 230                 235                 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
                245                 250                 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
            260                 265                 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
        275                 280                 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 507
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 507
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcagc gctagcggag gttcaggcgg ttccggaatg 180

tatgaaagct ttattgagtc actgccattc cttaaatctt tggagttttc tgcacgcctg 240

aaagtagtag atgtgatagg caccaaagta tacaacgatg gagaacaaat cattgctcag 300

ggagattcgg ctgattcttt tttcattatt gaatctggag aagtgaaaat tactatgaaa 360

agaaagggta aatcagaagt ggaagagaat ggtgcagtag aaatcgctcg atgctcgcgg 420

ggacagtact ttggagagct tgccctggta actaacaaac ctcgagcagc ttctgcccac 480

gccattggga ctgtcaaatg tttagcaatg gatgtgcaag catttgaaag gcttctggga 540

ccttgcatgg aaattatgaa aaggaacatc gctacctatg aagaacagtt agttgccctg 600

tatggaacga acatggatat tgtagggtca ggtggatctg gaggtagctc ttctggtgaa 660

aatgggctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 508
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 508
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe

50 55 60

Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu
65 70 75 80

Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln
85 90 95

Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser
100 105 110

Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu
115 120 125

Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe
130 135 140

Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His
145 150 155 160

Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu
165 170 175

Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr
180 185 190

Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val
195 200 205

Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Gly Glu Asn Gly Leu Lys
210 215 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225 230 235 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu

325 330 335

Arg Ile Leu Ala
340

<210> 509
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 509
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatggga gcgctagcgg aggttcaggc 180

ggttccggaa tgtatgaaag ctttattgag tcactgccat tccttaaatc tttggagttt 240

tctgcacgcc tgaaagtagt agatgtgata ggcaccaaag tatacaacga tggagaacaa 300

atcattgctc agggagattc ggctgattct tttttcatta ttgaatctgg agaagtgaaa 360

attactatga aaagaaaggg taaatcagaa gtggaagaga atggtgcagt agaaatcgct 420

cgatgctcgc ggggacagta ctttggagag cttgccctgg taactaacaa acctcgagca 480

gcttctgccc acgccattgg gactgtcaaa tgtttagcaa tggatgtgca agcatttgaa 540

aggcttctgg gaccttgcat ggaaattatg aaaaggaaca tcgctaccta tgaagaacag 600

ttagttgccc tgtatggaac gaacatggat attgtagggt caggtggatc tggaggtagc 660

tcttctctga agatcgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 510
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 510
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

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Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met
    50                  55                  60

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
65                  70                  75                  80

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

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
            100                 105                 110

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
        115                 120                 125

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
    130                 135                 140

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
145                 150                 155                 160

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
                165                 170                 175

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
            180                 185                 190

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
        195                 200                 205

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Leu Lys
    210                 215                 220

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225                 230                 235                 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
                245                 250                 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
            260                 265                 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
        275                 280                 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300
```

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 511
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 511
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcag cgctagcgga 180

ggttcaggcg gttccggaat gtatgaaagc tttattgagt cactgccatt ccttaaatct 240

ttggagtttt ctgcacgcct gaaagtagta gatgtgatag gcaccaaagt atacaacgat 300

ggagaacaaa tcattgctca gggagattcg gctgattctt ttttcattat tgaatctgga 360

gaagtgaaaa ttactatgaa aagaaagggt aaatcagaag tggaagagaa tggtgcagta 420

gaaatcgctc gatgctcgcg gggacagtac tttggagagc ttgccctggt aactaacaaa 480

cctcgagcag cttctgccca cgccattggg actgtcaaat gtttagcaat ggatgtgcaa 540

gcatttgaaa ggcttctggg accttgcatg gaaattatga aaaggaacat cgctacctat 600

gaagaacagt tagttgccct gtatggaacg aacatggata ttgtagggtc aggtggatct 660

ggaggtagct cttctgacat ccatgtcatc atcccgtatg aaggtctgag cggcgaccaa 720

atgggccaga tcgaaaaaat ttttaaggtg gtgtaccctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 512
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 512

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Ser Ala Ser Gly Gly Ser Gly Gly
50 55 60

Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser
65 70 75 80

Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys
85 90 95

Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp
100 105 110

Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg
115 120 125

Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg
130 135 140

Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys
145 150 155 160

Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala
165 170 175

Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile
180 185 190

Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr
195 200 205

Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser
210 215 220

Ser Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln
225 230 235 240

Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 513
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 513
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctagcgctag cggaggttca ggcggttccg gaatgtatga aagctttatt 300

gagtcactgc cattccttaa atctttggag ttttctgcac gcctgaaagt agtagatgtg 360

ataggcacca aagtatacaa cgatggagaa caaatcattg ctcagggaga ttcggctgat 420

tctttttca ttattgaatc tggagaagtg aaaattacta tgaaaagaaa gggtaaatca 480

gaagtggaag agaatggtgc agtagaaatc gctcgatgct cgcggggaca gtactttgga 540

gagcttgccc tggtaactaa caaacctcga gcagcttctg cccacgccat tgggactgtc 600

aaatgtttag caatggatgt gcaagcattt gaaaggcttc tgggaccttg catggaaatt 660

atgaaaagga acatcgctac ctatgaagaa cagttagttg ccctgtatgg aacgaacatg 720

gatattgtag ggtcaggtgg atctggaggt agctcttctg tggatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 514
<211> 340

<212> PRT
<213> Artificial Sequence

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

<400> 514

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1               5                  10                  15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr
                85                  90                  95

Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser
            100                 105                 110

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

Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile
    130                 135                 140

Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser
145                 150                 155                 160

Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly
                165                 170                 175

Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala
            180                 185                 190

Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln
        195                 200                 205

Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn
    210                 215                 220

Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met
225                 230                 235                 240
```

Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Val Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 515
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 515
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtgagcgc tagcggaggt tcaggcggtt ccggaatgta tgaaagcttt 300

attgagtcac tgccattcct taaatctttg gagttttctg cacgcctgaa agtagtagat 360

gtgataggca ccaaagtata caacgatgga gaacaaatca ttgctcaggg agattcggct 420

gattcttttt tcattattga atctggagaa gtgaaaatta ctatgaaaag aaagggtaaa 480

tcagaagtgg aagagaatgg tgcagtagaa atcgctcgat gctcgcgggg acagtacttt 540

ggagagcttg ccctggtaac taacaaacct cgagcagctt ctgcccacgc cattgggact 600

gtcaaatgtt tagcaatgga tgtgcaagca tttgaaaggc ttctgggacc ttgcatggaa 660

attatgaaaa ggaacatcgc tacctatgaa gaacagttag ttgccctgta tggaacgaac 720

atggatattg tagggtcagg tggatctgga ggtagctctt ctgatgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 516
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 516

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met
85 90 95

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
100 105 110

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

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
130 135 140

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
145 150 155 160

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
165 170 175

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
180 185 190

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
195 200 205

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg

210 215 220

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
225 230 235 240

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Asp Asp
245 250 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 517
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 517
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatag cgctagcgga ggttcaggcg gttccggaat gtatgaaagc 300

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 360

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 420

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 480

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 540

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 600

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 660

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 720

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctgatca tcactttaag 780

gtgatcctgc actatggcac actggtaatc gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 518
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 518
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly
85 90 95

Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu
100 105 110

Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr
115 120 125

Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe
130 135 140

Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly
145 150 155 160

Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser
165 170 175

Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg
180 185 190

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Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp
        195                 200                 205

Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys
    210                 215                 220

Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr
225                 230                 235                 240

Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Asp
                245                 250                 255

His His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly
            260                 265                 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
        275                 280                 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 519
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 519

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atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg       60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta      120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc      180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag      240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta      300

atcagcgcta gcggaggttc aggcggttcc ggaatgtatg aaagctttat tgagtcactg      360

ccattcctta aatctttgga gttttctgca cgcctgaaag tagtagatgt gataggcacc      420

aaagtataca acgatggaga acaaatcatt gctcagggag attcggctga ttctttttc       480
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attattgaat ctggagaagt gaaaattact atgaaaagaa agggtaaatc agaagtggaa 540

gagaatggtg cagtagaaat cgctcgatgc tcgcggggac agtactttgg agagcttgcc 600

ctggtaacta acaaacctcg agcagcttct gcccacgcca ttgggactgt caaatgttta 660

gcaatggatg tgcaagcatt tgaaaggctt ctgggacctt gcatggaaat tatgaaaagg 720

aacatcgcta cctatgaaga acagttagtt gccctgtatg gaacgaacat ggatattgta 780

gggtcaggtg gatctggagg tagctcttct gacggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 520
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 520
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met
100 105 110

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
115 120 125

Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn
130 135 140

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
145 150 155 160

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
165 170 175

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
180 185 190

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
195 200 205

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
210 215 220

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
225 230 235 240

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
245 250 255

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Asp Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 521
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 521
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacagcg ctagcggagg ttcaggcggt tccggaatgt atgaaagctt tattgagtca 360

ctgccattcc ttaaatcttt ggagttttct gcacgcctga aagtagtaga tgtgataggc 420

accaaagtat acaacgatgg agaacaaatc attgctcagg gagattcggc tgattctttt 480

ttcattattg aatctggaga agtgaaaatt actatgaaaa gaaagggtaa atcagaagtg 540

gaagagaatg gtgcagtaga aatcgctcga tgctcgcggg gacagtactt tggagagctt 600

gccctggtaa ctaacaaacc tcgagcagct tctgcccacg ccattgggac tgtcaaatgt 660

ttagcaatgg atgtgcaagc atttgaaagg cttctgggac cttgcatgga aattatgaaa 720

aggaacatcg ctacctatga agaacagtta gttgccctgt atggaacgaa catggatatt 780

gtagggtcag gtggatctgg aggtagctct tctggggtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 522
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 522
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly
100 105 110

Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu
115 120 125

Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr
130 135 140

Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe
145 150 155 160

Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly
165 170 175

Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser
180 185 190

Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg
195 200 205

Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp
210 215 220

Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys
225 230 235 240

Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr
245 250 255

Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Gly
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 523
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 523
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacggga gcgctagcgg aggttcaggc ggttccggaa tgtatgaaag ctttattgag 360

tcactgccat tccttaaatc tttggagttt tctgcacgcc tgaaagtagt agatgtgata 420

ggcaccaaag tatacaacga tggagaacaa atcattgctc agggagattc ggctgattct 480

tttttcatta ttgaatctgg agaagtgaaa attactatga aaagaaaggg taaatcagaa 540

gtggaagaga atggtgcagt agaaatcgct cgatgctcgc ggggacagta ctttggagag 600

cttgccctgg taactaacaa acctcgagca gcttctgccc acgccattgg gactgtcaaa 660

tgtttagcaa tggatgtgca agcatttgaa aggcttctgg gaccttgcat ggaaattatg 720

aaaaggaaca tcgctaccta tgaagaacag ttagttgccc tgtatggaac gaacatggat 780

attgtagggt caggtggatc tggaggtagc tcttctgtta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 524
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 524
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Ser Ala Ser Gly Gly Ser Gly Gly Ser

100 105 110

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

Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val
130 135 140

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
145 150 155 160

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
165 170 175

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
180 185 190

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
195 200 205

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
210 215 220

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
225 230 235 240

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
245 250 255

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser
260 265 270

Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
275 280 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 525
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 525
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttagcgctag cggaggttca ggcggttccg gaatgtatga aagctttatt 360

gagtcactgc cattccttaa atctttggag ttttctgcac gcctgaaagt agtagatgtg 420

ataggcacca aagtatacaa cgatggagaa caaatcattg ctcagggaga ttcggctgat 480

tctttttca ttattgaatc tggagaagtg aaaattacta tgaaaagaaa gggtaaatca 540

gaagtggaag agaatggtgc agtagaaatc gctcgatgct cgcggggaca gtactttgga 600

gagcttgccc tggtaactaa caaacctcga gcagcttctg cccacgccat tgggactgtc 660

aaatgtttag caatggatgt gcaagcattt gaaaggcttc tgggaccttg catggaaatt 720

atgaaaagga acatcgctac ctatgaagaa cagttagttg ccctgtatgg aacgaacatg 780

gatattgtag ggtcaggtgg atctggaggt agctcttcta cgccgaacat gatcgactat 840

ttcggacggc cgtatgaagg catcgccgtg ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 526
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 526
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

```
Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Ser Ala Ser Gly Gly Ser Gly Gly
            100                 105                 110

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

Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys
    130                 135                 140

Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp
145                 150                 155                 160

Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg
                165                 170                 175

Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg
            180                 185                 190

Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys
        195                 200                 205

Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala
    210                 215                 220

Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile
225                 230                 235                 240

Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr
                245                 250                 255

Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser
            260                 265                 270

Ser Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
        275                 280                 285

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 527
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 527
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gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgagcgcta gcggaggttc aggcggttcc ggaatgtatg aaagctttat tgagtcactg 420

ccattcctta aatctttgga gttttctgca cgcctgaaag tagtagatgt gataggcacc 480

aaagtataca acgatggaga acaaatcatt gctcagggag attcggctga ttctttttc 540

attattgaat ctggagaagt gaaaattact atgaaaagaa agggtaaatc agaagtggaa 600

gagaatggtg cagtagaaat cgctcgatgc tcgcggggac agtactttgg agagcttgcc 660

ctggtaacta acaaacctcg agcagcttct gcccacgcca ttgggactgt caaatgttta 720

gcaatggatg tgcaagcatt tgaaaggctt ctgggacctt gcatggaaat tatgaaaagg 780

aacatcgcta cctatgaaga acagttagtt gccctgtatg gaacgaacat ggatattgta 840

gggtcaggtg gatctggagg tagctcttct ttcgacggca aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 528
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 528
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

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Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Ser Ala Ser Gly Gly Ser Gly
        115                 120                 125

Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys
    130                 135                 140

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

Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala
                165                 170                 175

Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys
            180                 185                 190

Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala
        195                 200                 205

Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn
    210                 215                 220

Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu
225                 230                 235                 240

Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu
                245                 250                 255

Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu
            260                 265                 270

Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser
        275                 280                 285

Ser Ser Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
    290                 295                 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305                 310                 315                 320
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Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 529
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 529
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcagcgctag cggaggttca ggcggttccg gaatgtatga aagctttatt 420

gagtcactgc cattccttaa atctttggag ttttctgcac gcctgaaagt agtagatgtg 480

ataggcacca aagtatacaa cgatggagaa caaatcattg ctcagggaga ttcggctgat 540

tctttttca ttattgaatc tggagaagtg aaaattacta tgaaaagaaa gggtaaatca 600

gaagtggaag agaatggtgc agtagaaatc gctcgatgct cgcggggaca gtactttgga 660

gagcttgccc tggtaactaa caaacctcga gcagcttctg cccacgccat tgggactgtc 720

aaatgtttag caatggatgt gcaagcattt gaaaggcttc tgggaccttg catggaaatt 780

atgaaaagga acatcgctac ctatgaagaa cagttagttg ccctgtatgg aacgaacatg 840

gatattgtag ggtcaggtgg atctggaggt agctcttcta aaaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 530
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 530
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

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Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

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

Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro
    130                 135                 140

Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val
145                 150                 155                 160

Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly
                165                 170                 175

Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile
            180                 185                 190

Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val
        195                 200                 205

Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu
    210                 215                 220

Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val
225                 230                 235                 240

Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro
                245                 250                 255

Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu
            260                 265                 270

Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser
        275                 280                 285
```

Gly Gly Ser Ser Ser Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 531
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 531
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gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaagcgc tagcggaggt tcaggcggtt ccggaatgta tgaaagcttt 420

attgagtcac tgccattcct taaatctttg gagttttctg cacgcctgaa agtagtagat 480

gtgataggca ccaaagtata caacgatgga gaacaaatca ttgctcaggg agattcggct 540

gattcttttt tcattattga atctggagaa gtgaaaatta ctatgaaaag aaagggtaaa 600

tcagaagtgg aagagaatgg tgcagtagaa atcgctcgat gctcgcgggg acagtacttt 660

ggagagcttg ccctggtaac taacaaacct cgagcagctt ctgcccacgc cattgggact 720

gtcaaatgtt tagcaatgga tgtgcaagca tttgaaaggc ttctgggacc ttgcatggaa 780

attatgaaaa ggaacatcgc tacctatgaa gaacagttag ttgccctgta tggaacgaac 840

atggatattg tagggtcagg tggatctgga ggtagctctt ctaagatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 532
<211> 340
<212> PRT
<213> Artificial Sequence

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

polypeptide

<400> 532

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1               5                  10                  15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Ser Ala Ser
        115                 120                 125

Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu
    130                 135                 140

Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp
145                 150                 155                 160

Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln
                165                 170                 175

Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys
            180                 185                 190

Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala
        195                 200                 205

Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala
    210                 215                 220

Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr
225                 230                 235                 240

Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly
                245                 250                 255

Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln
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260 265 270

Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly
275 280 285

Ser Gly Gly Ser Ser Ser Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 533
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 533
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagag cgctagcgga ggttcaggcg gttccggaat gtatgaaagc 420

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 480

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 540

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 600

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 660

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 720

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 780

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 840

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctatcac tgtaacaggg 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 534
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 534

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1               5                  10                  15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ser Ala
        115                 120                 125

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
    130                 135                 140

Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val
145                 150                 155                 160

Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
                165                 170                 175

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

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
        195                 200                 205

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
    210                 215                 220

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
225                 230                 235                 240
```

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
245 250 255

Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
260 265 270

Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly
275 280 285

Gly Ser Gly Gly Ser Ser Ser Ile Thr Val Thr Gly Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 535
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 535
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gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggagcgcta gcggaggttc aggcggttcc 420

ggaatgtatg aaagctttat tgagtcactg ccattcctta aatctttgga gttttctgca 480

cgcctgaaag tagtagatgt gataggcacc aaagtataca acgatggaga acaaatcatt 540

gctcagggag attcggctga ttctttttttc attattgaat ctggagaagt gaaaattact 600

atgaaaagaa agggtaaatc agaagtggaa gagaatggtg cagtagaaat cgctcgatgc 660

tcgcggggac agtactttgg agagcttgcc ctggtaacta acaaacctcg agcagcttct 720

gcccacgcca ttgggactgt caaatgttta gcaatggatg tgcaagcatt tgaaaggctt 780

ctgggacctt gcatggaaat tatgaaaagg aacatcgcta cctatgaaga acagttagtt 840

gccctgtatg gaacgaacat ggatattgta gggtcaggtg gatctggagg tagctcttct 900

accctgtgga acggcaacaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 536
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 536

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu
130 135 140

Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala
145 150 155 160

Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly
165 170 175

Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile
180 185 190

Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu
195 200 205

Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln
210 215 220

Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser
225 230 235 240

Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala
245 250 255

Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile
260 265 270

Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp
275 280 285

Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Thr Leu Trp Asn
290 295 300

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 537
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 537
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa cagcgctagc 420

ggaggttcag gcggttccgg aatgtatgaa agctttattg agtcactgcc attccttaaa 480

tctttggagt tttctgcacg cctgaaagta gtagatgtga taggcaccaa agtatacaac 540

gatggagaac aaatcattgc tcagggagat tcggctgatt ctttttttcat tattgaatct 600

ggagaagtga aaattactat gaaaagaaag ggtaaatcag aagtggaaga gaatggtgca 660

gtagaaatcg ctcgatgctc gcggggacag tactttggag agcttgccct ggtaactaac 720

aaacctcgag cagcttctgc ccacgccatt gggactgtca aatgtttagc aatggatgtg 780

caagcatttg aaaggcttct gggaccttgc atggaaatta tgaaaaggaa catcgctacc 840

tatgaagaac agttagttgc cctgtatgga acgaacatgg atattgtagg gtcaggtgga 900

tctggaggta gctcttctaa aattatcgac gagcgcctga tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 538
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 538
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Ser Ala Ser Gly Gly Ser Gly
130 135 140

Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys
145 150 155 160

Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr
165 170 175

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

Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys
195 200 205

Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala
210 215 220

Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn
225 230 235 240

Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu
245 250 255

Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu
260 265 270

Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu
275 280 285

Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser
290 295 300

Ser Ser Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu
305 310 315 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 539
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 539
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgagcgctag cggaggttca ggcggttccg gaatgtatga aagctttatt 480

gagtcactgc cattccttaa atctttggag ttttctgcac gcctgaaagt agtagatgtg 540

ataggcacca aagtatacaa cgatggagaa caaatcattg ctcagggaga ttcggctgat 600

tctttttca ttattgaatc tggagaagtg aaaattacta tgaaaagaaa gggtaaatca 660

gaagtggaag agaatggtgc agtagaaatc gctcgatgct cgcggggaca gtactttgga 720

gagcttgccc tggtaactaa caaacctcga gcagcttctg cccacgccat tgggactgtc 780

aaatgtttag caatggatgt gcaagcattt gaaaggcttc tgggaccttg catggaaatt 840

atgaaaagga acatcgctac ctatgaagaa cagttagttg ccctgtatgg aacgaacatg 900

gatattgtag ggtcaggtgg atctggaggt agctcttcta tcaaccccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 540
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 540
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile

145 150 155 160

Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys
165 170 175

Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile
180 185 190

Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly
195 200 205

Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu
210 215 220

Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly
225 230 235 240

Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala
245 250 255

Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg
260 265 270

Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr
275 280 285

Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly
290 295 300

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

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 541
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 541
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaacag cgctagcgga ggttcaggcg gttccggaat gtatgaaagc 480

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 540

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 600

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 660

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 720

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 780

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 840

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 900

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctcccga cggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 542
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 542
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

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Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser
145                 150                 155                 160

Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg
                165                 170                 175

Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu
            180                 185                 190

Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu
        195                 200                 205

Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val
    210                 215                 220

Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr
225                 230                 235                 240

Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala
                245                 250                 255

His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe
            260                 265                 270

Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala
        275                 280                 285

Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile
    290                 295                 300

Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Pro Asp Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 543
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 543

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gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacagcgct agcggaggtt caggcggttc cggaatgtat 480

gaaagcttta ttgagtcact gccattcctt aaatctttgg agttttctgc acgcctgaaa 540

gtagtagatg tgataggcac caaagtatac aacgatggag aacaaatcat tgctcaggga 600

gattcggctg attctttttt cattattgaa tctggagaag tgaaaattac tatgaaaaga 660

aagggtaaat cagaagtgga agagaatggt gcagtagaaa tcgctcgatg ctcgcgggga 720

cagtactttg gagagcttgc cctggtaact aacaaacctc gagcagcttc tgcccacgcc 780

attgggactg tcaaatgttt agcaatggat gtgcaagcat ttgaaaggct tctgggacct 840

tgcatggaaa ttatgaaaag gaacatcgct acctatgaag aacagttagt tgccctgtat 900

ggaacgaaca tggatattgt agggtcaggt ggatctggag gtagctcttc tggctccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 544
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 544
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

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Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr
145                 150                 155                 160

Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser
                165                 170                 175

Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp
            180                 185                 190

Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile
        195                 200                 205

Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser
    210                 215                 220

Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly
225                 230                 235                 240

Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala
                245                 250                 255

Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln
            260                 265                 270

Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn
        275                 280                 285

Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met
    290                 295                 300

Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Gly Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335

Arg Ile Leu Ala
            340
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<210> 545
<211> 1020
<212> DNA

<213> Artificial Sequence

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

<400> 545
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggcagc gctagcggag gttcaggcgg ttccggaatg 480

tatgaaagct ttattgagtc actgccattc cttaaatctt tggagttttc tgcacgcctg 540

aaagtagtag atgtgatagg caccaaagta tacaacgatg gagaacaaat cattgctcag 600

ggagattcgg ctgattcttt tttcattatt gaatctggag aagtgaaaat tactatgaaa 660

agaaagggta aatcagaagt ggaagagaat ggtgcagtag aaatcgctcg atgctcgcgg 720

ggacagtact ttggagagct tgccctggta actaacaaac ctcgagcagc ttctgcccac 780

gccattggga ctgtcaaatg tttagcaatg gatgtgcaag catttgaaag gcttctggga 840

ccttgcatgg aaattatgaa aaggaacatc gctacctatg aagaacagtt agttgccctg 900

tatggaacga acatggatat tgtagggtca ggtggatctg gaggtagctc ttcttccctg 960

ctgttccgag taaccatcaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 546
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 546
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

```
Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Ala Ser Gly Gly Ser Gly Gly Ser Gly Met
145                 150                 155                 160

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
                165                 170                 175

Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn
            180                 185                 190

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
        195                 200                 205

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
    210                 215                 220

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
225                 230                 235                 240

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
                245                 250                 255

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
            260                 265                 270

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
        275                 280                 285

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
    290                 295                 300

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Ser Leu
305                 310                 315                 320

Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
                325                 330                 335
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Arg Ile Leu Ala
340

<210> 547
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 547
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat cagcgctagc 480

ggaggttcag gcggttccgg aatgtatgaa agctttattg agtcactgcc attccttaaa 540

tctttggagt tttctgcacg cctgaaagta gtagatgtga taggcaccaa agtatacaac 600

gatggagaac aaatcattgc tcagggagat tcggctgatt ctttttttcat tattgaatct 660

ggagaagtga aaattactat gaaaagaaag ggtaaatcag aagtggaaga gaatggtgca 720

gtagaaatcg ctcgatgctc gcggggacag tactttggag agcttgccct ggtaactaac 780

aaacctcgag cagcttctgc ccacgccatt gggactgtca aatgtttagc aatggatgtg 840

caagcatttg aaaggcttct gggaccttgc atggaaatta tgaaaaggaa catcgctacc 900

tatgaagaac agttagttgc cctgtatgga acgaacatgg atattgtagg gtcaggtgga 960

tctggaggta gctcttctaa cggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 548
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 548
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu

35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Ser Ala Ser
145 150 155 160

Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu
165 170 175

Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp
180 185 190

Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln
195 200 205

Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys
210 215 220

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

Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala
245 250 255

Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr
260 265 270

Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly
275 280 285

Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln
290 295 300

Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly

305 310 315 320

Ser Gly Gly Ser Ser Ser Asn Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 549
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 549
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacagcgct 480

agcggaggtt caggcggttc cggaatgtat gaaagcttta ttgagtcact gccattcctt 540

aaatctttgg agttttctgc acgcctgaaa gtagtagatg tgataggcac caaagtatac 600

aacgatggag aacaaatcat tgctcaggga gattcggctg attctttttt cattattgaa 660

tctggagaag tgaaaattac tatgaaaaga aagggtaaat cagaagtgga agagaatggt 720

gcagtagaaa tcgctcgatg ctcgcgggga cagtactttg gagagcttgc cctggtaact 780

aacaaacctc gagcagcttc tgcccacgcc attgggactg tcaaatgttt agcaatggat 840

gtgcaagcat ttgaaaggct tctgggacct tgcatggaaa ttatgaaaag gaacatcgct 900

acctatgaag aacagttagt tgccctgtat ggaacgaaca tggatattgt agggtcaggt 960

ggatctggag gtagctcttc tggagtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 550
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 550
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

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Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Ser Ala
145                 150                 155                 160

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
                165                 170                 175

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

Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
        195                 200                 205

Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val
    210                 215                 220

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
225                 230                 235                 240

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
                245                 250                 255

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
            260                 265                 270

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
        275                 280                 285
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Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
290 295 300

Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly
305 310 315 320

Gly Ser Gly Gly Ser Ser Ser Gly Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 551
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 551
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggaagc 480

gctagcggag gttcaggcgg ttccggaatg tatgaaagct ttattgagtc actgccattc 540

cttaaatctt tggagtttc tgcacgcctg aaagtagtag atgtgatagg caccaaagta 600

tacaacgatg gagaacaaat cattgctcag ggagattcgg ctgattcttt tttcattatt 660

gaatctggag aagtgaaaat tactatgaaa agaaagggta aatcagaagt ggaagagaat 720

ggtgcagtag aaatcgctcg atgctcgcgg ggacagtact ttggagagct tgccctggta 780

actaacaaac ctcgagcagc ttctgcccac gccattggga ctgtcaaatg tttagcaatg 840

gatgtgcaag catttgaaag gcttctggga ccttgcatgg aaattatgaa aaggaacatc 900

gctacctatg aagaacagtt agttgccctg tatggaacga acatggatat tgtagggtca 960

ggtggatctg gaggtagctc ttctgtgacc ggctggcggc tgtgcgaacg cattctggct 1020

<210> 552
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 552

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Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1               5                  10                  15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
            20                  25                  30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
        35                  40                  45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
    50                  55                  60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65                  70                  75                  80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
                85                  90                  95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
            100                 105                 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
        115                 120                 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
    130                 135                 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Ser
145                 150                 155                 160

Ala Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu
                165                 170                 175

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

Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile
        195                 200                 205

Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu
    210                 215                 220

Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn
225                 230                 235                 240

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

Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu
275 280 285

Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu
290 295 300

Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser
305 310 315 320

Gly Gly Ser Gly Gly Ser Ser Ser Val Thr Gly Trp Arg Leu Cys Glu
325 330 335

Arg Ile Leu Ala
340

<210> 553
<211> 1020
<212> DNA
<213> Artificial Sequence

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

<400> 553
atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 60

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 480

accggctggc ggctgtgcga aagcgctagc ggaggttcag gcggttccgg aatgtatgaa 540

agctttattg agtcactgcc attccttaaa tctttggagt tttctgcacg cctgaaagta 600

gtagatgtga taggcaccaa agtatacaac gatggagaac aaatcattgc tcagggagat 660

tcggctgatt ctttttttcat tattgaatct ggagaagtga aaattactat gaaaagaaag 720

ggtaaatcag aagtggaaga gaatggtgca gtagaaatcg ctcgatgctc gcggggacag 780

tactttggag agcttgccct ggtaactaac aaacctcgag cagcttctgc ccacgccatt 840

gggactgtca aatgtttagc aatggatgtg caagcatttg aaaggcttct gggaccttgc 900

atggaaatta tgaaaaggaa catcgctacc tatgaagaac agttagttgc cctgtatgga 960

acgaacatgg atattgtagg gtcaggtgga tctggaggta gctcttctcg cattctggct 1020

<210> 554
<211> 340
<212> PRT
<213> Artificial Sequence

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

<400> 554
Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
1 5 10 15

Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu
20 25 30

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
35 40 45

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
50 55 60

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
65 70 75 80

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
85 90 95

Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe
100 105 110

Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr
115 120 125

Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu
130 135 140

Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val
145 150 155 160

Thr Gly Trp Arg Leu Cys Glu Ser Ala Ser Gly Gly Ser Gly Gly Ser
165 170 175

Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu
180 185 190

Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val
195 200 205

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser
210 215 220

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
225 230 235 240

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
245 250 255

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
260 265 270

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
275 280 285

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
290 295 300

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
305 310 315 320

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser
325 330 335

Arg Ile Leu Ala
340

<210> 555
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 555
atgggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 60

gtcctgagcg gtgaaaatgg gctgaagatc gacatccatg tcatcatccc gtatgaaggt 120

ctgagcggcg accaaatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 180

gatcatcact ttaaggtgat cctgcactat ggcacactgg taatcgacgg ggttacgccg 240

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 300

atcactgtaa cagggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 360

cccgacggct ccctgctgtt ccgagtaacc atcaacggag tgaccggctg gcggctgtgc 420

gaacgcattc tggctagctc aagcggaggt tcaggcggtt ccggaatgta tgaaagcttt 480

attgagtcac tgccattcct taaatctttg gagttttctg cacgcctgaa agtagtagat 540

gtgataggca ccaaagtata caacgatgga gaacaaatca ttgctcaggg agattcggct 600

gattcttttt tcattattga atctggagaa gtgaaaatta ctatgaaaag aaagggtaaa 660

tcagaagtgg aagagaatgg tgcagtagaa atcgctcgat gctcgcgggg acagtacttt 720

ggagagcttg ccctggtaac taacaaacct cgagcagctt ctgcccacgc cattgggact 780

gtcaaatgtt tagcaatgga tgtgcaagca tttgaaaggc ttctgggacc ttgcatggaa 840

attatgaaaa ggaacatcgc tacctatgaa gaacagttag ttgccctgta tggaacgaac 900

atggatattg tagggtcagg tggatctgga ggtagctctt ctatggtctt cacactcgaa 960

gatttcgttg gggactggcg acagacagcc ggctacaacc tggaccaagt ccttgaacag 1020

gga 1023

<210> 556
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 556

Met	Gly	Val	Ser	Ser	Leu	Phe	Gln	Asn	Leu	Gly	Val	Ser	Val	Thr	Pro
1				5				10					15		
Ile	Gln	Arg	Ile	Val	Leu	Ser	Gly	Glu	Asn	Gly	Leu	Lys	Ile	Asp	Ile
			20					25					30		
His	Val	Ile	Ile	Pro	Tyr	Glu	Gly	Leu	Ser	Gly	Asp	Gln	Met	Gly	Gln
		35					40					45			
Ile	Glu	Lys	Ile	Phe	Lys	Val	Val	Tyr	Pro	Val	Asp	Asp	His	His	Phe
	50					55					60				
Lys	Val	Ile	Leu	His	Tyr	Gly	Thr	Leu	Val	Ile	Asp	Gly	Val	Thr	Pro
65					70					75					80
Asn	Met	Ile	Asp	Tyr	Phe	Gly	Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val	Phe
				85					90					95	
Asp	Gly	Lys	Lys	Ile	Thr	Val	Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys
			100					105					110		
Ile	Ile	Asp	Glu	Arg	Leu	Ile	Asn	Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg
		115					120					125			
Val	Thr	Ile	Asn	Gly	Val	Thr	Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile	Leu
	130					135					140				
Ala	Ser	Ser	Ser	Gly	Gly	Ser	Gly	Gly	Ser	Gly	Met	Tyr	Glu	Ser	Phe
145					150					155					160
Ile	Glu	Ser	Leu	Pro	Phe	Leu	Lys	Ser	Leu	Glu	Phe	Ser	Ala	Arg	Leu
				165					170					175	
Lys	Val	Val	Asp	Val	Ile	Gly	Thr	Lys	Val	Tyr	Asn	Asp	Gly	Glu	Gln
			180					185					190		

Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser
195 200 205

Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu
210 215 220

Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe
225 230 235 240

Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His
245 250 255

Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu
260 265 270

Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr
275 280 285

Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val
290 295 300

Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu
305 310 315 320

Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln
325 330 335

Val Leu Glu Gln Gly
340

<210> 557
<211> 1023
<212> DNA
<213> Artificial Sequence

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

<400> 557
atggtcctga gcggtgaaaa tgggctgaag atcgacatcc atgtcatcat cccgtatgaa 60

ggtctgagcg gcgaccaaat gggccagatc gaaaaaattt ttaaggtggt gtaccctgtg 120

gatgatcatc actttaaggt gatcctgcac tatggcacac tggtaatcga cggggttacg 180

ccgaacatga tcgactattt cggacggccg tatgaaggca tcgccgtgtt cgacggcaaa 240

aagatcactg taacagggac cctgtggaac ggcaacaaaa ttatcgacga gcgcctgatc 300

aaccccgacg gctccctgct gttccgagta accatcaacg gagtgaccgg ctggcggctg 360

tgcgaacgca ttctggctag ctcaagcgga ggttcaggcg gttccggaat gtatgaaagc 420

tttattgagt cactgccatt ccttaaatct ttggagtttt ctgcacgcct gaaagtagta 480

gatgtgatag gcaccaaagt atacaacgat ggagaacaaa tcattgctca gggagattcg 540

gctgattctt ttttcattat tgaatctgga gaagtgaaaa ttactatgaa aagaaagggt 600

aaatcagaag tggaagagaa tggtgcagta gaaatcgctc gatgctcgcg gggacagtac 660

tttggagagc ttgccctggt aactaacaaa cctcgagcag cttctgccca cgccattggg 720

actgtcaaat gtttagcaat ggatgtgcaa gcatttgaaa ggcttctggg accttgcatg 780

gaaattatga aaaggaacat cgctacctat gaagaacagt tagttgccct gtatggaacg 840

aacatggata ttgtagggtc aggtggatct ggaggtagct cttctatggt cttcacactc 900

gaagatttcg ttggggactg gcgacagaca gccggctaca acctggacca agtccttgaa 960

cagggaggtg tgtccagttt gtttcagaat ctcggggtgt ccgtaactcc gatccaaagg 1020

att 1023

<210> 558
<211> 341
<212> PRT
<213> Artificial Sequence

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

<400> 558
Met Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile
1 5 10 15

Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys
20 25 30

Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile
35 40 45

Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile
50 55 60

Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys
65 70 75 80

Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp
85 90 95

Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile
100 105 110

Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser
115 120 125

Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser
130 135 140

Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val
145 150 155 160

Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala
165 170 175

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

Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly
195 200 205

Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu
210 215 220

Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly
225 230 235 240

Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu
245 250 255

Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu
260 265 270

Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly
275 280 285

Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val
290 295 300

Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu
305 310 315 320

Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr
325 330 335

Pro Ile Gln Arg Ile
340

<210> 559
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 559
atggacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 60

gtgttcgacg gcaaaaagat cactgtaaca gggaccctgt ggaacggcaa caaaattatc 120

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gagtaaccat caacggagtg 180

accggctggc ggctgtgcga acgcattctg gctagctcaa gcggaggttc aggcggttcc 240

ggaatgtatg aaagctttat tgagtcactg ccattcctta aatctttgga gttttctgca 300

cgcctgaaag tagtagatgt gataggcacc aaagtataca acgatggaga acaaatcatt 360

gctcagggag attcggctga ttctttttc attattgaat ctggagaagt gaaaattact 420

atgaaaagaa agggtaaatc agaagtggaa gagaatggtg cagtagaaat cgctcgatgc 480

tcgcggggac agtactttgg agagcttgcc ctggtaacta acaaacctcg agcagcttct 540

gcccacgcca ttgggactgt caaatgttta gcaatggatg tgcaagcatt tgaaaggctt 600

ctgggacctt gcatggaaat tatgaaaagg aacatcgcta cctatgaaga acagttagtt 660

gccctgtatg gaacgaacat ggatattgta gggtcaggtg gatctggagg tagctcttct 720

atggtcttca cactcgaaga tttcgttggg gactggcgac agacagccgg ctacaacctg 780

gaccaagtcc ttgaacaggg aggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 840

actccgatcc aaaggattgt cctgagcggt gaaaatgggc tgaagatcga catccatgtc 900

atcatcccgt atgaaggtct gagcggcgac caaatgggcc agatcgaaaa aatttttaag 960

gtggtgtacc ctgtggatga tcatcacttt aaggtgatcc tgcactatgg cacactggta 1020

atcgac 1026

<210> 560
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 560
Met Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr
1 5 10 15

Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr
20 25 30

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

Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg
50 55 60

Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser
65 70 75 80

Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu
85 90 95

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

Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser

115 120 125

Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys
130 135 140

Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys
145 150 155 160

Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro
165 170 175

Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met
180 185 190

Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met
195 200 205

Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly
210 215 220

Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser
225 230 235 240

Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala
245 250 255

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

Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu
275 280 285

Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr
290 295 300

Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys
305 310 315 320

Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr
325 330 335

Gly Thr Leu Val Ile Asp
340

<210> 561
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 561
atgggggtta cgccgaacat gatcgactat ttcggacggc cgtatgaagg catcgccgtg 60

ttcgacggca aaaagatcac tgtaacaggg accctgtgga acggcaacaa aattatcgac 120

gagcgcctga tcaaccccga cggctccctg ctgttccgag taaccatcaa cggagtgacc 180

ggctggcggc tgtgcgaacg cattctggct agctcaagcg gaggttcagg cggttccgga 240

atgtatgaaa gctttattga gtcactgcca ttccttaaat ctttggagtt ttctgcacgc 300

ctgaaagtag tagatgtgat aggcaccaaa gtatacaacg atggagaaca aatcattgct 360

cagggagatt cggctgattc ttttttcatt attgaatctg gagaagtgaa aattactatg 420

aaaagaaagg gtaaatcaga agtggaagag aatggtgcag tagaaatcgc tcgatgctcg 480

cggggacagt actttggaga gcttgccctg gtaactaaca aacctcgagc agcttctgcc 540

cacgccattg ggactgtcaa atgtttagca atggatgtgc aagcatttga aaggcttctg 600

ggaccttgca tggaaattat gaaaaggaac atcgctacct atgaagaaca gttagttgcc 660

ctgtatggaa cgaacatgga tattgtaggg tcaggtggat ctggaggtag ctcttctatg 720

gtcttcacac tcgaagattt cgttggggac tggcgacaga cagccggcta caacctggac 780

caagtccttg aacagggagg tgtgtccagt ttgtttcaga atctcggggt gtccgtaact 840

ccgatccaaa ggattgtcct gagcggtgaa aatgggctga agatcgacat ccatgtcatc 900

atcccgtatg aaggtctgag cggcgaccaa atgggccaga tcgaaaaaat ttttaaggtg 960

gtgtaccctg tggatgatca tcactttaag gtgatcctgc actatggcac actggtaatc 1020

gacggg 1026

<210> 562
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 562
Met Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu
1 5 10 15

Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu
20 25 30

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

Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu
50 55 60

Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly
65 70 75 80

```
Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu
                85                  90                  95

Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr
            100                 105                 110

Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe
        115                 120                 125

Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly
    130                 135                 140

Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser
145                 150                 155                 160

Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg
                165                 170                 175

Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp
            180                 185                 190

Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys
        195                 200                 205

Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr
    210                 215                 220

Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met
225                 230                 235                 240

Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly
                245                 250                 255

Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe
            260                 265                 270

Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser
        275                 280                 285

Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu
    290                 295                 300

Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val
305                 310                 315                 320

Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly
                325                 330                 335

Thr Leu Val Ile Asp Gly
            340
```

<210> 563
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 563
atggttacgc cgaacatgat cgactatttc ggacggccgt atgaaggcat cgccgtgttc 60

gacggcaaaa agatcactgt aacagggacc ctgtggaacg gcaacaaaat tatcgacgag 120

cgcctgatca accccgacgg ctccctgctg ttccgagtaa ccatcaacgg agtgaccggc 180

tggcggctgt gcgaacgcat tctggctagc tcaagcggag gttcaggcgg ttccggaatg 240

tatgaaagct ttattgagtc actgccattc cttaaatctt tggagttttc tgcacgcctg 300

aaagtagtag atgtgatagg caccaaagta tacaacgatg gagaacaaat cattgctcag 360

ggagattcgg ctgattcttt tttcattatt gaatctggag aagtgaaaat tactatgaaa 420

agaaagggta aatcagaagt ggaagagaat ggtgcagtag aaatcgctcg atgctcgcgg 480

ggacagtact ttggagagct tgccctggta actaacaaac ctcgagcagc ttctgcccac 540

gccattggga ctgtcaaatg tttagcaatg gatgtgcaag catttgaaag gcttctggga 600

ccttgcatgg aaattatgaa aaggaacatc gctacctatg aagaacagtt agttgccctg 660

tatggaacga acatggatat tgtagggtca ggtggatctg gaggtagctc ttctatggtc 720

ttcacactcg aagatttcgt tggggactgg cgacagacag ccggctacaa cctggaccaa 780

gtccttgaac agggaggtgt gtccagtttg tttcagaatc tcggggtgtc cgtaactccg 840

atccaaagga ttgtcctgag cggtgaaaat gggctgaaga tcgacatcca tgtcatcatc 900

ccgtatgaag gtctgagcgg cgaccaaatg ggccagatcg aaaaaatttt taaggtggtg 960

taccctgtgg atgatcatca ctttaaggtg atcctgcact atggcacact ggtaatcgac 1020

ggggtt 1026

<210> 564
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 564
Met Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly
1 5 10 15

Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp
20 25 30

Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser
35 40 45

```
Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp Arg Leu Cys
    50                  55                  60

Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met
65                  70                  75                  80

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
                85                  90                  95

Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn
            100                 105                 110

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
        115                 120                 125

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
    130                 135                 140

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
145                 150                 155                 160

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
                165                 170                 175

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
            180                 185                 190

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
        195                 200                 205

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
    210                 215                 220

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val
225                 230                 235                 240

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
                245                 250                 255

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

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
        275                 280                 285

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
    290                 295                 300

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
305                 310                 315                 320
```

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
325 330 335

Leu Val Ile Asp Gly Val
340

<210> 565
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 565
atgatcaacc ccgacggctc cctgctgttc cgagtaacca tcaacggagt gaccggctgg 60

cggctgtgcg aacgcattct ggctagctca agcggaggtt caggcggttc cggaatgtat 120

gaaagcttta ttgagtcact gccattcctt aaatctttgg agttttctgc acgcctgaaa 180

gtagtagatg tgataggcac caaagtatac aacgatggag aacaaatcat tgctcaggga 240

gattcggctg attctttttt cattattgaa tctggagaag tgaaaattac tatgaaaaga 300

aagggtaaat cagaagtgga agagaatggt gcagtagaaa tcgctcgatg ctcgcgggga 360

cagtactttg gagagcttgc cctggtaact aacaaacctc gagcagcttc tgcccacgcc 420

attgggactg tcaaatgttt agcaatggat gtgcaagcat ttgaaaggct tctgggacct 480

tgcatggaaa ttatgaaaag gaacatcgct acctatgaag aacagttagt tgccctgtat 540

ggaacgaaca tggatattgt agggtcaggt ggatctggag gtagctcttc tatggtcttc 600

acactcgaag atttcgttgg ggactggcga cagacagccg gctacaacct ggaccaagtc 660

cttgaacagg gaggtgtgtc cagtttgttt cagaatctcg gggtgtccgt aactccgatc 720

caaaggattg tcctgagcgg tgaaaatggg ctgaagatcg acatccatgt catcatcccg 780

tatgaaggtc tgagcggcga ccaaatgggc cagatcgaaa aaatttttaa ggtggtgtac 840

cctgtggatg atcatcactt taaggtgatc ctgcactatg gcacactggt aatcgacggg 900

gttacgccga acatgatcga ctatttcgga cggccgtatg aaggcatcgc cgtgttcgac 960

ggcaaaaaga tcactgtaac agggaccctg tggaacggca acaaaattat cgacgagcgc 1020

ctgatc 1026

<210> 566
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 566
Met Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly
1 5 10 15

```
Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly
            20                  25                  30

Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro
        35                  40                  45

Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val
    50                  55                  60

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

Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile
                85                  90                  95

Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val
            100                 105                 110

Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu
        115                 120                 125

Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val
    130                 135                 140

Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro
145                 150                 155                 160

Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu
                165                 170                 175

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

Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp
        195                 200                 205

Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly
    210                 215                 220

Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile
225                 230                 235                 240

Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His
                245                 250                 255

Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile
            260                 265                 270

Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys
        275                 280                 285
```

Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn
290 295 300

Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp
305 310 315 320

Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile
325 330 335

Ile Asp Glu Arg Leu Ile
340

<210> 567
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 567
atgggctccc tgctgttccg agtaaccatc aacggagtga ccggctggcg gctgtgcgaa 60

cgcattctgg ctagctcaag cggaggttca ggcggttccg gaatgtatga aagctttatt 120

gagtcactgc cattccttaa atctttggag ttttctgcac gcctgaaagt agtagatgtg 180

ataggcacca aagtatacaa cgatggagaa caaatcattg ctcagggaga ttcggctgat 240

tctttttca ttattgaatc tggagaagtg aaaattacta tgaaaagaaa gggtaaatca 300

gaagtggaag agaatggtgc agtagaaatc gctcgatgct cgcggggaca gtactttgga 360

gagcttgccc tggtaactaa caaacctcga gcagcttctg cccacgccat tgggactgtc 420

aaatgtttag caatggatgt gcaagcattt gaaaggcttc tgggaccttg catggaaatt 480

atgaaaagga acatcgctac ctatgaagaa cagttagttg ccctgtatgg aacgaacatg 540

gatattgtag ggtcaggtgg atctggaggt agctcttcta tggtcttcac actcgaagat 600

ttcgttgggg actggcgaca gacagccggc tacaacctgg accaagtcct tgaacaggga 660

ggtgtgtcca gtttgtttca gaatctcggg gtgtccgtaa ctccgatcca aaggattgtc 720

ctgagcggtg aaaatgggct gaagatcgac atccatgtca tcatcccgta tgaaggtctg 780

agcggcgacc aaatgggcca gatcgaaaaa atttttaagg tggtgtaccc tgtggatgat 840

catcacttta aggtgatcct gcactatggc acactggtaa tcgacggggt tacgccgaac 900

atgatcgact atttcggacg gccgtatgaa ggcatcgccg tgttcgacgg caaaaagatc 960

actgtaacag ggaccctgtg gaacggcaac aaaattatcg acgagcgcct gatcaacccc 1020

gacggc 1026

<210> 568
<211> 342
<212> PRT

<213> Artificial Sequence

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

<400> 568
Met Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly Trp
1 5 10 15

Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly
20 25 30

Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser
35 40 45

Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys
50 55 60

Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp
65 70 75 80

Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg
85 90 95

Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg
100 105 110

Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys
115 120 125

Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala
130 135 140

Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile
145 150 155 160

Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr
165 170 175

Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser
180 185 190

Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr
195 200 205

Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser
210 215 220

Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val
225 230 235 240

Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro

245 250 255

Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe
260 265 270

Lys Val Val Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His
275 280 285

Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr
290 295 300

Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile
305 310 315 320

Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg
325 330 335

Leu Ile Asn Pro Asp Gly
340

<210> 569
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 569
atgaacggag tgaccggctg gcggctgtgc gaacgcattc tggctagctc aagcggaggt 60

tcaggcggtt ccggaatgta tgaaagcttt attgagtcac tgccattcct taaatctttg 120

gagttttctg cacgcctgaa agtagtagat gtgataggca ccaaagtata caacgatgga 180

gaacaaatca ttgctcaggg agattcggct gattcttttt tcattattga atctggagaa 240

gtgaaaatta ctatgaaaag aaagggtaaa tcagaagtgg aagagaatgg tgcagtagaa 300

atcgctcgat gctcgcgggg acagtacttt ggagagcttg ccctggtaac taacaaacct 360

cgagcagctt ctgcccacgc cattgggact gtcaaatgtt tagcaatgga tgtgcaagca 420

tttgaaaggc ttctgggacc ttgcatggaa attatgaaaa ggaacatcgc tacctatgaa 480

gaacagttag ttgccctgta tggaacgaac atggatattg tagggtcagg tggatctgga 540

ggtagctctt ctatggtctt cacactcgaa gatttcgttg gggactggcg acagacagcc 600

ggctacaacc tggaccaagt ccttgaacag ggaggtgtgt ccagtttgtt tcagaatctc 660

ggggtgtccg taactccgat ccaaaggatt gtcctgagcg gtgaaaatgg gctgaagatc 720

gacatccatg tcatcatccc gtatgaaggt ctgagcggcg accaaatggg ccagatcgaa 780

aaaatttta aggtggtgta ccctgtggat gatcatcact ttaaggtgat cctgcactat 840

ggcacactgg taatcgacgg ggttacgccg aacatgatcg actatttcgg acggccgtat 900

gaaggcatcg ccgtgttcga cggcaaaaag atcactgtaa cagggaccct gtggaacggc 960

aacaaaatta tcgacgagcg cctgatcaac cccgacggct ccctgctgtt ccgagtaacc 1020

atcaac 1026

<210> 570
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 570
Met Asn Gly Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser
1 5 10 15

Ser Ser Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu
20 25 30

Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val
35 40 45

Val Asp Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile
50 55 60

Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu
65 70 75 80

Val Lys Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn
85 90 95

Gly Ala Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu
100 105 110

Leu Ala Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile
115 120 125

Gly Thr Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu
130 135 140

Leu Gly Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu
145 150 155 160

Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser
165 170 175

Gly Gly Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe
180 185 190

Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu
195 200 205

Glu Gln Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val
210 215 220

Thr Pro Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile
225 230 235 240

Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met
245 250 255

Gly Gln Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His
260 265 270

His Phe Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val
275 280 285

Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala
290 295 300

Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly
305 310 315 320

Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu
325 330 335

Phe Arg Val Thr Ile Asn
340

<210> 571
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 571
atggtgaccg gctggcggct gtgcgaacgc attctggcta gctcaagcgg aggttcaggc 60

ggttccggaa tgtatgaaag ctttattgag tcactgccat tccttaaatc tttggagttt 120

tctgcacgcc tgaaagtagt agatgtgata ggcaccaaag tatacaacga tggagaacaa 180

atcattgctc agggagattc ggctgattct tttttcatta ttgaatctgg agaagtgaaa 240

attactatga aaagaaaggg taaatcagaa gtggaagaga atggtgcagt agaaatcgct 300

cgatgctcgc ggggacagta ctttggagag cttgccctgg taactaacaa acctcgagca 360

gcttctgccc acgccattgg gactgtcaaa tgtttagcaa tggatgtgca agcatttgaa 420

aggcttctgg gaccttgcat ggaaattatg aaaaggaaca tcgctaccta tgaagaacag 480

ttagttgccc tgtatggaac gaacatggat attgtagggt caggtggatc tggaggtagc 540

tcttctatgg tcttcacact cgaagatttc gttggggact ggcgacagac agccggctac 600

aacctggacc aagtccttga acagggaggt gtgtccagtt tgtttcagaa tctcggggtg 660

tccgtaactc cgatccaaag gattgtcctg agcggtgaaa atgggctgaa gatcgacatc 720

catgtcatca tcccgtatga aggtctgagc ggcgaccaaa tgggccagat cgaaaaaatt 780

tttaaggtgg tgtaccctgt ggatgatcat cactttaagg tgatcctgca ctatggcaca 840

ctggtaatcg acggggttac gccgaacatg atcgactatt tcggacggcc gtatgaaggc 900

atcgccgtgt tcgacggcaa aaagatcact gtaacaggga ccctgtggaa cggcaacaaa 960

attatcgacg agcgcctgat caaccccgac ggctccctgc tgttccgagt aaccatcaac 1020

ggagtg 1026

<210> 572
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 572

Met Val Thr Gly Trp Arg Leu Cys Glu Arg Ile Leu Ala Ser Ser Ser
1 5 10 15

Gly Gly Ser Gly Gly Ser Gly Met Tyr Glu Ser Phe Ile Glu Ser Leu
20 25 30

Pro Phe Leu Lys Ser Leu Glu Phe Ser Ala Arg Leu Lys Val Val Asp
35 40 45

Val Ile Gly Thr Lys Val Tyr Asn Asp Gly Glu Gln Ile Ile Ala Gln
50 55 60

Gly Asp Ser Ala Asp Ser Phe Phe Ile Ile Glu Ser Gly Glu Val Lys
65 70 75 80

Ile Thr Met Lys Arg Lys Gly Lys Ser Glu Val Glu Glu Asn Gly Ala
85 90 95

Val Glu Ile Ala Arg Cys Ser Arg Gly Gln Tyr Phe Gly Glu Leu Ala
100 105 110

Leu Val Thr Asn Lys Pro Arg Ala Ala Ser Ala His Ala Ile Gly Thr
115 120 125

Val Lys Cys Leu Ala Met Asp Val Gln Ala Phe Glu Arg Leu Leu Gly
130 135 140

Pro Cys Met Glu Ile Met Lys Arg Asn Ile Ala Thr Tyr Glu Glu Gln
145 150 155 160

Leu Val Ala Leu Tyr Gly Thr Asn Met Asp Ile Val Gly Ser Gly Gly
165 170 175

Ser Gly Gly Ser Ser Ser Met Val Phe Thr Leu Glu Asp Phe Val Gly
180 185 190

Asp Trp Arg Gln Thr Ala Gly Tyr Asn Leu Asp Gln Val Leu Glu Gln
195 200 205

Gly Gly Val Ser Ser Leu Phe Gln Asn Leu Gly Val Ser Val Thr Pro
210 215 220

Ile Gln Arg Ile Val Leu Ser Gly Glu Asn Gly Leu Lys Ile Asp Ile
225 230 235 240

His Val Ile Ile Pro Tyr Glu Gly Leu Ser Gly Asp Gln Met Gly Gln
245 250 255

Ile Glu Lys Ile Phe Lys Val Val Tyr Pro Val Asp Asp His His Phe
260 265 270

Lys Val Ile Leu His Tyr Gly Thr Leu Val Ile Asp Gly Val Thr Pro
275 280 285

Asn Met Ile Asp Tyr Phe Gly Arg Pro Tyr Glu Gly Ile Ala Val Phe
290 295 300

Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn Gly Asn Lys
305 310 315 320

Ile Ile Asp Glu Arg Leu Ile Asn Pro Asp Gly Ser Leu Leu Phe Arg
325 330 335

Val Thr Ile Asn Gly Val
340

<210> 573
<211> 1026
<212> DNA
<213> Artificial Sequence

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

<400> 573
atgcgcattc tggctagctc aagcggaggt tcaggcggtt ccggaatgta tgaaagcttt 60

attgagtcac tgccattcct taaatctttg gagttttctg cacgcctgaa agtagtagat 120

gtgataggca ccaaagtata caacgatgga gaacaaatca ttgctcaggg agattcggct 180

gattcttttt tcattattga atctggagaa gtgaaaatta ctatgaaaag aaagggtaaa 240

tcagaagtgg aagagaatgg tgcagtagaa atcgctcgat gctcgcgggg acagtacttt 300

ggagagcttg ccctggtaac taacaaacct cgagcagctt ctgcccacgc cattgggact 360

gtcaaatgtt tagcaatgga tgtgcaagca tttgaaaggc ttctgggacc ttgcatggaa 420

attatgaaaa ggaacatcgc tacctatgaa gaacagttag ttgccctgta tggaacgaac 480

atggatattg tagggtcagg tggatctgga ggtagctctt ctatggtctt cacactcgaa 540

gatttcgttg gggactggcg acagacagcc ggctacaacc tggaccaagt ccttgaacag 600

ggaggtgtgt ccagtttgtt tcagaatctc ggggtgtccg taactccgat ccaaaggatt 660

gtcctgagcg gtgaaaatgg gctgaagatc gacatccatg tcatcatccc gtatgaaggt 720

ctgagcggcg accaaatggg ccagatcgaa aaaatttta aggtggtgta ccctgtggat 780

gatcatcact ttaaggtgat cctgcactat ggcacactgg taatcgacgg ggttacgccg 840

aacatgatcg actatttcgg acggccgtat gaaggcatcg ccgtgttcga cggcaaaaag 900

atcactgtaa cagggaccct gtggaacggc aacaaaatta tcgacgagcg cctgatcaac 960

cccgacggct ccctgctgtt ccgagtaacc atcaacggag tgaccggctg gcggctgtgc 1020

gaacgc 1026

<210> 574
<211> 342
<212> PRT
<213> Artificial Sequence

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

<400> 574
Met Arg Ile Leu Ala Ser Ser Ser Gly Gly Ser Gly Gly Ser Gly Met
1 5 10 15

Tyr Glu Ser Phe Ile Glu Ser Leu Pro Phe Leu Lys Ser Leu Glu Phe
20 25 30

Ser Ala Arg Leu Lys Val Val Asp Val Ile Gly Thr Lys Val Tyr Asn
35 40 45

Asp Gly Glu Gln Ile Ile Ala Gln Gly Asp Ser Ala Asp Ser Phe Phe
50 55 60

Ile Ile Glu Ser Gly Glu Val Lys Ile Thr Met Lys Arg Lys Gly Lys
65 70 75 80

Ser Glu Val Glu Glu Asn Gly Ala Val Glu Ile Ala Arg Cys Ser Arg
85 90 95

Gly Gln Tyr Phe Gly Glu Leu Ala Leu Val Thr Asn Lys Pro Arg Ala
100 105 110

Ala Ser Ala His Ala Ile Gly Thr Val Lys Cys Leu Ala Met Asp Val
115 120 125

Gln Ala Phe Glu Arg Leu Leu Gly Pro Cys Met Glu Ile Met Lys Arg
130 135 140

Asn Ile Ala Thr Tyr Glu Glu Gln Leu Val Ala Leu Tyr Gly Thr Asn
145 150 155 160

Met Asp Ile Val Gly Ser Gly Gly Ser Gly Gly Ser Ser Ser Met Val
165 170 175

Phe Thr Leu Glu Asp Phe Val Gly Asp Trp Arg Gln Thr Ala Gly Tyr
180 185 190

Asn Leu Asp Gln Val Leu Glu Gln Gly Gly Val Ser Ser Leu Phe Gln
195 200 205

Asn Leu Gly Val Ser Val Thr Pro Ile Gln Arg Ile Val Leu Ser Gly
210 215 220

Glu Asn Gly Leu Lys Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly
225 230 235 240

Leu Ser Gly Asp Gln Met Gly Gln Ile Glu Lys Ile Phe Lys Val Val
245 250 255

Tyr Pro Val Asp Asp His His Phe Lys Val Ile Leu His Tyr Gly Thr
260 265 270

Leu Val Ile Asp Gly Val Thr Pro Asn Met Ile Asp Tyr Phe Gly Arg
275 280 285

Pro Tyr Glu Gly Ile Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr
290 295 300

Gly Thr Leu Trp Asn Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Asn
305 310 315 320

Pro Asp Gly Ser Leu Leu Phe Arg Val Thr Ile Asn Gly Val Thr Gly
325 330 335

Trp Arg Leu Cys Glu Arg
340

<210> 575
<211> 30
<212> DNA
<213> Artificial Sequence

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

<400> 575
gggtcaggtg gatctggagg tagctcttct 30

<210> 576

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

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

<400> 576
agctcaagcg gaggttcagg cggttccgga 30

<210> 577
<211> 377
<212> DNA
<213> Homo sapiens

<400> 577
atgccgtccg agaagacctt caaacagcgc cggagcttcg aacaaagagt ggaagatgtc 60

cggctcatcc gggagcagca ccccaccaag atcccagtga ttatagagcg atacaagggt 120

gagaagcagc tgcccgtcct ggacaagacc agttccttgt acctgatcac gtgaatatga 180

gcgaactcat caagataatt agaaggcgcc tgcagctcaa tgctaaccaa gccttcttcc 240

tcctggtgaa tgggcacagc atggtgagtg tgtccacacc catctctgaa gtgtacgaga 300

gcgagagaga tgaagacggc ttcctgtaca tggtctatgc ctcccaggag acgttcggga 360

cagcactggc tgtgtaa 377

<210> 578
<211> 125
<212> PRT
<213> Homo sapiens

<400> 578
Met Pro Ser Glu Lys Thr Phe Lys Gln Arg Arg Ser Phe Glu Gln Arg
1 5 10 15

Val Glu Asp Val Arg Leu Ile Arg Glu Gln His Pro Thr Lys Ile Pro
20 25 30

Val Ile Ile Glu Arg Tyr Lys Gly Glu Lys Gln Leu Pro Val Leu Asp
35 40 45

Lys Thr Lys Phe Leu Val Pro Asp His Val Asn Met Ser Glu Leu Ile
50 55 60

Lys Ile Ile Arg Arg Arg Leu Gln Leu Asn Ala Asn Gln Ala Phe Phe
65 70 75 80

Leu Leu Val Asn Gly His Ser Met Val Ser Val Ser Thr Pro Ile Ser
85 90 95

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

Tyr Ala Ser Gln Glu Thr Phe Gly Thr Ala Leu Ala Val

115 120 125

<210> 579
<211> 4
<212> PRT
<213> Artificial Sequence

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

<400> 579
Met Lys Ala Leu
1

<210> 580
<211> 6
<212> PRT
<213> Artificial Sequence

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

<400> 580
His Gln His Gln His Gln
1 5

<210> 581
<211> 4
<212> PRT
<213> Unknown

<220>
<223> Description of Unknown: Caspase-3 cleavage sequence

<400> 581
Asp Glu Val Asp
1

<210> 582

<400> 582
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<210> 583

<400> 583
000

<210> 584

<400> 584
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<210> 585

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<210> 589

<400> 589
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<210> 590

<400> 590
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<210> 591

<400> 591
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<210> 592
<211> 936
<212> DNA
<213> Artificial Sequence

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

<400> 592
atggtgttta cactcgaaga tttcgtaggg gactggcggc agacagccgg ctacaacctg 60

gaccaagtcc ttgagcaggg cggtgtgtcc agtttgtttc agaatctcgg ggtgtccgta 120

actccgatcc aaaggattgt cctgagcggt gaaaacggcc tgaagatcga catccatgtc 180

atcatcccgt atgaaggtct gagcggcgat cagatgggcc agatcgaaaa aatttttaag 240

gtggtgtacc ctgtggatga tcatcacttt aaggtgattc tgcactatgg cacactggta 300

atcgacgggg ttacgccgaa catgatcgac tatttcggac ggccgtatga aggcatcgcc 360

gtgttcgacg gcaaaaagat cactgtaacc gggaccctgt ggaacggcaa caaaattatc 420

gacgagcgcc tgatcaaccc cgacggctcc ctgctgttcc gcgtaaccat caacggagtg 480

accggctggc ggctgtgcga gagaattttg gcgggctcga gcggaggtgg aggttcaggt 540

ggtggcggga gcggtggaat gccgtccgag aagaccttca aacagcgccg gagcttcgaa 600

caaagagtgg aagatgtccg gctcatccgg gagcagcacc ccaccaagat cccagtgatt 660

atagagcgat acaagggtga gaagcagctg cccgtcctgg acaagaccaa gttccttgta 720

cctgatcacg tgaatatgag cgaactcatc aagataatta gaaggcgcct gcagctcaat 780

gctaaccaag ccttcttcct cctggtgaat gggcacagca tggtgagtgt gtccacaccc 840

atctctgaag tgtacgagag cgagagagat gaagacggct tcctgtacat ggtctatgcc 900

tcccaggaga cgttcgggac agcactggct gtgtaa 936

<210> 593
<211> 311
<212> PRT
<213> Artificial Sequence

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

<400> 593

Met	Val	Phe	Thr	Leu	Glu	Asp	Phe	Val	Gly	Asp	Trp	Arg	Gln	Thr	Ala
1				5				10					15		
Gly	Tyr	Asn	Leu	Asp	Gln	Val	Leu	Glu	Gln	Gly	Gly	Val	Ser	Ser	Leu
			20					25					30		
Phe	Gln	Asn	Leu	Gly	Val	Ser	Val	Thr	Pro	Ile	Gln	Arg	Ile	Val	Leu
		35					40					45			
Ser	Gly	Glu	Asn	Gly	Leu	Lys	Ile	Asp	Ile	His	Val	Ile	Ile	Pro	Tyr
	50					55					60				
Glu	Gly	Leu	Ser	Gly	Asp	Gln	Met	Gly	Gln	Ile	Glu	Lys	Ile	Phe	Lys
65					70					75					80
Val	Val	Tyr	Pro	Val	Asp	Asp	His	His	Phe	Lys	Val	Ile	Leu	His	Tyr
				85					90					95	
Gly	Thr	Leu	Val	Ile	Asp	Gly	Val	Thr	Pro	Asn	Met	Ile	Asp	Tyr	Phe
			100					105					110		
Gly	Arg	Pro	Tyr	Glu	Gly	Ile	Ala	Val	Phe	Asp	Gly	Lys	Lys	Ile	Thr
		115					120					125			
Val	Thr	Gly	Thr	Leu	Trp	Asn	Gly	Asn	Lys	Ile	Ile	Asp	Glu	Arg	Leu
	130					135					140				
Ile	Asn	Pro	Asp	Gly	Ser	Leu	Leu	Phe	Arg	Val	Thr	Ile	Asn	Gly	Val
145					150					155					160
Thr	Gly	Trp	Arg	Leu	Cys	Glu	Arg	Ile	Leu	Ala	Gly	Ser	Ser	Gly	Gly
				165					170					175	
Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Met	Pro	Ser	Glu	Lys	Thr
			180					185					190		

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Phe Lys Gln Arg Arg Ser Phe Glu Gln Arg Val Glu Asp Val Arg Leu
        195                 200                 205

Ile Arg Glu Gln His Pro Thr Lys Ile Pro Val Ile Ile Glu Arg Tyr
    210                 215                 220

Lys Gly Glu Lys Gln Leu Pro Val Leu Asp Lys Thr Lys Phe Leu Val
225                 230                 235                 240

Pro Asp His Val Asn Met Ser Glu Leu Ile Lys Ile Ile Arg Arg Arg
                245                 250                 255

Leu Gln Leu Asn Ala Asn Gln Ala Phe Phe Leu Leu Val Asn Gly His
            260                 265                 270

Ser Met Val Ser Val Ser Thr Pro Ile Ser Glu Val Tyr Glu Ser Glu
        275                 280                 285

Arg Asp Glu Asp Gly Phe Leu Tyr Met Val Tyr Ala Ser Gln Glu Thr
    290                 295                 300

Phe Gly Thr Ala Leu Ala Val
305                 310
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