SEQUENCE LISTING

<110> KANEKA CORPORATION

<120> PROTEIN CAPABLE OF BINDING SPECIFICALLY TO IMMUNOGLOBULIN, AND IMMUNOGLOBULIN-BINDING AFFINITY LIGAND

<130> B100013W001

<140> PCT/JP2011/057156
<141> 2011-03-24

<150> JP2010-068870
<151> 2010-03-24

<160> 85

<170> PatentIn version 3.1

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Lys Asp Asp Pro Ser Gln Ser Ala Asn Val Leu Gly Glu Ala Gln Lys
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<212> PRT
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Ser Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Val Phe Ile Gln Ser Leu Lys Asp Asp Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Val Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Val Phe Ile Gln Ser Leu
195 200 205

Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu
225 230 235 240

Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu
245 250 255

Glu Gln Arg Asn Val Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Val
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Pro Lys
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tatccaaaga aattttggca gaggctaaaa aacttaacga cgctcaggcg cctaaggctg 180

ataacaaatt caacaaagaa caacaaaacg ctttttatga aatccttcac ctgccaaatc 240

ttacagaaga acaacgcaac gtattcattc aaagcttgaa ggatgaccct tccgttagca 300

aagagatcct ggctgaagca aaaaagttga atgatgcgca agcaccaaaa gctgataata 360

aattcaacaa agaacaacaa aatgcattct acgaaatctt gcaccttcct aacctgactg 420

aagagcagcg taacgttttt atccagagct tgaaagacga tccatctgtc tccaaagaaa 480

ttctcgcaga agcgaagaaa ctgaacgatg ctcaagctcc gaaagcagac aacaaattca 540

ataaggaaca gcaaaacgcg ttttatgaaa ttctgcatct tccaaacttg acagaggaac 600

aacgcaatgt tttcatccaa tccctgaaag atgatccgag cgtttctaag gaaatcttgg 660

ctgaagcaaa aaaactgaac gacgctcaag ctccaaaagc ggataacaag tttaacaaag 720

aacaacaaaa tgctttctac gagatcttgc accttccgaa cctgactgaa gaacaacgta 780

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ctaaaaaatt gaatgatgca caagctccaa aataatctag a 881

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tatccaaaga aattttggca gaggctaaaa aacttaacga cgctcaggcg cc 172

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<212> DNA
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tgatgcgcaa gcaccaaaag ctgataataa attcaacaaa gaacaacaaa atgcattcta 120

cgaaatcttg caccttccta acctgactga agagcagcgt aacgttttta tccagagctt 180

gaaagacgat ccatctgtct ccaaagaaat tctcgcagaa gcgaagaaac tgaacgatgc 240

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tgaacgacgc tcaagctcca aaagcggata acaagtttaa caaagaacaa caaaatgctt 180

tctacgagat ct 192

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Ser Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu
195 200 205

Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu
225 230 235 240

Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu
245 250 255

Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Val
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Pro Lys

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tccaaagaaa ttttggcaga ggctaaaaaa cttaacgacg ctcaggcgcc taaggctgat 180

aacaaattca acaaagaaca acaaaacgct ttttatgaaa tccttcacct gccaaatctt 240

acagaagaac aacgcaacgc attcattcaa agcttgaagg atgacccttc cgttagcaaa 300

gagatcctgg ctgaagcaaa aaagttgaat gatgcgcaag caccaaaagc tgataataaa 360

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ctcgcagaag cgaagaaact gaacgatgct caagctccga aagcagacaa caaattcaat 540

aaggaacagc aaaacgcgtt ttatgaaatt ctgcatcttc caaacttgac agaggaacaa 600

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caacaaaatg ctttctacga gatcttgcac cttccgaacc tgactgaaga acaacgtaac 780

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Glu Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
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Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Glu Leu Lys Asp Asp Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala

100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Ala Phe Ile Gln Glu Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Glu Leu
195 200 205

Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu
225 230 235 240

Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu
245 250 255

Glu Gln Arg Asn Ala Phe Ile Gln Glu Leu Lys Asp Asp Pro Ser Val
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Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala
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Pro Lys
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tccaaagaaa ttttggcaga ggctaaaaaa cttaacgacg ctcaggcgcc taaggctgat 180

aacaaattca acaaagaaca acaaaacgct ttttatgaaa tccttcacct gccaaatctt 240

acagaagaac aacgcaacgc attcattcaa gagttgaagg atgacccttc cgttagcaaa 300

gagatcctgg ctgaagcaaa aaagttgaat gatgcgcaag caccaaaagc tgataataaa 360

ttcaacaaag aacaacaaaa tgcattctac gaaatcttgc accttcctaa cctgactgaa 420

gagcagcgta acgcttttat ccaggaattg aaagacgatc catctgtctc caaagaaatt 480

ctcgcagaag cgaagaaact gaacgatgct caagctccga aagcagacaa caaattcaat 540

aaggaacagc aaaacgcgtt ttatgaaatt ctgcatcttc caaacttgac agaggaacaa 600

cgcaatgctt tcatccaaga gctgaaagat gatccgagcg tttctaagga aatcttggct 660

gaagcaaaaa aactgaacga cgctcaagct ccaaaagcgg ataacaagtt taacaaagaa 720

caacaaaatg ctttctacga gatcttgcac cttccgaacc tgactgaaga acaacgtaac 780

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20 25 30

Ser Leu Lys Arg Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Arg Asp Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Ala Phe Ile Gln Ser Leu Lys Arg Asp Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu
195 200 205

Lys Arg Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu

225 230 235 240

Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu
245 250 255

Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Arg Asp Pro Ser Val
260 265 270

Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala
275 280 285

Pro Lys
290

<210> 63
<211> 873
<212> DNA
<213> DNA code

<400> 63
gcagataaca aatttaacaa agaacaacaa aacgctttct acgaaatcct gcacttgcca 60

aaccttactg aagaacaacg taatgctttc atccaatccc tgaaaagaga tccatctgta 120

tccaaagaaa ttttggcaga ggctaaaaaa cttaacgacg ctcaggcgcc taaggctgat 180

aacaaattca acaaagaaca acaaaacgct ttttatgaaa tccttcacct gccaaatctt 240

acagaagaac aacgcaacgc attcattcaa agcttgaaga gagacccttc cgttagcaaa 300

gagatcctgg ctgaagcaaa aaagttgaat gatgcgcaag caccaaaagc tgataataaa 360

ttcaacaaag aacaacaaaa tgcattctac gaaatcttgc accttcctaa cctgactgaa 420

gagcagcgta acgcttttat ccagagcttg aaacgtgatc catctgtctc caaagaaatt 480

ctcgcagaag cgaagaaact gaacgatgct caagctccga aagcagacaa caaattcaat 540

aaggaacagc aaaacgcgtt ttatgaaatt ctgcatcttc caaacttgac agaggaacaa 600

cgcaatgctt tcatccaatc cctgaaaaga gatccgagcg tttctaagga aatcttggct 660

gaagcaaaaa aactgaacga cgctcaagct ccaaaagcgg ataacaagtt taacaaagaa 720

caacaaaatg ctttctacga gatcttgcac cttccgaacc tgactgaaga acaacgtaac 780

gcatttattc agtctttgaa gagagaccca tccgtaagca aagagatcct ggcagaagct 840

aaaaaattga atgatgcaca agctccaaaa taa 873

<210> 64
<211> 290
<212> PRT
<213> C-wild mutant

<400> 64

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Arg Asp Glu Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn

50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Glu Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Ala Phe Ile Gln Ser Leu Arg Asp Glu Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu
195 200 205

Arg Asp Glu Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu
225 230 235 240

Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu
245 250 255

Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Arg Asp Glu Pro Ser Val
260 265 270

Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala
275 280 285

Pro Lys
290

<210> 65
<211> 873
<212> DNA
<213> DNA code

<400> 65
gcagataaca aatttaacaa agaacaacaa aacgctttct acgaaatcct gcacttgcca 60

aaccttactg aagaacaacg taatgctttc atccaatccc tgcgtgatga accatctgta 120

tccaaagaaa ttttggcaga ggctaaaaaa cttaacgacg ctcaggcgcc taaggctgat 180

aacaaattca acaaagaaca acaaaacgct ttttatgaaa tccttcacct gccaaatctt 240

acagaagaac aacgcaacgc attcattcaa agcttgcgcg atgagccttc cgttagcaaa 300

gagatcctgg ctgaagcaaa aaagttgaat gatgcgcaag caccaaaagc tgataataaa 360

ttcaacaaag aacaacaaaa tgcattctac gaaatcttgc accttcctaa cctgactgaa 420

gagcagcgta acgcttttat ccagagcttg cgtgacgaac catctgtctc caaagaaatt 480

ctcgcagaag cgaagaaact gaacgatgct caagctccga aagcagacaa caaattcaat 540

aaggaacagc aaaacgcgtt ttatgaaatt ctgcatcttc caaacttgac agaggaacaa 600

cgcaatgctt tcatccaatc cctgcgcgat gagccgagcg tttctaagga aatcttggct 660

gaagcaaaaa aactgaacga cgctcaagct ccaaaagcgg ataacaagtt taacaaagaa 720

caacaaaatg ctttctacga gatcttgcac cttccgaacc tgactgaaga acaacgtaac 780

gcatttattc agtctttgcg tgatgaacca tccgtaagca aagagatcct ggcagaagct 840

aaaaaattga atgatgcaca agctccaaaa taa 873

<210> 66
<211> 25
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 66
ggcgcctact gcagataaca aattc 25

<210> 67
<211> 18
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 67
tctagattat tttggagc 18

<210> 68
<211> 232
<212> PRT
<213> C-wild mutant

<400> 68

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Glu Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Glu Leu Lys Asp Asp Pro
85 90 95

Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala
115 120 125

Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn
130 135 140

Ala Phe Ile Gln Glu Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile
145 150 155 160

Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp
165 170 175

Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His
180 185 190

Leu Pro Asn Leu Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln Glu Leu
195 200 205

Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala Lys Lys
210 215 220

Leu Asn Asp Ala Gln Ala Pro Lys
225 230

<210> 69
<211> 696
<212> DNA
<213> DNA code

<400> 69
gcagataaca aattcaacaa agaacaacaa aacgcttttt atgaaatcct tcacctgcca 60

aatcttacag aagaacaacg caacgcattc attcaagagt tgaaggatga cccttccgtt 120

agcaaagaga tcctggctga agcaaaaaag ttgaatgatg cgcaagcacc aaaagctgat 180

aataaattca acaaagaaca acaaaatgca ttctacgaaa tcttgcacct tcctaacctg 240

actgaagagc agcgtaacgc ttttatccag gaattgaaag acgatccatc tgtctccaaa 300

gaaattctcg cagaagcgaa gaaactgaac gatgctcaag ctccgaaagc agacaacaaa 360

ttcaataagg aacagcaaaa cgcgttttat gaaattctgc atcttccaaa cttgacagag 420

gaacaacgca atgctttcat ccaagagctg aaagatgatc cgagcgtttc taaggaaatc 480

ttggctgaag caaaaaaact gaacgacgct caagctccaa aagcggataa caagtttaac 540

aaagaacaac aaaatgcttt ctacgagatc ttgcaccttc cgaacctgac tgaagaacaa 600

cgtaacgcat ttattcagga gttgaaggat gacccatccg taagcaaaga gatcctggca 660

gaagctaaaa aattgaatga tgcacaagct ccaaaa 696

<210> 70
<211> 174
<212> DNA
<213> DNA code

<400> 70
gctgacaaca aattcaacaa agaacaacaa aatgctttct atgaaatttt acatttacct 60

aacttaactg aagaacaacg taacgccttc atccaaagcc ttaaagacga tccttcagtg 120

agcaaagaaa ttttagcaga agctaaaaag ctaaacgatg ctcaagcacc aaaa 174

<210> 71
<211> 24
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 71
ccttcatcca actgcttaaa gacg 24

<210> 72
<211> 24
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 72
cgtctttaag cagttggatg aagg 24

<210> 73
<211> 24
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 73
ccttcatcca aacccttaaa gacg 24

<210> 74
<211> 24
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 74
cgtctttaag ggtttggatg aagg 24

<210> 75

<211> 25
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 75
caaagcctta aaattgatcc ttcag 25

<210> 76
<211> 25
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 76
ctgaaggatc aattttaagg ctttg 25

<210> 77
<211> 25
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 77
caaagcctta aacgtgatcc ttcag 25

<210> 78
<211> 25
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 78
ctgaaggatc acgtttaagg ctttg 25

<210> 79
<211> 23
<212> DNA

<213> synthetic oligonucleotide (DNA primer)

<400> 79
gccttaaaga cgaaccttca gtg 23

<210> 80
<211> 23
<212> DNA
<213> synthetic oligonucleotide (DNA primer)

<400> 80
cactgaaggt tcgtctttaa ggc 23

<210> 81
<211> 58
<212> PRT
<213> C-wild mutant

<400> 81

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Leu Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 82
<211> 58
<212> PRT
<213> C-wild mutant

<400> 82

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Thr Leu Lys Asp Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 83
<211> 58
<212> PRT
<213> C-wild mutant

<400> 83

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Lys Ile Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 84
<211> 58
<212> PRT
<213> C-wild mutant

<400> 84

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Lys Arg Asp Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55

<210> 85
<211> 58
<212> PRT
<213> C-wild mutant

<400> 85

Ala 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 Thr Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Lys Asp Glu Pro Ser Val Ser Lys Glu Ile Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55