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<110> Swedish Orphan Biovitrum AB

<120> Polypeptides

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<170> PatentIn version 3.5

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Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
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Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

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Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

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Glu Val Ile Ala Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
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Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

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Glu Thr Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
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Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

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Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

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Ile Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

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Ile Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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<400> 73

Glu Val Leu Asp Ala Trp His Glu Ile Asp His Leu Pro Asn Leu Thr
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Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

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Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
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Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
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<210> 80
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<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 80

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 81
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 81

Glu Thr Leu Asp Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 82
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 82

Glu His Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 83
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 83

Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 84
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 84

Glu Val Ile Glu Ala Trp Thr Glu Ile Asp Tyr Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 85
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 85

Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 86
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 86

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 87
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 87

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 88
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 88

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Leu Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 89
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 89

Glu His Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 90
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 90

Glu Val Val Ala Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asn Asp
20 25

<210> 91
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 91

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 92
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 92

Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 93
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 93

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 94
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 94

Glu Val Val Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 95
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 95

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 96
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 96

Glu Val Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 97
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 97

Glu Val Val Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 98
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 98

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 99
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 99

Glu Thr Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 100
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 100

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 101
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 101

Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp

20 25

<210> 102
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 102

Glu His Ile His Ala Trp Asn Glu Ile Asp Glu Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 103
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 103

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 104
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 104

Glu Val Ile Asp Ala Asn Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp
20 25

<210> 105
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 105

Glu Thr Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 106
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 106

Glu Val Leu Leu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 107
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 107

Glu His Ile Asp Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 108
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 108

Glu Val Ile Glu Ala Trp Ser Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 109
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 109

Glu Gln Leu Asn Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 110
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 110

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 111
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 111

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 112
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 112

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 113
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 113

Glu Val Leu Tyr Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 114
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 114

Glu Gln Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 115
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 115

Glu Val Leu Ala Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 116
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 116

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 117
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 117

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 118
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 118

Glu Val Ile Asp Ala Asn Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp
20 25

<210> 119
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 119

Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 120
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 120

Glu Val Ile Glu Ala Trp Thr Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 121
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 121

Glu Val Ile Asn Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 122
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 122

Glu His Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 123
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 123

Glu His Leu Glu Ala Trp Arg Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 124
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 124

Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 125
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 125

Glu Val Ile Ala Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 126
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 126

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 127
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 127

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 128
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 128

Glu Gln Leu Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 129
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 129

Glu Val Leu Asn Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 130
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 130

Glu Val Leu Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 131
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 131

Glu Val Leu Leu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 132
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 132

Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 133
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 133

Glu Thr Leu Leu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 134
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 134

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Thr Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 135
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 135

Glu Val Leu His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Gln Asp
20 25

<210> 136
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 136

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 137
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 137

Glu Thr Val Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 138
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 138

Glu Val Ile Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 139
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 139

Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 140
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 140

Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 141
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 141

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 142
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 142

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 143
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 143

Glu Val Ile Glu Ala Trp Thr Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 144
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 144

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp
20 25

<210> 145
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 145

Glu Val Ile Gln Ala Asn Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp
20 25

<210> 146
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 146

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

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 147
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 147

Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 148
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 148

Glu Thr Leu Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 149
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 149

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp
20 25

<210> 150
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 150

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 151
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 151

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 152
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 152

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 153
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 153

Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 154
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 154

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 155
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 155

Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 156
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 156

Glu Val Leu Thr Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 157
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 157

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Val Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 158
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 158

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 159
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 159

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 160
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 160

Glu Thr Leu Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 161
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 161

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 162
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 162

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Leu Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 163
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 163

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 164
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 164

Glu Thr Leu His Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 165
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 165

Glu Val Ile Lys Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 166
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 166

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 167
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 167

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Thr Lys Leu Glu Asp
20 25

<210> 168
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 168

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 169
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 169

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 170
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 170

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 171
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 171

Glu Val Leu Glu Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 172
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 172

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 173
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 173

Glu Thr Leu Lys Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 174
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 174

Glu Thr Ile Ala Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 175
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 175

Glu Val Leu Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 176
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 176

Glu Val Ile Glu Ala Trp Ser Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 177
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 177

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 178
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 178

Glu Val Ile His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp

20 25

<210> 179
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 179

Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 180
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 180

Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 181
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 181

Glu Val Val Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 182
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 182

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 183
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 183

Glu Val Ile Glu Ala Asn Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp
20 25

<210> 184
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 184

Glu Thr Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 185
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 185

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 186
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 186

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 187
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 187

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 188
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 188

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 189
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 189

Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 190
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 190

Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 191
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 191

Glu Thr Leu Asn Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 192
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 192

Glu Val Leu Ser Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 193
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 193

Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 194
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 194

Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 195
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 195

Glu Val Val Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 196
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 196

Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Glu Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 197
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 197

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 198
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 198

Glu Thr Ile Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 199
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 199

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 200
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 200

Glu Val Ile Gln Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 201
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 201

Glu Val Leu Asp Ala Trp Ala Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 202
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 202

Glu His Ile Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 203
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 203

Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 204
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 204

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 205
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 205

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 206
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 206

Glu Val Ile Thr Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 207
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 207

Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 208
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 208

Glu Gln Leu Lys Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Gln Asp
20 25

<210> 209
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 209

Glu His Ile Asp Ala Trp Thr Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 210
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 210

Glu Gln Leu Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Gln Asp
20 25

<210> 211
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 211

Glu Val Leu Glu Ala Trp Arg Glu Ile Asp Ser Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 212
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 212

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 213
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 213

Glu His Val Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 214
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 214

Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 215
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 215

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 216
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 216

Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp
20 25

<210> 217
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 217

Glu Val Ile Lys Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 218
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 218

Glu Val Leu Glu Ala Trp His Glu Ile Asp Leu Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 219
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 219

Glu Val Leu Glu Ala Trp Thr Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 220
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 220

Glu Gln Leu Tyr Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Gln Asp

20 25

<210> 221
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 221

Glu Val Leu Asn Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 222
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 222

Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Val Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 223
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 223

Glu Val Val Gln Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 224
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 224

Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 225
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 225

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 226
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 226

Glu Val Val Ala Ala Trp Thr Glu Ile Asp Leu Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp
20 25

<210> 227
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 227

Glu Val Val Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp

20 25

<210> 228
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 228

Glu Thr Leu Glu Ala Trp Arg Glu Ile Asp Ser Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 229
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 229

Glu Val Ile Lys Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 230
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 230

Glu Val Leu Glu Ala Trp Thr Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 231
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 231

Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 232
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 232

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 233
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 233

Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 234
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 234

Glu Thr Leu Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp

20 25

<210> 235
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 235

Glu Val Leu Ser Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 236
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 236

Glu Val Ile Gln Ala Asn Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile His Lys Leu His Asp
20 25

<210> 237
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 237

Glu His Leu Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp
20 25

<210> 238
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 238

Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 239
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 239

Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Tyr Leu Pro Asn Leu Thr
1 5 10 15

Ile Ala Gln Trp Ile Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 240
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 240

Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu Thr
1 5 10 15

Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 241
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 241

Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp

20 25

<210> 242
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 242

Glu Thr Leu Asp Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 243
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 243

Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 244
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 244

Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 245
<211> 29
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 245

Glu Val Leu His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Glu Asp
20 25

<210> 246
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 246

Glu Val Ile Glu Ala Trp Gln Glu Ile Asp Lys Leu Pro Asn Leu Thr
1 5 10 15

Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 247
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 247

Glu Val Val Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp
20 25

<210> 248
<211> 29
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 248

Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu Thr
1 5 10 15

Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp

20 25

<210> 249
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 249

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 250
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 250

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 251
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 251

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 252
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 252

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 253
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 253

Lys Glu Val Leu Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser

35 40 45

Gln

<210> 254
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 254

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 255
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 255

Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 256
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  256

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  257
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  257

Lys Glu Val Leu Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  258
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  258

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro

20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 259
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 259

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 260
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 260

Lys Glu Val Leu Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 261
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 261

Lys Glu Thr Ile Thr Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Gly Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

Gln

<210> 262
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 262

Lys Glu Ser Met Lys Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Asn Ile Asn Gln Trp Val Ala Phe Ile Asp Ser Leu Tyr Asp Asp Pro
20 25 30

Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

Gln

<210> 263
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 263

Lys Glu Ser Ile Glu Ala Trp Thr Glu Ile Asp His Leu Pro Asn Leu

1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Thr Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

Gln

<210> 264
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 264

Lys Glu Val Leu Asp Ala Trp His Glu Ile Asp Thr Leu Pro Asn Leu
1 5 10 15

Thr Val Arg Gln Trp Leu Ala Phe Ile Ser Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

Gln

<210> 265
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 265

Lys Glu His Ile Gln Ala Asn Glu Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
35 40 45

Gln

<210> 266
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 266

Lys Glu Val Leu His Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 267
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 267

Lys Glu Val Leu Ala Ala Trp Asp Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 268
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 268

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 269
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 269

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 270
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 270

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Gly Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 271
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 271

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 272
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 272

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 273
<211> 49
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 273

Lys Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 274
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 274

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 275
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 275

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 276
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 276

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 277
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 277

Lys Glu Thr Ile Ala Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 278
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 278

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 279
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 279

Lys Glu Val Leu Glu Ala Trp Arg Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 280
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 280

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 281
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 281

Lys Glu Val Leu Arg Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 282
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 282

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 283
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 283

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 284
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 284

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 285
<211> 49
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 285

Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 286
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 286

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 287
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 287

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 288
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 288

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 289
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 289

Lys Glu Thr Ile Ala Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 290
<211> 49

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 290

Lys Glu Val Leu Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 291
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 291

Lys Glu Thr Leu His Ala Trp Ala Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 292
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 292

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  293
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  293

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  294
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  294

Lys Glu Val Leu Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 295
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 295

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 296
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 296

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 297
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 297

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  298
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  298

Lys Glu Val Ile Ser Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  299
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  299

Lys Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 300
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 300

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 301
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 301

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 302
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 302

Lys Glu Val Leu Ala Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 303
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 303

Lys Glu Val Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 304
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 304

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 305
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 305

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 306
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 306

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 307

<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 307

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 308
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 308

Lys Glu His Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Gln Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 309
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 309

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  310
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  310

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  311
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  311

Lys Glu Thr Ile Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 312
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 312

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 313
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 313

Lys Glu Val Ile His Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 314
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 314

Lys Glu Val Ile Ala Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 315
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 315

Lys Glu Thr Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 316
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 316

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser

35 40 45

Gln

<210> 317
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 317

Lys Glu Val Ile Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 318
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 318

Lys Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 319
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  319

Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  320
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  320

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  321
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  321

Lys Glu Val Leu Asp Ala Trp His Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro

20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 322
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 322

Lys Glu Gln Ile Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 323
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 323

Lys Glu Thr Leu Tyr Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Gln Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 324
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 324

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 325
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 325

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 326
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 326

Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu

1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 327
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 327

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 328
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 328

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 329
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 329

Lys Glu Thr Leu Asp Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 330
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 330

Lys Glu His Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 331
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 331

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 332
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 332

Lys Glu Val Ile Glu Ala Trp Thr Glu Ile Asp Tyr Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 333
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 333

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 334
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 334

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 335
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 335

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 336
<211> 49
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 336

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 337
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 337

Lys Glu His Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 338
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 338

Lys Glu Val Val Ala Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asn Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 339
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 339

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 340
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 340

Lys Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 341
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 341

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 342
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 342

Lys Glu Val Val Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 343
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 343

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 344
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 344

Lys Glu Val Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 345
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 345

Lys Glu Val Val Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 346
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 346

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 347
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 347

Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 348
<211> 49
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 348

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 349
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 349

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 350
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 350

Lys Glu His Ile His Ala Trp Asn Glu Ile Asp Glu Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 351
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 351

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 352
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 352

Lys Glu Val Ile Asp Ala Asn Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 353
<211> 49

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 353

Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 354
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 354

Lys Glu Val Leu Leu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 355
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 355

Lys Glu His Ile Asp Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  356
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  356

Lys Glu Val Ile Glu Ala Trp Ser Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  357
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  357

Lys Glu Gln Leu Asn Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 358
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 358

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 359
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 359

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 360
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 360

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  361
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  361

Lys Glu Val Leu Tyr Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  362
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  362

Lys Glu Gln Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 363
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 363

Lys Glu Val Leu Ala Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 364
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 364

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 365
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 365

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 366
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 366

Lys Glu Val Ile Asp Ala Asn Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 367
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 367

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 368
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 368

Lys Glu Val Ile Glu Ala Trp Thr Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 369
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 369

Lys Glu Val Ile Asn Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 370

<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 370

Lys Glu His Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 371
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 371

Lys Glu His Leu Glu Ala Trp Arg Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 372
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 372

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  373
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  373

Lys Glu Val Ile Ala Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  374
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  374

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 375
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 375

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 376
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 376

Lys Glu Gln Leu Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 377
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 377

Lys Glu Val Leu Asn Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 378
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 378

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 379
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 379

Lys Glu Val Leu Leu Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser

35 40 45

Gln

<210> 380
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 380

Lys Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 381
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 381

Lys Glu Thr Leu Leu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 382
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  382

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Thr Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  383
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  383

Lys Glu Val Leu His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Gln Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  384
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  384

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro

20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 385
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 385

Lys Glu Thr Val Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 386
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 386

Lys Glu Val Ile Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 387
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 387

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 388
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 388

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 389
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 389

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu

1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 390
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 390

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 391
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 391

Lys Glu Val Ile Glu Ala Trp Thr Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 392
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 392

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 393
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 393

Lys Glu Val Ile Gln Ala Asn Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 394
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 394

Lys Glu Val Leu His Ala Trp Ser Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 395
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 395

Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 396
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 396

Lys Glu Thr Leu Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 397
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 397

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 398
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 398

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 399
<211> 49
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 399

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 400
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 400

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 401
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 401

Lys Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 402
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 402

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 403
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 403

Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 404
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 404

Lys Glu Val Leu Thr Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 405
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 405

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Val Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 406
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 406

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 407
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 407

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 408
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 408

Lys Glu Thr Leu Gln Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 409
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 409

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 410
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 410

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 411
<211> 49
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 411

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 412
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 412

Lys Glu Thr Leu His Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 413
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 413

Lys Glu Val Ile Lys Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 414
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 414

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 415
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 415

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Thr Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 416
<211> 49

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 416

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 417
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 417

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 418
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 418

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  419
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  419

Lys Glu Val Leu Glu Ala Trp Ala Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  420
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  420

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 421
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 421

Lys Glu Thr Leu Lys Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 422
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 422

Lys Glu Thr Ile Ala Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 423
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 423

Lys Glu Val Leu Gln Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  424
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  424

Lys Glu Val Ile Glu Ala Trp Ser Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  425
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  425

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 426
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 426

Lys Glu Val Ile His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 427
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 427

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 428
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 428

Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 429
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 429

Lys Glu Val Val Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 430
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 430

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 431
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 431

Lys Glu Val Ile Glu Ala Asn Asp Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 432
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 432

Lys Glu Thr Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 433

<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 433

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 434
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 434

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 435
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 435

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  436
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  436

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  437
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  437

Lys Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 438
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 438

Lys Glu Val Ile Ala Ala Trp Asn Glu Ile Asp Gly Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 439
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 439

Lys Glu Thr Leu Asn Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 440
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 440

Lys Glu Val Leu Ser Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 441
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 441

Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 442
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 442

Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser

35 40 45

Gln

<210> 443
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 443

Lys Glu Val Val Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 444
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 444

Lys Glu Val Leu Glu Ala Trp Asn Glu Ile Asp Glu Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 445
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  445

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  446
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  446

Lys Glu Thr Ile Asp Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  447
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  447

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro

20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 448
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 448

Lys Glu Val Ile Gln Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 449
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 449

Lys Glu Val Leu Asp Ala Trp Ala Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 450
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 450

Lys Glu His Ile Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 451
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 451

Lys Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 452
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 452

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu

1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 453
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 453

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 454
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 454

Lys Glu Val Ile Thr Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 455
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 455

Lys Glu Val Ile Asp Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile His Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 456
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 456

Lys Glu Gln Leu Lys Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Gln Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 457
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 457

Lys Glu His Ile Asp Ala Trp Thr Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 458
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 458

Lys Glu Gln Leu Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Gln Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 459
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 459

Lys Glu Val Leu Glu Ala Trp Arg Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 460
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 460

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 461
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 461

Lys Glu His Val Glu Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 462
<211> 49
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 462

Lys Glu Val Ile Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 463
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 463

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 464
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 464

Lys Glu Val Leu Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 465
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 465

Lys Glu Val Ile Lys Ala Trp Asn Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 466
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 466

Lys Glu Val Leu Glu Ala Trp His Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 467
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 467

Lys Glu Val Leu Glu Ala Trp Thr Glu Ile Asp Arg Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 468
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 468

Lys Glu Gln Leu Tyr Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Gln Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 469
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 469

Lys Glu Val Leu Asn Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 470
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 470

Lys Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Val Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 471
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 471

Lys Glu Val Val Gln Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 472
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 472

Lys Glu Val Ile Arg Ala Trp Asp Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 473
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 473

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 474
<211> 49
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 474

Lys Glu Val Val Ala Ala Trp Thr Glu Ile Asp Leu Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 475
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 475

Lys Glu Val Val Ala Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ser Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 476
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 476

Lys Glu Thr Leu Glu Ala Trp Arg Glu Ile Asp Ser Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 477
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 477

Lys Glu Val Ile Lys Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 478
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 478

Lys Glu Val Leu Glu Ala Trp Thr Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 479
<211> 49

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 479

Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 480
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 480

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 481
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 481

Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  482
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  482

Lys Glu Thr Leu Asp Ala Trp Asp Glu Ile Asp Ala Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Glu Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  483
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  483

Lys Glu Val Leu Ser Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 484
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 484

Lys Glu Val Ile Gln Ala Asn Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile His Lys Leu His Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 485
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 485

Lys Glu His Leu Asp Ala Trp Asp Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 486
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 486

Lys Glu Val Ile Gln Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  487
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  487

Lys Glu Val Ile Glu Ala Trp Asn Glu Ile Asp Tyr Leu Pro Asn Leu
1               5                   10                  15

Thr Ile Ala Gln Trp Ile Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210>  488
<211>  49
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  488

Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Arg Leu Pro Asn Leu
1               5                   10                  15

Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
            20                  25                  30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
        35                  40                  45

Gln

<210> 489
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 489

Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 490
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 490

Lys Glu Thr Leu Asp Ala Trp Ala Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 491
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 491

Lys Glu Val Ile Glu Ala Trp Asp Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 492
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 492

Lys Glu Val Leu Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 493
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 493

Lys Glu Val Leu His Ala Trp Asn Glu Ile Asp His Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu Lys Leu Glu Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 494
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 494

Lys Glu Val Ile Glu Ala Trp Gln Glu Ile Asp Lys Leu Pro Asn Leu
1 5 10 15

Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 495
<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 495

Lys Glu Val Val Asp Ala Trp Asn Glu Ile Asp Gln Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Asp Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 496

<211> 49
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 496

Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile Asp Ala Leu Pro Asn Leu
1 5 10 15

Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn Lys Leu Ala Asp Asp Pro
20 25 30

Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala Lys Lys Leu Asn Asp Ser
35 40 45

Gln

<210> 497
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 497

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 498
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 498

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

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Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
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<210> 499
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 499

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Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
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<210> 500
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 500

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Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
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50 55

<210> 501
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 501

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 502
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 502

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 503
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 503

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 504
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 504

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 505
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 505

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala

35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 506
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 506

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 507
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 507

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 508
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  508

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  509
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  509

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Thr Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Gly
            20                  25                  30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
    50                  55

<210>  510
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  510

Val Asp Asn Lys Phe Asn Lys Glu Ser Met Lys Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Asn Ile Asn Gln Trp Val Ala Phe Ile Asp

20 25 30

Ser Leu Tyr Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 511
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 511

Val Asp Ala Lys Tyr Ala Lys Glu Ser Ile Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Thr Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 512
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 512

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp His Glu Ile
1 5 10 15

Asp Thr Leu Pro Asn Leu Thr Val Arg Gln Trp Leu Ala Phe Ile Ser
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 513
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 513

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Gln Ala Asn Glu Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 514
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 514

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu His Ala Trp Ala Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 515
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 515

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Ala Ala Trp Asp Glu Ile

1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 516
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 516

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 517
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 517

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 518
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 518

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Gly Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 519
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 519

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 520
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 520

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 521
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 521

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 522
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 522

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 523
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 523

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 524
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 524

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 525
<211> 58
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 525

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 526
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 526

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 527
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 527

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Arg Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  528
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  528

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  529
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  529

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Arg Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 530
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 530

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 531
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 531

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 532
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 532

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  533
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  533

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  534
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  534

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45
```

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 535
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 535

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 536
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 536

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 537
<211> 58
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 537

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 538
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 538

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 539
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 539

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu His Ala Trp Ala Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 540
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 540

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 541
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 541

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 542
<211> 58

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 542

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 543
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 543

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 544
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 544

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Leu Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  545
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  545

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  546
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  546

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ser Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 547
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 547

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 548
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 548

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 549
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 549

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  550
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  550

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Ala Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  551
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  551

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Thr Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45
```

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 552
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 552

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 553
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 553

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 554
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 554

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 555
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 555

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 556
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 556

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 557
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 557

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 558
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 558

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 559

<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 559

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 560
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 560

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Leu Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 561
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 561

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile His Ala Trp Asp Glu Ile
1 5 10 15

```
Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 562
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 562

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 563
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 563

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
```

50 55

<210> 564
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 564

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 565
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 565

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 566
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 566

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 567
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 567

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 568
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 568

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala

35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 569
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 569

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp His Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 570
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 570

Val Asp Ala Lys Tyr Ala Lys Glu Gln Ile Arg Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 571
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  571

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Tyr Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu
            20                  25                  30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  572
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  572

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  573
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  573

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn

20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 574
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 574

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 575
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 575

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 576
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 576

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 577
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 577

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Asp Ala Trp Ala Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 578
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 578

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Asp Ala Trp Asn Glu Ile

1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 579
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 579

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 580
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 580

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp Tyr Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 581
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 581

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 582
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 582

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 583
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 583

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 584
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 584

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Leu Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 585
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 585

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 586
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 586

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asn Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 587
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 587

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 588
<211> 58
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 588

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 589
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 589

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 590
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 590

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  591
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  591

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  592
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  592

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 593
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 593

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 594
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 594

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Gly Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 595
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 595

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Thr Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  596
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  596

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  597
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  597

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45
```

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 598
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 598

Val Asp Ala Lys Tyr Ala Lys Glu His Ile His Ala Trp Asn Glu Ile
1 5 10 15

Asp Glu Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 599
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 599

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 600
<211> 58
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 600

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Asn Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 601
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 601

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 602
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 602

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Leu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30
```

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 603
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 603

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gly Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 604
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 604

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Ser Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 605
<211> 58

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 605

Val Asp Ala Lys Tyr Ala Lys Glu Gln Leu Asn Ala Trp Ala Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 606
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 606

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 607
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 607

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

```
Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 608
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 608

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 609
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 609

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Tyr Ala Trp Ala Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 610
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 610

Val Asp Ala Lys Tyr Ala Lys Glu Gln Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 611
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 611

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 612
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 612

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu His Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  613
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  613

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  614
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  614

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Asn Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 615
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 615

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 616
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 616

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 617
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 617

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asn Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 618
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 618

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 619
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 619

Val Asp Ala Lys Tyr Ala Lys Glu His Leu Glu Ala Trp Arg Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 620
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 620

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 621
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 621

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 622

<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 622

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 623
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 623

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 624
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 624

Val Asp Ala Lys Tyr Ala Lys Glu Gln Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  625
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  625

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asn Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  626
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  626

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys

50 55

<210> 627
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 627

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Leu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 628
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 628

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 629
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 629

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Leu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 630
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 630

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Thr Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 631
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 631

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu His Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala

35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 632
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 632

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 633
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 633

Val Asp Ala Lys Tyr Ala Lys Glu Thr Val Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 634
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  634

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  635
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  635

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  636
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  636

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn

20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 637
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 637

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 638
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 638

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 639
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 639

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 640
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 640

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 641
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 641

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Asn Asn Glu Ile

1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 642
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 642

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu His Ala Trp Ser Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 643
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 643

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 644
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 644

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Arg Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 645
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 645

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 646
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 646

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 647
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 647

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 648
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 648

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 649
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 649

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Arg Ala Trp Asp Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 650
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 650

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile His Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 651
<211> 58
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 651

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 652
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 652

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Thr Ala Trp Ala Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 653
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 653

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Val Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 654
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 654

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Thr Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 655
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 655

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 656
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 656

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 657
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 657

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 658
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 658

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Leu Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  659
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  659

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Leu Lys Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  660
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  660

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu His Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 661
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 661

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Lys Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 662
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 662

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 663
<211> 58
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 663

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Thr
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 664
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 664

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 665
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 665

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 666
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 666

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 667
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 667

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Ala Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 668
<211> 58

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 668

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 669
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 669

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Lys Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 670
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 670

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  671
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  671

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  672
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  672

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Ser Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 673
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 673

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gly Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 674
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 674

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile His Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 675
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 675

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Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ser Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
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<210>  676
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  676

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Val Asp Ala Lys Tyr Ala Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  677
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  677

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Val Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45
```

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 678
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 678

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 679
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 679

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Asn Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 680
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  680

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Gln Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  681
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  681

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  682
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  682

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  683
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  683

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  684
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  684

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Ala Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  685

<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 685

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 686
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 686

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Ala Ala Trp Asn Glu Ile
1 5 10 15

Asp Gly Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 687
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 687

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Asn Ala Trp Asn Glu Ile
1 5 10 15

```
Asp Ala Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 688
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 688

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Ser Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210> 689
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 689

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu His Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
```

50 55

<210> 690
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 690

Val Asp Ala Lys Tyr Ala Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 691
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 691

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 692
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 692

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Glu Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 693
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 693

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 694
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 694

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala

35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 695
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 695

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 696
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 696

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 697
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  697

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Ala Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  698
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  698

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Ala Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  699
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  699

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Arg Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn

20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 700
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 700

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 701
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 701

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 702
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 702

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Thr Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Ser Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 703
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 703

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile His Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 704
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 704

Val Asp Ala Lys Tyr Ala Lys Glu Gln Leu Lys Ala Trp Asp Glu Ile

1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu
20 25 30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 705
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 705

Val Asp Ala Lys Tyr Ala Lys Glu His Ile Asp Ala Trp Thr Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 706
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 706

Val Asp Ala Lys Tyr Ala Lys Glu Gln Leu Arg Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 707
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 707

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Arg Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Ile Ala Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 708
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 708

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 709
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 709

Val Asp Ala Lys Tyr Ala Lys Glu His Val Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 710
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 710

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 711
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 711

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 712
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 712

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 713
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 713

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Lys Ala Trp Asn Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 714
<211> 58
<212> PRT

<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 714

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp His Glu Ile
1 5 10 15

Asp Leu Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 715
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 715

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 716
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 716

Val Asp Ala Lys Tyr Ala Lys Glu Gln Leu Tyr Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu
            20                  25                  30

Lys Leu Gln Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  717
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  717

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asn Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Ile Lys Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  718
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  718

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Arg Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Val Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 719
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 719

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 720
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 720

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Arg Ala Trp Asp Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 721
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 721

```
Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  722
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  722

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Val Ala Ala Trp Thr Glu Ile
1               5                   10                  15

Asp Leu Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55
```

<210>  723
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  723

```
Val Asp Ala Lys Tyr Ala Lys Glu Val Val Ala Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ser Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45
```

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 724
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 724

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Arg Glu Ile
1 5 10 15

Asp Ser Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 725
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 725

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Lys Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 726
<211> 58
<212> PRT
<213> artificial sequence

<220>

<223> Modified bacterial sequence

<400> 726

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Thr Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 727
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 727

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 728
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 728

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 729
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 729

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 730
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 730

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 731
<211> 58

<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 731

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Ser Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 732
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 732

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Asn Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile His
20 25 30

Lys Leu His Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 733
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 733

Val Asp Ala Lys Tyr Ala Lys Glu His Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Gln Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  734
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  734

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Gln Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  735
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  735

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Tyr Leu Pro Asn Leu Thr Ile Ala Gln Trp Ile Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210> 736
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 736

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Gln Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 737
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 737

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Gln Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 738
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 738

Val Asp Ala Lys Tyr Ala Lys Glu Thr Leu Asp Ala Trp Ala Glu Ile
1               5                   10                  15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  739
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  739

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Lys Leu Pro Asn Leu Thr Leu Asn Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
    50                  55

<210>  740
<211>  58
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  740

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asn Glu Ile
1               5                   10                  15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 741
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 741

Val Asp Ala Lys Tyr Ala Lys Glu Val Leu His Ala Trp Asn Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Glu
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 742
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 742

Val Asp Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Gln Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 743
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 743

Val Asp Ala Lys Tyr Ala Lys Glu Val Val Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Gln Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 744
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 744

Val Asp Ala Lys Tyr Ala Lys Glu Gln Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Ala Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys
50 55

<210> 745
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 745

Val Asp Ala Lys Tyr Ala Lys Glu Thr Ile Thr Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Gly
20 25 30

Lys Leu Glu Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp
50 55 60

<210> 746
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 746

Ala Glu Ala Lys Tyr Ala Lys Glu Val Ile Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 747
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 747

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asn Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 748

<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 748

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 749
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 749

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 750
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 750

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

```
Asp Ala Leu Pro Asn Leu Thr Leu Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
    50                  55                  60
```

<210>  751
<211>  60
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  751

```
Ala Glu Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
    50                  55                  60
```

<210>  752
<211>  60
<212>  PRT
<213>  artificial sequence

<220>
<223>  Modified bacterial sequence

<400>  752

```
Ala Glu Ala Lys Tyr Ala Lys Glu Thr Leu Glu Ala Trp Asp Glu Ile
1               5                   10                  15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
            20                  25                  30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
        35                  40                  45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
```

50 55 60

<210> 753
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 753

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Arg Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 754
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 754

Ala Glu Ala Lys Tyr Ala Lys Glu Val Ile Asp Ala Trp Asn Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 755
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 755

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Asp Ala Trp Asp Glu Ile
1 5 10 15

Asp Lys Leu Pro Asn Leu Thr Ile Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 756
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 756

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp His Leu Pro Asn Leu Thr Leu Asp Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 757
<211> 60
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 757

Ala Glu Ala Lys Tyr Ala Lys Glu Val Leu Glu Ala Trp Asp Glu Ile
1 5 10 15

Asp Ala Leu Pro Asn Leu Thr Ile Glu Gln Trp Leu Ala Phe Ile Asn
20 25 30

Lys Leu Asp Asp Asp Pro Ser Gln Ser Ser Glu Leu Leu Ser Glu Ala

35 40 45

Lys Lys Leu Asn Asp Ser Gln Ala Pro Lys Val Asp
50 55 60

<210> 758
<211> 58
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 758

Val Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile
1 5 10 15

Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 759
<211> 46
<212> PRT
<213> artificial sequence

<220>
<223> Modified bacterial sequence

<400> 759

Leu Ala Glu Ala Lys Glu Ala Ala Asn Ala Glu Leu Asp Ser Tyr Gly
1 5 10 15

Val Ser Asp Phe Tyr Lys Arg Leu Ile Asp Lys Ala Lys Thr Val Glu
20 25 30

Gly Val Glu Ala Leu Lys Asp Ala Ile Leu Ala Ala Leu Pro
35 40 45

<210> 760
<211> 1676
<212> PRT
<213> Homo sapiens

<400> 760

Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr

```
1               5                   10                  15

Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
            20                  25                  30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
        35                  40                  45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Lys Phe
    50                  55                  60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65                  70                  75                  80

Asn Ser Ala Ile Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
                85                  90                  95

Asn Pro Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
            100                 105                 110

Lys Ser Lys Arg Met Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
        115                 120                 125

His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
    130                 135                 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145                 150                 155                 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Val Asp Met Val Glu Glu
                165                 170                 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
            180                 185                 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Lys Ala Lys Tyr Lys Glu Asp
        195                 200                 205

Phe Ser Thr Thr Gly Thr Ala Tyr Phe Glu Val Lys Glu Tyr Val Leu
    210                 215                 220

Pro His Phe Ser Val Ser Ile Glu Pro Glu Tyr Asn Phe Ile Gly Tyr
225                 230                 235                 240

Lys Asn Phe Lys Asn Phe Glu Ile Thr Ile Lys Ala Arg Tyr Phe Tyr
                245                 250                 255
```

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

Glu Asp Leu Lys Asp Asp Gln Lys Glu Met Met Gln Thr Ala Met Gln
        275                 280                 285

Asn Thr Met Leu Ile Asn Gly Ile Ala Gln Val Thr Phe Asp Ser Glu
    290                 295                 300

Thr Ala Val Lys Glu Leu Ser Tyr Tyr Ser Leu Glu Asp Leu Asn Asn
305                 310                 315                 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Ile Glu Ser Thr Gly Gly Phe
                325                 330                 335

Ser Glu Glu Ala Glu Ile Pro Gly Ile Lys Tyr Val Leu Ser Pro Tyr
            340                 345                 350

Lys Leu Asn Leu Val Ala Thr Pro Leu Phe Leu Lys Pro Gly Ile Pro
        355                 360                 365

Tyr Pro Ile Lys Val Gln Val Lys Asp Ser Leu Asp Gln Leu Val Gly
    370                 375                 380

Gly Val Pro Val Thr Leu Asn Ala Gln Thr Ile Asp Val Asn Gln Glu
385                 390                 395                 400

Thr Ser Asp Leu Asp Pro Ser Lys Ser Val Thr Arg Val Asp Asp Gly
                405                 410                 415

Val Ala Ser Phe Val Leu Asn Leu Pro Ser Gly Val Thr Val Leu Glu
            420                 425                 430

Phe Asn Val Lys Thr Asp Ala Pro Asp Leu Pro Glu Glu Asn Gln Ala
        435                 440                 445

Arg Glu Gly Tyr Arg Ala Ile Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
    450                 455                 460

Leu Tyr Ile Asp Trp Thr Asp Asn His Lys Ala Leu Leu Val Gly Glu
465                 470                 475                 480

His Leu Asn Ile Ile Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
                485                 490                 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Ile His Phe
            500                 505                 510
```

```
Gly Thr Arg Glu Lys Phe Ser Asp Ala Ser Tyr Gln Ser Ile Asn Ile
        515                 520                 525

Pro Val Thr Gln Asn Met Val Pro Ser Ser Arg Leu Leu Val Tyr Tyr
    530                 535                 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ser Asp Ser Val Trp
545                 550                 555                 560

Leu Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
                565                 570                 575

Pro Asp Ala Asp Ala Tyr Ser Pro Gly Gln Thr Val Ser Leu Asn Met
            580                 585                 590

Ala Thr Gly Met Asp Ser Trp Val Ala Leu Ala Ala Val Asp Ser Ala
        595                 600                 605

Val Tyr Gly Val Gln Arg Gly Ala Lys Lys Pro Leu Glu Arg Val Phe
    610                 615                 620

Gln Phe Leu Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly Leu
625                 630                 635                 640

Asn Asn Ala Asn Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr Asn
                645                 650                 655

Ala Asn Ala Asp Asp Ser Gln Glu Asn Asp Glu Pro Cys Lys Glu Ile
            660                 665                 670

Leu Arg Pro Arg Arg Thr Leu Gln Lys Lys Ile Glu Glu Ile Ala Ala
        675                 680                 685

Lys Tyr Lys His Ser Val Val Lys Lys Cys Cys Tyr Asp Gly Ala Cys
    690                 695                 700

Val Asn Asn Asp Glu Thr Cys Glu Gln Arg Ala Ala Arg Ile Ser Leu
705                 710                 715                 720

Gly Pro Arg Cys Ile Lys Ala Phe Thr Glu Cys Cys Val Val Ala Ser
                725                 730                 735

Gln Leu Arg Ala Asn Ile Ser His Lys Asp Met Gln Leu Gly Arg Leu
            740                 745                 750

His Met Lys Thr Leu Leu Pro Val Ser Lys Pro Glu Ile Arg Ser Tyr
        755                 760                 765
```

```
Phe Pro Glu Ser Trp Leu Trp Glu Val His Leu Val Pro Arg Arg Lys
    770                 775                 780

Gln Leu Gln Phe Ala Leu Pro Asp Ser Leu Thr Thr Trp Glu Ile Gln
785                 790                 795                 800

Gly Val Gly Ile Ser Asn Thr Gly Ile Cys Val Ala Asp Thr Val Lys
                805                 810                 815

Ala Lys Val Phe Lys Asp Val Phe Leu Glu Met Asn Ile Pro Tyr Ser
            820                 825                 830

Val Val Arg Gly Glu Gln Ile Gln Leu Lys Gly Thr Val Tyr Asn Tyr
        835                 840                 845

Arg Thr Ser Gly Met Gln Phe Cys Val Lys Met Ser Ala Val Glu Gly
    850                 855                 860

Ile Cys Thr Ser Glu Ser Pro Val Ile Asp His Gln Gly Thr Lys Ser
865                 870                 875                 880

Ser Lys Cys Val Arg Gln Lys Val Glu Gly Ser Ser Ser His Leu Val
                885                 890                 895

Thr Phe Thr Val Leu Pro Leu Glu Ile Gly Leu His Asn Ile Asn Phe
            900                 905                 910

Ser Leu Glu Thr Trp Phe Gly Lys Glu Ile Leu Val Lys Thr Leu Arg
        915                 920                 925

Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ser Gly Val Thr Leu
    930                 935                 940

Asp Pro Arg Gly Ile Tyr Gly Thr Ile Ser Arg Arg Lys Glu Phe Pro
945                 950                 955                 960

Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Glu Ile Lys Arg Ile
                965                 970                 975

Leu Ser Val Lys Gly Leu Leu Val Gly Glu Ile Leu Ser Ala Val Leu
            980                 985                 990

Ser Gln Glu Gly Ile Asn Ile Leu  Thr His Leu Pro Lys  Gly Ser Ala
        995                 1000                1005

Glu Ala  Glu Leu Met Ser Val  Val Pro Val Phe Tyr  Val Phe His
```

1010 1015 1020

Tyr Leu Glu Thr Gly Asn His Trp Asn Ile Phe His Ser Asp Pro
1025 1030 1035

Leu Ile Glu Lys Gln Lys Leu Lys Lys Lys Leu Lys Glu Gly Met
1040 1045 1050

Leu Ser Ile Met Ser Tyr Arg Asn Ala Asp Tyr Ser Tyr Ser Val
1055 1060 1065

Trp Lys Gly Gly Ser Ala Ser Thr Trp Leu Thr Ala Phe Ala Leu
1070 1075 1080

Arg Val Leu Gly Gln Val Asn Lys Tyr Val Glu Gln Asn Gln Asn
1085 1090 1095

Ser Ile Cys Asn Ser Leu Leu Trp Leu Val Glu Asn Tyr Gln Leu
1100 1105 1110

Asp Asn Gly Ser Phe Lys Glu Asn Ser Gln Tyr Gln Pro Ile Lys
1115 1120 1125

Leu Gln Gly Thr Leu Pro Val Glu Ala Arg Glu Asn Ser Leu Tyr
1130 1135 1140

Leu Thr Ala Phe Thr Val Ile Gly Ile Arg Lys Ala Phe Asp Ile
1145 1150 1155

Cys Pro Leu Val Lys Ile Asp Thr Ala Leu Ile Lys Ala Asp Asn
1160 1165 1170

Phe Leu Leu Glu Asn Thr Leu Pro Ala Gln Ser Thr Phe Thr Leu
1175 1180 1185

Ala Ile Ser Ala Tyr Ala Leu Ser Leu Gly Asp Lys Thr His Pro
1190 1195 1200

Gln Phe Arg Ser Ile Val Ser Ala Leu Lys Arg Glu Ala Leu Val
1205 1210 1215

Lys Gly Asn Pro Pro Ile Tyr Arg Phe Trp Lys Asp Asn Leu Gln
1220 1225 1230

His Lys Asp Ser Ser Val Pro Asn Thr Gly Thr Ala Arg Met Val
1235 1240 1245

```
Glu Thr  Thr Ala Tyr Ala Leu  Leu Thr Ser Leu Asn  Leu Lys Asp
    1250                 1255                 1260

Ile Asn  Tyr Val Asn Pro Val  Ile Lys Trp Leu Ser  Glu Glu Gln
    1265                 1270                 1275

Arg Tyr  Gly Gly Gly Phe Tyr  Ser Thr Gln Asp Thr  Ile Asn Ala
    1280                 1285                 1290

Ile Glu  Gly Leu Thr Glu Tyr  Ser Leu Leu Val Lys  Gln Leu Arg
    1295                 1300                 1305

Leu Ser  Met Asp Ile Asp Val  Ser Tyr Lys His Lys  Gly Ala Leu
    1310                 1315                 1320

His Asn  Tyr Lys Met Thr Asp  Lys Asn Phe Leu Gly  Arg Pro Val
    1325                 1330                 1335

Glu Val  Leu Leu Asn Asp Asp  Leu Ile Val Ser Thr  Gly Phe Gly
    1340                 1345                 1350

Ser Gly  Leu Ala Thr Val His  Val Thr Thr Val Val  His Lys Thr
    1355                 1360                 1365

Ser Thr  Ser Glu Glu Val Cys  Ser Phe Tyr Leu Lys  Ile Asp Thr
    1370                 1375                 1380

Gln Asp  Ile Glu Ala Ser His  Tyr Arg Gly Tyr Gly  Asn Ser Asp
    1385                 1390                 1395

Tyr Lys  Arg Ile Val Ala Cys  Ala Ser Tyr Lys Pro  Ser Arg Glu
    1400                 1405                 1410

Glu Ser  Ser Ser Gly Ser Ser  His Ala Val Met Asp  Ile Ser Leu
    1415                 1420                 1425

Pro Thr  Gly Ile Ser Ala Asn  Glu Glu Asp Leu Lys  Ala Leu Val
    1430                 1435                 1440

Glu Gly  Val Asp Gln Leu Phe  Thr Asp Tyr Gln Ile  Lys Asp Gly
    1445                 1450                 1455

His Val  Ile Leu Gln Leu Asn  Ser Ile Pro Ser Ser  Asp Phe Leu
    1460                 1465                 1470

Cys Val  Arg Phe Arg Ile Phe  Glu Leu Phe Glu Val  Gly Phe Leu
    1475                 1480                 1485
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Ser Pro  Ala Thr Phe Thr Val  Tyr Glu Tyr His Arg  Pro Asp Lys
    1490                 1495                 1500

Gln Cys  Thr Met Phe Tyr Ser  Thr Ser Asn Ile Lys  Ile Gln Lys
    1505                 1510                 1515

Val Cys  Glu Gly Ala Ala Cys  Lys Cys Val Glu Ala  Asp Cys Gly
    1520                 1525                 1530

Gln Met  Gln Glu Glu Leu Asp  Leu Thr Ile Ser Ala  Glu Thr Arg
    1535                 1540                 1545

Lys Gln  Thr Ala Cys Lys Pro  Glu Ile Ala Tyr Ala  Tyr Lys Val
    1550                 1555                 1560

Ser Ile  Thr Ser Ile Thr Val  Glu Asn Val Phe Val  Lys Tyr Lys
    1565                 1570                 1575

Ala Thr  Leu Leu Asp Ile Tyr  Lys Thr Gly Glu Ala  Val Ala Glu
    1580                 1585                 1590

Lys Asp  Ser Glu Ile Thr Phe  Ile Lys Lys Val Thr  Cys Thr Asn
    1595                 1600                 1605

Ala Glu  Leu Val Lys Gly Arg  Gln Tyr Leu Ile Met  Gly Lys Glu
    1610                 1615                 1620

Ala Leu  Gln Ile Lys Tyr Asn  Phe Ser Phe Arg Tyr  Ile Tyr Pro
    1625                 1630                 1635

Leu Asp  Ser Leu Thr Trp Ile  Glu Tyr Trp Pro Arg  Asp Thr Thr
    1640                 1645                 1650

Cys Ser  Ser Cys Gln Ala Phe  Leu Ala Asn Leu Asp  Glu Phe Ala
    1655                 1660                 1665

Glu Asp  Ile Phe Leu Asn Gly  Cys
    1670                 1675


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<211>  170
<212>  PRT
<213>  Ornithodoros moubata

<400>  761

Met Asp Ser Glu Ser Asp Cys Thr Gly Ser Glu Pro Val Asp Ala Phe
1               5                  10                  15
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Gln Ala Phe Ser Glu Gly Lys Glu Ala Tyr Val Leu Val Arg Ser Thr
20 25 30

Asp Pro Lys Ala Arg Asp Cys Leu Lys Gly Glu Pro Ala Gly Glu Lys
35 40 45

Gln Asp Asn Thr Leu Pro Val Met Met Thr Phe Lys Asn Gly Thr Asp
50 55 60

Trp Ala Ser Thr Asp Trp Thr Phe Thr Leu Asp Gly Ala Lys Val Thr
65 70 75 80

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

Gln Ser His His Cys His Val Asp Lys Val Glu Lys Glu Val Pro Asp
100 105 110

Tyr Glu Met Trp Met Leu Asp Ala Gly Gly Leu Glu Val Glu Val Glu
115 120 125

Cys Cys Arg Gln Lys Leu Glu Glu Leu Ala Ser Gly Arg Asn Gln Met
130 135 140

Tyr Pro His Leu Lys Asp Cys Gly Gly Gly Gly Ser Glu Asn Leu Tyr
145 150 155 160

Phe Gln Gly Ser His His His His His His
165 170

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<400> 762

Met Gly Leu Leu Gly Ile Leu Cys Phe Leu Ile Phe Leu Gly Lys Thr
1 5 10 15

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Trp Gly Gln Glu Gln Thr Tyr Val Ile Ser Ala Pro Lys Ile Phe Arg
            20                  25                  30

Val Gly Ala Ser Glu Asn Ile Val Ile Gln Val Tyr Gly Tyr Thr Glu
        35                  40                  45

Ala Phe Asp Ala Thr Ile Ser Ile Lys Ser Tyr Pro Asp Lys Xaa Phe
    50                  55                  60

Ser Tyr Ser Ser Gly His Val His Leu Ser Ser Glu Asn Lys Phe Gln
65                  70                  75                  80

Asn Ser Ala Val Leu Thr Ile Gln Pro Lys Gln Leu Pro Gly Gly Gln
                85                  90                  95

Asn Gln Val Ser Tyr Val Tyr Leu Glu Val Val Ser Lys His Phe Ser
            100                 105                 110

Lys Ser Lys Lys Ile Pro Ile Thr Tyr Asp Asn Gly Phe Leu Phe Ile
        115                 120                 125

His Thr Asp Lys Pro Val Tyr Thr Pro Asp Gln Ser Val Lys Val Arg
    130                 135                 140

Val Tyr Ser Leu Asn Asp Asp Leu Lys Pro Ala Lys Arg Glu Thr Val
145                 150                 155                 160

Leu Thr Phe Ile Asp Pro Glu Gly Ser Glu Ile Asp Met Val Glu Glu
                165                 170                 175

Ile Asp His Ile Gly Ile Ile Ser Phe Pro Asp Phe Lys Ile Pro Ser
            180                 185                 190

Asn Pro Arg Tyr Gly Met Trp Thr Ile Gln Ala Lys Tyr Lys Glu Asp
        195                 200                 205

Phe Ser Thr Thr Gly Thr Ala Phe Phe Glu Val Lys Glu Tyr Val Leu
    210                 215                 220

Pro His Phe Ser Val Ser Val Glu Pro Glu Ser Asn Phe Ile Gly Tyr
225                 230                 235                 240

Lys Asn Phe Lys Asn Phe Glu Ile Thr Ile Lys Ala Arg Ile Phe Tyr
                245                 250                 255

Asn Lys Val Val Thr Glu Ala Asp Val Tyr Ile Thr Phe Gly Ile Arg
            260                 265                 270
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Glu Asp Leu Lys Asp Asp Gln Lys Glu Met Met Gln Thr Ala Met Gln
        275                 280                 285

Asn Thr Met Leu Ile Asn Gly Ile Ala Glu Val Thr Phe Asp Ser Glu
    290                 295                 300

Thr Ala Val Lys Glu Leu Ser Tyr Tyr Ser Leu Glu Asp Leu Asn Asn
305                 310                 315                 320

Lys Tyr Leu Tyr Ile Ala Val Thr Val Ile Glu Ser Thr Gly Gly Phe
                325                 330                 335

Ser Glu Glu Ala Glu Ile Pro Gly Ile Lys Tyr Val Leu Ser Pro Tyr
            340                 345                 350

Lys Leu Asn Leu Val Ala Thr Pro Leu Phe Leu Lys Pro Gly Ile Pro
        355                 360                 365

Tyr Ser Ile Lys Val Gln Val Lys Asp Ala Leu Asp Gln Leu Val Gly
    370                 375                 380

Gly Val Pro Val Thr Leu Asn Ala Gln Thr Ile Asp Val Asn Gln Glu
385                 390                 395                 400

Thr Ser Asp Leu Glu Pro Arg Lys Ser Val Thr Arg Val Asp Asp Gly
                405                 410                 415

Val Ala Ser Phe Val Val Asn Leu Pro Ser Gly Val Thr Val Leu Glu
            420                 425                 430

Phe Asn Val Lys Thr Asp Ala Pro Asp Leu Pro Asp Glu Asn Gln Ala
        435                 440                 445

Arg Glu Gly Tyr Arg Ala Ile Ala Tyr Ser Ser Leu Ser Gln Ser Tyr
    450                 455                 460

Leu Tyr Ile Asp Trp Thr Asp Asn His Lys Ala Leu Leu Val Gly Glu
465                 470                 475                 480

Tyr Leu Asn Ile Ile Val Thr Pro Lys Ser Pro Tyr Ile Asp Lys Ile
                485                 490                 495

Thr His Tyr Asn Tyr Leu Ile Leu Ser Lys Gly Lys Ile Ile His Phe
            500                 505                 510

Gly Thr Arg Glu Lys Leu Ser Asp Ala Ser Tyr Gln Ser Ile Asn Ile
        515                 520                 525
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Pro Val Thr Gln Asn Met Val Pro Ser Ser Arg Leu Leu Val Tyr Tyr
    530                 535                 540

Ile Val Thr Gly Glu Gln Thr Ala Glu Leu Val Ser Asp Ser Val Trp
545                 550                 555                 560

Leu Asn Ile Glu Glu Lys Cys Gly Asn Gln Leu Gln Val His Leu Ser
                565                 570                 575

Pro Asp Ala Asp Thr Tyr Ser Pro Gly Gln Thr Val Ser Leu Asn Met
            580                 585                 590

Val Thr Gly Met Asp Ser Trp Val Ala Leu Thr Ala Val Asp Ser Ala
        595                 600                 605

Val Tyr Gly Val Gln Arg Arg Ala Lys Lys Pro Leu Glu Arg Val Phe
    610                 615                 620

Gln Phe Leu Glu Lys Ser Asp Leu Gly Cys Gly Ala Gly Gly Gly Leu
625                 630                 635                 640

Asn Asn Ala Asn Val Phe His Leu Ala Gly Leu Thr Phe Leu Thr Asn
                645                 650                 655

Ala Asn Ala Asp Asp Ser Gln Glu Asn Asp Glu Pro Cys Lys Glu Ile
            660                 665                 670

Ile Arg Pro Arg Arg Met Leu Gln Glu Lys Ile Glu Glu Ile Ala Ala
        675                 680                 685

Lys Tyr Lys His Leu Val Val Lys Lys Cys Cys Tyr Asp Gly Val Arg
    690                 695                 700

Ile Asn His Asp Glu Thr Cys Glu Gln Arg Ala Ala Arg Ile Ser Val
705                 710                 715                 720

Gly Pro Arg Cys Val Lys Ala Phe Thr Glu Cys Cys Val Val Ala Ser
                725                 730                 735

Gln Leu Arg Ala Asn Asn Ser His Lys Asp Leu Gln Leu Gly Arg Leu
            740                 745                 750

His Met Lys Thr Leu Leu Pro Val Ser Lys Pro Glu Ile Arg Ser Tyr
        755                 760                 765

Phe Pro Glu Ser Trp Leu Trp Glu Val His Leu Val Pro Arg Arg Lys
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    770                 775                 780

Gln Leu Gln Phe Ala Leu Pro Asp Ser Val Thr Thr Trp Glu Ile Gln
785                 790                 795                 800

Gly Val Gly Ile Ser Asn Ser Gly Ile Cys Val Ala Asp Thr Ile Lys
                805                 810                 815

Ala Lys Val Phe Lys Asp Val Phe Leu Glu Met Asn Ile Pro Tyr Ser
            820                 825                 830

Val Val Arg Gly Glu Gln Val Gln Leu Lys Gly Thr Val Tyr Asn Tyr
        835                 840                 845

Arg Thr Ser Gly Met Gln Phe Cys Val Lys Met Ser Ala Val Glu Gly
    850                 855                 860

Ile Cys Thr Ser Glu Ser Pro Val Ile Asp His Gln Gly Thr Lys Ser
865                 870                 875                 880

Ser Lys Cys Val Arg Gln Lys Val Glu Gly Ser Ser Asn His Leu Val
                885                 890                 895

Thr Phe Thr Val Leu Pro Leu Glu Ile Gly Leu Gln Asn Ile Asn Phe
            900                 905                 910

Ser Leu Glu Thr Ser Phe Gly Lys Glu Ile Leu Val Lys Ser Leu Arg
        915                 920                 925

Val Val Pro Glu Gly Val Lys Arg Glu Ser Tyr Ser Gly Ile Thr Leu
    930                 935                 940

Asp Pro Arg Gly Ile Tyr Gly Thr Ile Ser Arg Arg Lys Glu Phe Pro
945                 950                 955                 960

Tyr Arg Ile Pro Leu Asp Leu Val Pro Lys Thr Glu Ile Lys Arg Ile
                965                 970                 975

Leu Ser Val Lys Gly Leu Leu Val Gly Glu Ile Leu Ser Ala Val Leu
            980                 985                 990

Ser Arg Glu Gly Ile Asn Ile Leu  Thr His Leu Pro Lys  Gly Ser Ala
        995                 1000                1005

Glu Ala  Glu Leu Met Ser Val  Val Pro Val Phe Tyr  Val Phe His
    1010                1015                1020
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Tyr Leu  Glu Thr Gly Asn His  Trp Asn Ile Phe His  Ser Asp Pro
    1025                1030                1035

Leu Ile  Glu Lys Arg Asn Leu  Glu Lys Lys Leu Lys  Glu Gly Met
    1040                1045                1050

Val Ser  Ile Met Ser Tyr Arg  Asn Ala Asp Tyr Ser  Tyr Ser Val
    1055                1060                1065

Trp Lys  Gly Gly Ser Ala Ser  Thr Trp Leu Thr Ala  Phe Ala Leu
    1070                1075                1080

Arg Val  Leu Gly Gln Val His  Lys Tyr Val Glu Gln  Asn Gln Asn
    1085                1090                1095

Ser Ile  Cys Asn Ser Leu Leu  Trp Leu Val Glu Asn  Tyr Gln Leu
    1100                1105                1110

Asp Asn  Gly Ser Phe Lys Glu  Asn Ser Gln Tyr Gln  Pro Ile Lys
    1115                1120                1125

Leu Gln  Gly Thr Leu Pro Val  Glu Ala Arg Glu Asn  Ser Leu Tyr
    1130                1135                1140

Leu Thr  Ala Phe Thr Val Ile  Gly Ile Arg Lys Ala  Phe Asp Ile
    1145                1150                1155

Cys Pro  Leu Val Lys Ile Asn  Thr Ala Leu Ile Lys  Ala Asp Thr
    1160                1165                1170

Phe Leu  Leu Glu Asn Thr Leu  Pro Ala Gln Ser Thr  Phe Thr Leu
    1175                1180                1185

Ala Ile  Ser Ala Tyr Ala Leu  Ser Leu Gly Asp Lys  Thr His Pro
    1190                1195                1200

Gln Phe  Arg Ser Ile Val Ser  Ala Leu Lys Arg Glu  Ala Leu Val
    1205                1210                1215

Lys Gly  Asn Pro Pro Ile Tyr  Arg Phe Trp Lys Asp  Ser Leu Gln
    1220                1225                1230

His Lys  Asp Ser Ser Val Pro  Asn Thr Gly Thr Ala  Arg Met Val
    1235                1240                1245

Glu Thr  Thr Ala Tyr Ala Leu  Leu Thr Ser Leu Asn  Leu Lys Asp
    1250                1255                1260
```

```
Ile Asn  Tyr Val Asn Pro Ile  Ile Lys Trp Leu Ser  Glu Glu Gln
    1265                1270                1275

Arg Tyr  Gly Gly Gly Phe Tyr  Ser Thr Gln Asp Thr  Ile Asn Ala
    1280                1285                1290

Ile Glu  Gly Leu Thr Glu Tyr  Ser Leu Leu Val Lys  Gln Leu Arg
    1295                1300                1305

Leu Asn  Met Asp Ile Asp Val  Ala Tyr Lys His Lys  Gly Pro Leu
    1310                1315                1320

His Asn  Tyr Lys Met Thr Asp  Lys Asn Phe Leu Gly  Arg Pro Val
    1325                1330                1335

Glu Val  Leu Leu Asn Asp Asp  Xaa Val Val Ser Thr  Gly Phe Gly
    1340                1345                1350

Ser Gly  Leu Ala Thr Val His  Val Thr Thr Val Val  His Lys Thr
    1355                1360                1365

Ser Thr  Ser Glu Glu Val Cys  Ser Phe Tyr Leu Lys  Ile Asp Thr
    1370                1375                1380

Gln Asp  Val Glu Ala Ser His  Tyr Arg Gly Tyr Gly  Asn Ser Asp
    1385                1390                1395

Tyr Lys  Arg Ile Val Ala Cys  Ala Ser Tyr Lys Pro  Ser Lys Glu
    1400                1405                1410

Glu Ser  Ser Ser Gly Ser Ser  His Ala Val Met Asp  Ile Ser Leu
    1415                1420                1425

Pro Thr  Gly Ile Asn Ala Asn  Glu Glu Asp Leu Lys  Ala Leu Val
    1430                1435                1440

Glu Gly  Val Asp Gln Leu Phe  Thr Asp Tyr Gln Ile  Lys Asp Gly
    1445                1450                1455

His Val  Ile Leu Gln Leu Asn  Ser Ile Pro Ser Ser  Asp Phe Leu
    1460                1465                1470

Cys Val  Arg Phe Arg Ile Phe  Glu Leu Phe Glu Val  Gly Phe Leu
    1475                1480                1485

Ser Pro  Ala Thr Phe Thr Val  Tyr Glu Tyr His Arg  Pro Asp Lys
    1490                1495                1500
```

```
Gln Cys  Thr Met Phe Tyr Ser  Thr Ser Asn Ile Lys  Ile Gln Lys
    1505                1510                1515

Val Cys  Glu Gly Ala Thr Cys  Lys Cys Ile Glu Ala  Asp Cys Gly
    1520                1525                1530

Gln Met  Gln Lys Glu Leu Asp  Leu Thr Ile Ser Ala  Glu Thr Arg
    1535                1540                1545

Lys Gln  Thr Ala Cys Asn Pro  Glu Ile Ala Tyr Ala  Tyr Lys Val
    1550                1555                1560

Ile Ile  Thr Ser Ile Thr Thr  Glu Asn Val Phe Val  Lys Tyr Lys
    1565                1570                1575

Ala Thr  Leu Leu Asp Ile Tyr  Lys Thr Gly Glu Ala  Val Ala Glu
    1580                1585                1590

Lys Asp  Ser Glu Ile Thr Phe  Ile Lys Lys Val Thr  Cys Thr Asn
    1595                1600                1605

Ala Glu  Leu Val Lys Gly Arg  Gln Tyr Leu Ile Met  Gly Lys Glu
    1610                1615                1620

Ala Leu  Gln Ile Lys Tyr Asn  Phe Thr Phe Arg Tyr  Ile Tyr Pro
    1625                1630                1635

Leu Asp  Ser Leu Thr Trp Ile  Glu Tyr Trp Pro Arg  Asp Thr Thr
    1640                1645                1650

Cys Ser  Ser Cys Gln Ala Phe  Leu Ala Asn Leu Asp  Glu Phe Ala
    1655                1660                1665

Glu Asp  Ile Phe Leu Asn Gly  Cys
    1670                1675
```