

SEQUENCE LISTING

<110> LETO LABORATORIES CO., LTD

<120> INTERLEUKIN-2 DERIVATIVE

<160> 146

<170> PatentIn version 3.5

<210> 1

<211> 133

<212> PRT

<213> Homo sapiens

<400> 1

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Cys Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys

35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Cys Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Cys Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Cys Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Cys Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Cys Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Cys Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

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

Asn Pro Lys Leu Thr Arg Met Leu Thr Cys Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Cys Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Cys Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Cys Ala Asp Glu Thr Ala
100 105 110

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

Asn Pro Lys Leu Thr Arg Met Leu Thr Cys Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Cys Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Cys Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Cys Ala
100 105 110

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

Asn Pro Lys Leu Thr Arg Met Leu Thr Cys Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Cys
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Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Cys Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
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Cys Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Cys Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Cys
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Cys Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Cys
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Cys Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Cys Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Cys Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Cys Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Cys Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Cys Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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<400> 17

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Cys Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Cys Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Cys Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Cys Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
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Ile Ser Thr Leu Thr
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1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Cys Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Cys Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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<213> Artificial Sequence

<400> 21

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Cys Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Cys Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

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<400> 22

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Cys Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Cys Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Cys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Cys Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Cys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Cys
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile

115 120 125

Ile Ser Thr Leu Thr
130

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<400> 25

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
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<400> 26

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Cys Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Cys Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Cys Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
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Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
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Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Cys Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys

50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
 115 120 125

Ile Ser Thr Leu Thr
 130

<210> 30
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 30

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
 20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
 35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
 50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
 115 120 125

Ile Ser Thr Leu Thr
 130

<210> 31
<211> 133
<212> PRT

<213> Artificial Sequence

<400> 31

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Cys Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 32

<211> 133

<212> PRT

<213> Artificial Sequence

<400> 32

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Cys Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 33
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 33

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Cys Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 34
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 34

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys

20 25 30

Asn Pro Cys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 35
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 35

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Cys Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 36
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 36

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 37
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 37

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Cys Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 38
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 38

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Cys Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 39
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 39

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Cys Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 40

<211> 133

<212> PRT

<213> Artificial Sequence

<400> 40

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Cys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 41
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 41

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Cys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 42
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 42

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Cys Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 43
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 43

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Cys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 44
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 44

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Cys Glu Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

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

<400> 45

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Cys Leu Lys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
 115 120 125

Ile Ser Thr Leu Thr
 130

<210> 46
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 46

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
 20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
 35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Cys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
 85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
 100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
 115 120 125

Ile Ser Thr Leu Thr
 130

<210> 47
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 47

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Cys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 48

<211> 133

<212> PRT

<213> Artificial Sequence

<400> 48

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Cys
50 55 60

Pro Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 49
<211> 133
<212> PRT
<213> Artificial Sequence

<400> 49

Ala Pro Thr Ser Ser Ser Thr Lys Lys Thr Gln Leu Gln Leu Glu His
1 5 10 15

Leu Leu Leu Asp Leu Gln Met Ile Leu Asn Gly Ile Asn Asn Tyr Lys
20 25 30

Asn Pro Lys Leu Thr Arg Met Leu Thr Phe Lys Phe Tyr Met Pro Lys
35 40 45

Lys Ala Thr Glu Leu Lys His Leu Gln Cys Leu Glu Glu Glu Leu Lys
50 55 60

Cys Leu Glu Glu Val Leu Asn Leu Ala Gln Ser Lys Asn Phe His Leu
65 70 75 80

Arg Pro Arg Asp Leu Ile Ser Asn Ile Asn Val Ile Val Leu Glu Leu
85 90 95

Lys Gly Ser Glu Thr Thr Phe Met Cys Glu Tyr Ala Asp Glu Thr Ala
100 105 110

Thr Ile Val Glu Phe Leu Asn Arg Trp Ile Thr Phe Ala Gln Ser Ile
115 120 125

Ile Ser Thr Leu Thr
130

<210> 50
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 50

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Cys Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 51
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 51

Glu Leu Cys Cys Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn

100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 52
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 52

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Cys Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 53
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 53

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Cys Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 54
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 54

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr Cys Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 55

<211> 165

<212> PRT

<213> Artificial Sequence

<400> 55

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Cys Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 56
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 56

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Cys Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 57
<211> 165

<212> PRT

<213> Artificial Sequence

<400> 57

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Cys Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 58

<211> 165

<212> PRT

<213> Artificial Sequence

<400> 58

Glu Leu Cys Cys Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser

50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 59
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 59

Glu Leu Cys Cys Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 60
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 60

Glu Leu Cys Cys Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 61
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 61

Glu Leu Cys Asp Cys Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 62

<211> 165

<212> PRT

<213> Artificial Sequence

<400> 62

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Cys Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 63
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 63

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Cys His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 64
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 64

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Cys Arg Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 65
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 65

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys

1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Cys Ile Lys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 66

<211> 165

<212> PRT

<213> Artificial Sequence

<400> 66

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Cys Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 67
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 67

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Ser Cys Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln

145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 68
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 68

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Cys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 69
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 69

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Cys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 70
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 70

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Cys Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 71

<211> 165

<212> PRT

<213> Artificial Sequence

<400> 71

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Cys Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 72
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 72

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Lys Ser Gly Cys Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 73
<211> 165
<212> PRT
<213> Artificial Sequence

<400> 73

Glu Leu Cys Asp Asp Asp Pro Pro Glu Ile Pro His Ala Thr Phe Lys
1 5 10 15

Ala Met Ala Tyr Lys Glu Gly Thr Met Leu Asn Cys Glu Cys Lys Arg
20 25 30

Gly Phe Arg Arg Ile Cys Ser Gly Ser Leu Tyr Met Leu Cys Thr Gly
35 40 45

Asn Ser Ser His Ser Ser Trp Asp Asn Gln Cys Gln Cys Thr Ser Ser
50 55 60

Ala Thr Arg Asn Thr Thr Lys Gln Val Thr Pro Gln Pro Glu Glu Gln
65 70 75 80

Lys Glu Arg Lys Thr Thr Glu Met Gln Ser Pro Met Gln Pro Val Asp
85 90 95

Gln Ala Ser Leu Pro Gly His Cys Arg Glu Pro Pro Pro Trp Glu Asn
100 105 110

Glu Ala Thr Glu Arg Ile Tyr His Phe Val Val Gly Gln Met Val Tyr
115 120 125

Tyr Gln Cys Val Gln Gly Tyr Arg Ala Leu His Arg Gly Pro Ala Glu
130 135 140

Ser Val Cys Lys Met Thr His Gly Lys Thr Arg Trp Thr Gln Pro Gln
145 150 155 160

Leu Ile Cys Thr Gly
165

<210> 74
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 74
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 75
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 75
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagatgcctc 120
accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180

gaggagctga agcctctgga agagtgtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 76
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 76
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
accttcaagt gctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gagtgtctga agcctctgga agagggtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 77
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 77
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
accttcaagt gctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agtgtctgga agagggtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 78
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 78
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctgcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agagtgtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360

tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 79
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 79
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
tgcgagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagtg tgcgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 80
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 80
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctgcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agtgtctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 81
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 81
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctgcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag tgtgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 82
<211> 399

<212> DNA
<213> Artificial Sequence

<400> 82
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctgcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag acctgtacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 83
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 83
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
acctgcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgcctgta tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 84
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 84
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
tgcttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag acctgtacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 85
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 85
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 gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag acctgtacca tcgtggagtt tctgaataga 360
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<210> 86
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 <212> DNA
 <213> Artificial Sequence

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 gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgcctgta tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 87
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 <212> DNA
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 gaggagctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacct gtgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 88
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 accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
 gaggagctga agcctctgga agaggtgctg aattgtgccc agtccaagaa ctccatctg 240

aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 89
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<212> DNA
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accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aatctgtgtc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 90
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<212> DNA
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accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agagtgtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 91
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<212> DNA
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accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctga agcctctgga agaggtgctg aattgtgccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 92
<211> 399
<212> DNA
<213> Artificial Sequence

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gaggagctga agcctctgga agagtgtctg aatctggccc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

<210> 93
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 93
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aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

<210> 94
<211> 399
<212> DNA
<213> Artificial Sequence

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gaggagctga agcctctgga agaggtgctg aatctgtgtc agtccaagaa cttccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

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

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 acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
 gaggagctga agcctctgga agagtgtctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 96
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 <213> Artificial Sequence

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<210> 97
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 <212> DNA
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 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

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

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 acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180

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aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 99
<211> 399
<212> DNA
<213> Artificial Sequence

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aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 100
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<212> DNA
<213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 101
<211> 399
<212> DNA
<213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360

tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 102
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 102
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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 103
<211> 399
<212> DNA
<213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

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

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tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 105
<211> 399

<212> DNA
<213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 106
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<212> DNA
<213> Artificial Sequence

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tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 107
<211> 399
<212> DNA
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tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 108
<211> 399
<212> DNA
<213> Artificial Sequence

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<210> 109
 <211> 399
 <212> DNA
 <213> Artificial Sequence

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 tggatcacct tcgcccagag catcatcagc acactgacc 399

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

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 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 111
 <211> 399
 <212> DNA
 <213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 112
<211> 399
<212> DNA
<213> Artificial Sequence

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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 113
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 113
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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 114
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 114
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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgccagag catcatcagc acactgacc 399

<210> 115
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 115
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accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

<210> 116
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 116
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ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gagtgctga agcctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

<210> 117
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 117
gccccacaa gctccagcac caagaagaca cagctgcagc tggaacatct gctgctggac 60
ctccagatga ttctgaacgg catcaacaac tacaagaatc ccaagctgac aagaatgctc 120
accttcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
gaggagctgt gccctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
tggatcacct tcgcccagag catcatcagc aactgacc 399

<210> 118
<211> 399
<212> DNA
<213> Artificial Sequence

<400> 118
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 acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
 gaggagctgt gccctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 119
 <211> 399
 <212> DNA
 <213> Artificial Sequence

<400> 119
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 acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
 gaggagctgt gccctctgga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 120
 <211> 399
 <212> DNA
 <213> Artificial Sequence

<400> 120
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 acctcaagt tctacatgcc caagaaggcc accgagctga agcatctgca gtgtctggag 180
 gaggagctga agtgcttga agaggtgctg aatctggccc agtccaagaa ctccatctg 240
 aggcctagag atctgatcag caacatcaac gtcacgtgc tggagctgaa gggcagcgag 300
 accaccttca tgtgcgagta cgccgatgag accgccacca tcgtggagtt tctgaataga 360
 tggatcacct tcgcccagag catcatcagc acactgacc 399

<210> 121
 <211> 495
 <212> DNA
 <213> Artificial Sequence

<400> 121
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 aaggaggggaa ccatgctctg ttgcgagtgc aagaggggat ttaggaggat caagagcggc 120
 tctctgtaca tgctgtgcac cggcaacagc agccacagca gctgggataa tcagtgccag 180

tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtc cccatgcagc cctggatca agcctctctg 300
cccggccact gtagagagcc cctccttgg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaaatgaca cacggcaaga caagatggac ccaaccccag 480
ctgatttga ccggc 495

<210> 122
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 122
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aaggagggaa ccatgtctaa ctgcgagtc aagaggggat ttaggaggat caagagcggc 120
tctgttaca tgctgtcac cggcaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtc cccatgcagc cctggatca agcctctctg 300
cccggccact gtagagagcc cctccttgg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaaatgaca cacggcaaga caagatggac ccaaccccag 480
ctgatttga ccggc 495

<210> 123
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 123
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aaggagggaa ccatgtctaa ctgcgagtc aagaggggat ttaggaggat caagagcggc 120
tctgttaca tgctgtcac cggcaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtc cccatgcagc cctggatca agcctctctg 300
cccggccact gtagagagcc cctccttgg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaaatgaca cacggcaaga caagatggac ccaaccccag 480
ctgatttga ccggc 495

<210> 124
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 124
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aaggaggggaa ccatgtctaa ctgcgagtgc aagaggggat ttgtaggat caagagcggc 120
tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtcc cccatgcagc cctggatca agcctctctg 300
ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttgggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaatgaca cacggcaaga caagatggac ccaacccag 480
ctgatttga ccggc 495

<210> 125
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 125
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aaggaggggaa ccatgtctaa ctgcgagtgc aagaggggat ttaggaggat caagagcggc 120
tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtcc cccatgcagc cctggatca agcctctctg 300
ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctactgt 360
tttgggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaatgaca cacggcaaga caagatggac ccaacccag 480
ctgatttga ccggc 495

<210> 126
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 126
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aaggaggggaa cctgtctaa ctgcgagtgc aagaggggat ttaggaggat caagagcggc 120
tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtcc cccatgcagc cctggatca agcctctctg 300
ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttgggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaatgaca cacggcaaga caagatggac ccaacccag 480
ctgatttga ccggc 495

<210> 127
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 127
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tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtcc cccatgcagc cctggatca agcctctctg 300
ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgag agagcgtctg caaatgaca caggcaaga caagatggac ccaacccag 480
ctgatttga cggc 495

<210> 128
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 128
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tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
aaggaaagaa agaccaccga aatgcagtcc cccatgcagc cctggatca agcctctctg 300
ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gtgtaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgag agagcgtctg caaatgaca caggcaaga caagatggac ccaacccag 480
ctgatttga cggc 495

<210> 129
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 129
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tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
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ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360

tttggtgtg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
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ctgatttga ccggc 495

<210> 130
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<400> 130
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tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga ccccccagcc cgaggagcaa 240
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ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttggtgtg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaaatgaca cacggcaaga caagatggac ccaaccccag 480
ctgatttga ccggc 495

<210> 131
<211> 495
<212> DNA
<213> Artificial Sequence

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aaggagggaa ccatgctcaa ctgcgagtgc aagaggggat ttaggaggat caagagcggc 120
tctctgtaca tgctgtgcac cggaacagc agccacagca gctgggataa tcagtgccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga ccccccagcc cgaggagcaa 240
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ccggccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
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ctgatttga ccggc 495

<210> 132
<211> 495
<212> DNA
<213> Artificial Sequence

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cccgccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
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ctgatttga ccggc 495

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tctgttaca tgctgtcac cggaacagc agccacagca gctgggataa tcagtccag 180
tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
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cccgccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
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ctgatttga ccggc 495

<210> 134
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<212> DNA
<213> Artificial Sequence

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cccgccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctgtcac 360
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ctgatttga ccggc 495

<210> 135
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 135

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 ctgatttgta ccggc 495

<210> 136
 <211> 495
 <212> DNA
 <213> Artificial Sequence

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 aaggaggggaa ccatgctcaa ctgcgagtgc aagaggggat ttaggtgtat caagagcggc 120
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<210> 137
 <211> 495
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<210> 138
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<213> Artificial Sequence

<400> 138
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ctgatttga ccggc 495

<210> 139
<211> 495
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<213> Artificial Sequence

<400> 139
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ctgatttga ccggc 495

<210> 140
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 140
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cccgccact gtagagagcc ccctccttg gaaaatgagg ccacagagag gatctaccac 360
tttggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420

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ctgatttgta ccggc 495

<210> 141
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 141
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tgcaccagca gcgctacaag aaacaccaca aaacaagtga cccccagcc cgaggagcaa 240
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cccgccact gtagagagcc cctccttg gaaaatgagg ccacagagag gatctaccac 360
ttgtggtgg gacagatggt ctactaccag tgtgtccaag gctatagagc tctccacaga 420
ggccccgccg agagcgtctg caaaatgaca cacggcaaga caagatggac ccaaccccag 480
ctgatttgta ccggc 495

<210> 142
<211> 495
<212> DNA
<213> Artificial Sequence

<400> 142
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<211> 495
<212> DNA
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