SEQUENCE LISTING

<110> XL-protein GmbH
Technische Universität München
SKERRA, Arne
BINDER, Uli
SCHLAPSCHY, Martin

<120> Biosynthetic proline/alanine random coil polypeptides and their uses

<130> S1467 PCT S3

<160> 61

<170> PatentIn version 3.3

<210> 1
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#1"

<400> 1

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
1 5 10 15

Ala Ala Pro Ala
20

<210> 2
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#2"

<400> 2

Ala Ala Pro Ala Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala
1 5 10 15

Pro Ala Ala Pro
20

<210> 3
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#3"

<400> 3

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
1 5 10 15

Ala Ala Ala Pro
20

<210> 4
<211> 24
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#4"

<400> 4

Ala Ala Pro Ala Ala Pro Ala Ala Pro Ala Ala Pro Ala Ala Pro Ala
1 5 10 15

Ala Pro Ala Ala Pro Ala Ala Pro
20

<210> 5
<211> 24
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#5"

<400> 5

Ala Pro Ala Ala Ala Pro Ala Pro Ala Ala Ala Pro Ala Pro Ala Ala
1 5 10 15

Ala Pro Ala Pro Ala Ala Ala Pro
20

<210> 6
<211> 24
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of PA#6"

<400> 6

Ala Ala Ala Pro Ala Ala Pro Ala Ala Pro Pro Ala Ala Ala Ala Pro
1 5 10 15

Ala Ala Pro Ala Ala Pro Pro Ala
20

<210> 7
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 7

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala
1 5 10 15

Ala Pro Ala Ala
20

<210> 8
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 8

Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala
1 5 10 15

Pro Ala Ala Ala
20

<210> 9
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 9

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
1 5 10 15

Ala Ala Ala Pro
20

<210> 10
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source

<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 10

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
1 5 10 15

Ala Ala Pro Ala
20

<210> 11
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 11

Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
1 5 10 15

Ala Pro Ala Ala
20

<210> 12
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 12

Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala
1 5 10 15

Pro Ala Ala Pro
20

<210> 13
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 13

Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro
1 5 10 15

Ala Ala Pro Ala
20

<210> 14
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 14

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
1 5 10 15

Ala Pro Ala Pro
20

<210> 15
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 15

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala
1 5 10 15

Pro Ala Pro Ala
20

<210> 16
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a circular permutated version of SEQ ID NO: 1"

<400> 16

Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro
1 5 10 15

Ala Pro Ala Ala
20

<210> 17
<211> 60
<212> DNA

<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of the upper/coding strand oligodeoxynucleotide used for the generation of building block PA#1"

<400> 17
gccgctccag ctgcacctgc tccagcagca cctgctgcac cagctccggc tgctcctgct 60

<210> 18
<211> 60
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of lower/non-coding strand oligodeoxynucleotide used for the generation of the building block for PA#1"

<400> 18
ggcagcagga gcagccggag ctggtgcagc aggtgctgct ggagcaggtg cagctggagc 60

<210> 19
<211> 49
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (upper/coding strand) around the C-terminus of the immunoglobulin light chain of an antibody Fab fragment as encoded on pASK88-Fab-2xSapI"

<400> 19
aagagcttca accgcggaga gtgctcttct gcctgaagag cttaagctt 49

<210> 20
<211> 49
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (lower/non-coding strand) around the C-terminus of the immunoglobulin light chain of an antibody Fab fragment as encoded on pASK88-Fab-2xSapI"

<400> 20
aagcttaagc tcttcaggca gaagagcact ctccgcggtt gaagctctt 49

<210> 21
<211> 11
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the C-terminus of the light chain of the Fab fragment as encoded

on pASK88-Fab-2xSapI"

<400> 21

Lys Ser Phe Asn Arg Gly Glu Cys Ser Ser Ala
1 5 10

<210> 22
<211> 4610
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pASK88-Fab-2xSapI"

<400> 22
acccgacacc atcgaatggc cagatgatta attcctaatt tttgttgaca ctctatcatt 60

gatagagtta ttttaccact ccctatcagt gatagagaaa agtgaaatga atagttcgac 120

aaaaatctag ataacgaggg caaaaaatga aaaagacagc tatcgcgatt gcagtggcac 180

tggctggttt cgctaccgta gcgcaggccg aagttaaact gcaggaatcc ggtggtggtc 240

tggttcagcc aggtggttcc ctgcggctct cgtgtgctgc ttccggtttc aacatcaaag 300

acacctacat ccactgggtt cgtcaggctc cgggtaaagg cctggaatgg gttgctcgta 360

tctacccgac caacggttac accaggtatg ccgattcagt taaaggtcgt ttcaccatct 420

cggccgacac ttccaaaaac accgcttacc tccagatgaa ctccctgcgt gctgaagaca 480

cagctgttta ttattgctcc cgttggggtg gtgacggttt ctacgctatg gactactggg 540

gtcagggtac cctggtcacc gtctcctcag cctccaccaa gggcccatcg gtcttccccc 600

tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc ctggtcaagg 660

actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc agcggcgtgc 720

acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc gtggtgactg 780

tgccctccag cagcttgggc acccagacct acatctgcaa cgttaatcac aaacccagca 840

acaccaaggt cgacaagaaa gttgagccca aatcttgcca tcaccaccat caccattaat 900

aaccatggag aaaataaagt gaaacaaagc actattgcac tggcactctt accgttactg 960

tttacccctg tgacaaaagc cgacatcgag ctcacccaat ccccgtcctc cctgtccgct 1020

tccgttggcg accgtgttac catcacgtgt agggcctcgc aagacgtaaa caccgccgta 1080

gcgtggtatc agcagaaacc cgggaaagct ccgaaactgc tgatctatag cgcttccttc 1140

ctgtattccg gagttccgag caggttcagt ggttcccgtt ccggtaccga cttcaccctg 1200

acgatatcct ccctccagcc ggaagacttc gctacctact actgtcaaca gcactacacc 1260

accccgccga ccttcggtca gggtaccaaa ctcgagatca aacggactgt ggctgcacca 1320

tctgtcttca tcttcccgcc atctgatgag cagttgaaat ctggaactgc ctctgttgtg 1380

tgcctgctga ataacttcta tcccagagag gccaaagtac agtggaaggt ggataacgcc 1440

ctccaatcgg gtaactccca ggagagtgtc acagagcagg acagcaagga cagcacctac 1500

agcctcagca gcaccctgac gctgagcaaa gcagactacg agaaacacaa agtctacgcc 1560

tgcgaagtca cccatcaggg cctgagttcg cccgtcacaa agagcttcaa ccgcggagag 1620

tgctcttctg cctgaagagc ttaagcttga cctgtgaagt gaaaaatggc gcacattgtg 1680

cgacattttt tttgtctgcc gtttaccgct actgcgtcac ggatctccac gcgccctgta 1740

gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag cgtgaccgct acacttgcca 1800

gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg ttcgccggct 1860

ttccccgtca agctctaaat cgggggctcc ctttagggtt ccgatttagt gctttacggc 1920

acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca tcgccctgat 1980

agacggtttt tcgccctttg acgttggagt ccacgttctt taatagtgga ctcttgttcc 2040

aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa gggattttgc 2100

cgatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac gcgaatttta 2160

acaaaatatt aacgtttaca atttcaggtg gcacttttcg gggaaatgtg cgcggaaccc 2220

ctatttgttt atttttctaa atacattcaa atatgtatcc gctcatgaga caataaccct 2280

gataaatgct tcaataatat tgaaaaagga agagtatgag tattcaacat ttccgtgtcg 2340

cccttattcc ctttttttgcg gcattttgcc ttcctgtttt tgctcaccca gaaacgctgg 2400

tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc gaactggatc 2460

tcaacagcgg taagatcctt gagagttttc gccccgaaga acgttttcca atgatgagca 2520

cttttaaagt tctgctatgt ggcgcggtat tatcccgtat tgacgccggg caagagcaac 2580

tcggtcgccg catacactat tctcagaatg acttggttga gtactcacca gtcacagaaa 2640

agcatcttac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagtg 2700

ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag ctaaccgctt 2760

ttttgcacaa catgggggat catgtaactc gccttgatcg ttgggaaccg gagctgaatg 2820

aagccatacc aaacgacgag cgtgacacca cgatgcctgt agcaatggca acaacgttgc 2880

gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaattg atagactgga 2940

tggaggcgga taaagttgca ggaccacttc tgcgctcggc ccttccggct ggctggttta 3000

ttgctgataa atctggagcc ggtgagcgtg gctctcgcgg tatcattgca gcactggggc 3060

cagatggtaa gccctcccgt atcgtagtta tctacacgac ggggagtcag gcaactatgg 3120

atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaggaat 3180

taatgatgtc tcgtttagat aaaagtaaag tgattaacag cgcattagag ctgcttaatg 3240

aggtcggaat cgaaggttta acaacccgta aactcgccca gaagctaggt gtagagcagc 3300

ctacattgta ttggcatgta aaaaataagc gggctttgct cgacgcctta gccattgaga 3360

tgttagatag gcaccatact cacttttgcc ctttagaagg ggaaagctgg caagattttt 3420

tacgtaataa cgctaaaagt tttagatgtg ctttactaag tcatcgcgat ggagcaaaag 3480

tacatttagg tacacggcct acagaaaaac agtatgaaac tctcgaaaat caattagcct 3540

ttttatgcca acaaggtttt tcactagaga atgcattata tgcactcagc gcagtggggc 3600

attttacttt aggttgcgta ttggaagatc aagagcatca agtcgctaaa gaagaaaggg 3660

aaacacctac tactgatagt atgccgccat tattacgaca agctatcgaa ttatttgatc 3720

accaaggtgc agagccagcc ttcttattcg gccttgaatt gatcatatgc ggattagaaa 3780

aacaacttaa atgtgaaagt gggtcttaaa agcagcataa ccttttccg tgatggtaac 3840

ttcactagtt taaaaggatc taggtgaaga tccttttga taatctcatg accaaaatcc 3900

cttaacgtga gttttcgttc cactgagcgt cagaccccgt agaaaagatc aaaggatctt 3960

cttgagatcc ttttttttctg cgcgtaatct gctgcttgca aacaaaaaaa ccaccgctac 4020

cagcggtggt ttgtttgccg gatcaagagc taccaactct ttttccgaag gtaactggct 4080

tcagcagagc gcagatacca aatactgtcc ttctagtgta gccgtagtta ggccaccact 4140

tcaagaactc tgtagcaccg cctacatacc tcgctctgct aatcctgtta ccagtggctg 4200

ctgccagtgg cgataagtcg tgtcttaccg ggttggactc aagacgatag ttaccggata 4260

aggcgcagcg gtcgggctga acgggggtt cgtgcacaca gcccagcttg gagcgaacga 4320

cctacaccga actgagatac ctacagcgtg agctatgaga aagcgccacg cttcccgaag 4380

ggagaaaggc ggacaggtat ccggtaagcg gcagggtcgg aacaggagag cgcacgaggg 4440

agcttccagg gggaaacgcc tggtatcttt atagtcctgt cgggtttcgc cacctctgac 4500

ttgagcgtcg atttttgtga tgctcgtcag gggggcggag cctatggaaa aacgccagca 4560

acgcggcctt tttacggttc ctggcctttt gctggccttt tgctcacatg 4610

<210> 23
<211> 85
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (upper/coding strand) encoding amino acid sequence of the C-terminus of the Fab light chain after insertion of one PA#1(20) polymer"

<400> 23
gagtgctctt ctgccgctcc agctgcacct gctccagcag cacctgctgc accagctccg 60

gctgctcctg ctgcctgaag agctt 85

<210> 24
<211> 85
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence (lower/non-coding strand) for an amino acid stretch of the C-terminus of an Fab light chain after insertion of one PA#1(20) polymer"

<400> 24
aagctcttca ggcagcagga gcagccggag ctggtgcagc aggtgctgct ggagcaggtg 60

cagctggagc ggcagaagag cactc 85

<210> 25
<211> 25
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence stretch of the C-terminus of an Fab light chain after insertion of one PA#1(20) polymer"

<400> 25

Glu Cys Ser Ser Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
1 5 10 15

Ala Pro Ala Pro Ala Ala Pro Ala Ala
20 25

<210> 26
<211> 229
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of a Fab heavy chain as encoded on pFab-PA#1(200)"

<400> 26

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

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

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

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

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

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

Ser Arg Trp Gly Gly Asp Gly Phe Tyr Ala Met Asp Tyr Trp Gly Gln
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val

115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys His
210 215 220

His His His His His
225

<210> 27
<211> 417
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the Fab light chain fused with the PA#1(200) polymer as encoded on pFab-PA#1(200)"

<400> 27

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro
85 90 95

```
Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys Ser Ser Ala Ala Pro Ala Ala Pro Ala Pro
    210                 215                 220

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
225                 230                 235                 240

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
                245                 250                 255

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
            260                 265                 270

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
        275                 280                 285

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro
    290                 295                 300

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
305                 310                 315                 320

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
                325                 330                 335

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
            340                 345                 350

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
        355                 360                 365
```

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro
370 375 380

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
385 390 395 400

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
405 410 415

Ala

<210> 28
<211> 5210
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pFab-PA#1(200)"

<400> 28
acccgacacc atcgaatggc cagatgatta attcctaatt tttgttgaca ctctatcatt 60

gatagagtta ttttaccact ccctatcagt gatagagaaa agtgaaatga atagttcgac 120

aaaaatctag ataacgaggg caaaaaatga aaaagacagc tatcgcgatt gcagtggcac 180

tggctggttt cgctaccgta gcgcaggccg aagttaaact gcaggaatcc ggtggtggtc 240

tggttcagcc aggtggttcc ctgcggctct cgtgtgctgc ttccggtttc aacatcaaag 300

acacctacat ccactgggtt cgtcaggctc cgggtaaagg cctggaatgg gttgctcgta 360

tctacccgac caacggttac accaggtatg ccgattcagt taaaggtcgt ttcaccatct 420

cggccgacac ttccaaaaac accgcttacc tccagatgaa ctccctgcgt gctgaagaca 480

cagctgttta ttattgctcc cgttggggtg gtgacggttt ctacgctatg gactactggg 540

gtcagggtac cctggtcacc gtctcctcag cctccaccaa gggcccatcg gtcttccccc 600

tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc ctggtcaagg 660

actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc agcggcgtgc 720

acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc gtggtgactg 780

tgccctccag cagcttgggc acccagacct acatctgcaa cgttaatcac aaacccagca 840

acaccaaggt cgacaagaaa gttgagccca aatcttgcca tcaccaccat caccattaat 900

aaccatggag aaaataaagt gaaacaaagc actattgcac tggcactctt accgttactg 960

tttacccctg tgacaaaagc cgacatcgag ctcacccaat ccccgtcctc cctgtccgct 1020

tccgttggcg accgtgttac catcacgtgt agggcctcgc aagacgtaaa caccgccgta 1080

gcgtggtatc agcagaaacc cgggaaagct ccgaaactgc tgatctatag cgcttccttc 1140

ctgtattccg gagttccgag caggttcagt ggttcccgtt ccggtaccga cttcaccctg 1200

acgatatcct ccctccagcc ggaagacttc gctacctact actgtcaaca gcactacacc 1260

accccgccga ccttcggtca gggtaccaaa ctcgagatca aacggactgt ggctgcacca 1320

tctgtcttca tcttcccgcc atctgatgag cagttgaaat ctggaactgc ctctgttgtg 1380

tgcctgctga ataacttcta tcccagagag gccaaagtac agtggaaggt ggataacgcc 1440

ctccaatcgg gtaactccca ggagagtgtc acagagcagg acagcaagga cagcacctac 1500

agcctcagca gcaccctgac gctgagcaaa gcagactacg agaaacacaa agtctacgcc 1560

tgcgaagtca cccatcaggg cctgagttcg cccgtcacaa agagcttcaa ccgcggagag 1620

tgctcttctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1680

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1740

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1800

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1860

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1920

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 1980

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 2040

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 2100

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 2160

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 2220

gctcctgctg cctgaagagc ttaagcttga cctgtgaagt gaaaaatggc gcacattgtg 2280

cgacattttt tttgtctgcc gtttaccgct actgcgtcac ggatctccac gcgccctgta 2340

gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag cgtgaccgct acacttgcca 2400

gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg ttcgccggct 2460

ttccccgtca agctctaaat cgggggctcc ctttagggtt ccgatttagt gctttacggc 2520

acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca tcgccctgat 2580

agacggtttt tcgccctttg acgttggagt ccacgttctt taatagtgga ctcttgttcc 2640

aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa gggattttgc 2700

cgatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac gcgaatttta 2760

acaaaatatt aacgtttaca atttcaggtg gcacttttcg gggaaatgtg cgcggaaccc 2820

ctatttgttt atttttctaa atacattcaa atatgtatcc gctcatgaga caataaccct 2880

gataaatgct tcaataatat tgaaaaagga agagtatgag tattcaacat ttccgtgtcg 2940

cccttattcc ctttttttgcg gcattttgcc ttcctgtttt tgctcaccca gaaacgctgg 3000

tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc gaactggatc 3060

tcaacagcgg taagatcctt gagagttttc gccccgaaga acgttttcca atgatgagca 3120

cttttaaagt tctgctatgt ggcgcggtat tatcccgtat tgacgccggg caagagcaac 3180

tcggtcgccg catacactat tctcagaatg acttggttga gtactcacca gtcacagaaa 3240

agcatcttac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagtg 3300

ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag ctaaccgctt 3360
ttttgcacaa catgggggat catgtaactc gccttgatcg ttgggaaccg gagctgaatg 3420
aagccatacc aaacgacgag cgtgacacca cgatgcctgt agcaatggca acaacgttgc 3480
gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaattg atagactgga 3540
tggaggcgga taaagttgca ggaccacttc tgcgctcggc ccttccggct ggctggttta 3600
ttgctgataa atctggagcc ggtgagcgtg gctctcgcgg tatcattgca gcactggggc 3660
cagatggtaa gccctcccgt atcgtagtta tctacacgac ggggagtcag gcaactatgg 3720
atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaggaat 3780
taatgatgtc tcgtttagat aaaagtaaag tgattaacag cgcattagag ctgcttaatg 3840
aggtcggaat cgaaggttta acaacccgta aactcgccca gaagctaggt gtagagcagc 3900
ctacattgta ttggcatgta aaaaataagc gggctttgct cgacgcctta gccattgaga 3960
tgttagatag gcaccatact cacttttgcc ctttagaagg ggaaagctgg caagattttt 4020
tacgtaataa cgctaaaagt tttagatgtg ctttactaag tcatcgcgat ggagcaaaag 4080
tacatttagg tacacggcct acagaaaaac agtatgaaac tctcgaaaat caattagcct 4140
ttttatgcca acaaggtttt tcactagaga atgcattata tgcactcagc gcagtggggc 4200
attttacttt aggttgcgta ttggaagatc aagagcatca agtcgctaaa gaagaaaggg 4260
aaacacctac tactgatagt atgccgccat tattacgaca agctatcgaa ttatttgatc 4320
accaaggtgc agagccagcc ttcttattcg gccttgaatt gatcatatgc ggattagaaa 4380
aacaacttaa atgtgaaagt gggtcttaaa agcagcataa ccttttttccg tgatggtaac 4440
ttcactagtt taaaaggatc taggtgaaga tccttttttga taatctcatg accaaaatcc 4500
cttaacgtga gttttcgttc cactgagcgt cagaccccgt agaaaagatc aaaggatctt 4560
cttgagatcc ttttttttctg cgcgtaatct gctgcttgca aacaaaaaaa ccaccgctac 4620
cagcggtggt ttgtttgccg gatcaagagc taccaactct ttttccgaag gtaactggct 4680
tcagcagagc gcagatacca aatactgtcc ttctagtgta gccgtagtta ggccaccact 4740
tcaagaactc tgtagcaccg cctacatacc tcgctctgct aatcctgtta ccagtggctg 4800
ctgccagtgg cgataagtcg tgtcttaccg ggttggactc aagacgatag ttaccggata 4860
aggcgcagcg gtcgggctga acgggggggtt cgtgcacaca gcccagcttg gagcgaacga 4920
cctacaccga actgagatac ctacagcgtg agctatgaga aagcgccacg cttcccgaag 4980
ggagaaaggc ggacaggtat ccggtaagcg gcagggtcgg aacaggagag cgcacgaggg 5040
agcttccagg gggaaacgcc tggtatcttt atagtcctgt cgggtttcgc cacctctgac 5100
ttgagcgtcg atttttgtga tgctcgtcag gggggcggag cctatggaaa aacgccagca 5160
acgcggcctt tttacggttc ctggcctttt gctggccttt tgctcacatg 5210

<210> 29
<211> 57

<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence (upper/coding strand) encoding amino acid sequence of the N-terminus of INFa2b and Strep-tag II (only the last two amino acids)"

<400> 29
gaaaaaggcg ccagctcttc tgcctgtgat ctgcctcaaa cccacagcct gggtagc 57

<210> 30
<211> 57
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence (lower/non-coding strand) encoding amino acid sequence of the N-terminus of INFa2b and Strep-tag II (only the last two amino acids)"

<400> 30
gctacccagg ctgtgggttt gaggcagatc acaggcagaa gagctggcgc ctttttc 57

<210> 31
<211> 19
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the C-terminus of Strep-tag II and the N-terminus of INFa2b"

<400> 31

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

Leu Gly Ser

<210> 32
<211> 3721
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pASK-IFNa2b"

<400> 32
ccatcgaatg gccagatgat taattcctaa tttttgttga cactctatca ttgatagagt 60

tattttacca ctccctatca gtgatagaga aaagtgaaat gaatagttcg acaaaaatct 120

agataacgag ggcaaaaaat gaaaaagaca gctatcgcga ttgcagtggc actggctggt 180

ttcgctaccg tagcgcaggc cgctagctgg agccacccgc agttcgaaaa aggcgccagc 240

tcttctgcct gtgatctgcc tcaaacccac agcctgggta gcaggaggac cttgatgctc 300

ctggcacaga tgaggagaat ctctcttttc tcctgcttga aggacagaca tgactttgga 360

tttccccagg aggagtttgg caaccagttc caaaaggctg aaaccatccc tgtcctccat 420

gagatgatcc agcagatctt caatctcttc agcacaaagg actcatctgc tgcttgggat 480

gagaccctcc tagacaaatt ctacactgaa ctctaccagc agctgaatga cctggaagcc 540

tgtgtgatac agggggtggg ggtgacagag actcccctga tgaaggagga ctccattctg 600

gctgtgagga aatacttcca aagaatcact ctctatctga aagagaagaa atacagccct 660

tgtgcctggg aggttgtcag agcagaaatc atgagatctt tttctttgtc aacaaacttg 720

caagaaagtt taagaagtaa ggaataagct tgacctgtga agtgaaaaat ggcgcacatt 780

gtgcgacatt ttttttgtct gccgtttacc gctactgcgt cacggatctc cacgcgccct 840

gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc gctacacttg 900

ccagcgccct agcgcccgct cctttcgctt tcttcccttc ctttctcgcc acgttcgccg 960

gctttccccg tcaagctcta aatcgggggc tcccctttagg gttccgattt agtgctttac 1020

ggcacctcga ccccaaaaaa cttgattagg gtgatggttc acgtagtggg ccatcgccct 1080

gatagacggt ttttcgccct ttgacgttgg agtccacgtt ctttaatagt ggactcttgt 1140

tccaaactgg aacaacactc aaccctatct cggtctattc ttttgattta taagggattt 1200

tgccgatttc ggcctattgg ttaaaaaatg agctgattta acaaaaattt aacgcgaatt 1260

ttaacaaaat attaacgctt acaatttcag gtggcacttt tcggggaaat gtgcgcggaa 1320

cccctatttg tttatttttc taaatacatt caaatatgta tccgctcatg agacaataac 1380

cctgataaat gcttcaataa tattgaaaaa ggaagagtat gagtattcaa catttccgtg 1440

tcgcccttat tccctttttt gcggcatttt gccttcctgt ttttgctcac ccagaaacgc 1500

tggtgaaagt aaaagatgct gaagatcagt tgggtgcacg agtgggttac atcgaactgg 1560

atctcaacag cggtaagatc cttgagagtt ttcgccccga agaacgtttt ccaatgatga 1620

gcacttttaa agttctgcta tgtggcgcgg tattatcccg tattgacgcc gggcaagagc 1680

aactcggtcg ccgcatacac tattctcaga atgacttggt tgagtactca ccagtcacag 1740

aaaagcatct tacggatggc atgacagtaa gagaattatg cagtgctgcc ataaccatga 1800

gtgataacac tgcggccaac ttacttctga caacgatcgg aggaccgaag gagctaaccg 1860

ctttttttgca caacatgggg gatcatgtaa ctcgccttga tcgttgggaa ccggagctga 1920

atgaagccat accaaacgac gagcgtgaca ccacgatgcc tgtagcaatg gcaacaacgt 1980

tgcgcaaact attaactggc gaactactta ctctagcttc ccggcaacaa ttgatagact 2040

ggatggaggc ggataaagtt gcaggaccac ttctgcgctc ggcccttccg gctggctggt 2100

ttattgctga taaatctgga gccggtgagc gtggctctcg cggtatcatt gcagcactgg 2160

ggccagatgg taagccctcc cgtatcgtag ttatctacac gacggggagt caggcaacta 2220

tggatgaacg aaatagacag atcgctgaga taggtgcctc actgattaag cattggtagg 2280

aattaatgat gtctcgttta gataaaagta aagtgattaa cagcgcatta gagctgctta 2340

atgaggtcgg aatcgaaggt ttaacaaccc gtaaactcgc ccagaagcta ggtgtagagc 2400

agcctacatt gtattggcat gtaaaaaata agcgggcttt gctcgacgcc ttagccattg 2460

agatgttaga taggcaccat actcactttt gcccctttaga aggggaaagc tggcaagatt 2520

ttttacgtaa taacgctaaa agttttagat gtgctttact aagtcatcgc gatggagcaa 2580

aagtacattt aggtacacgg cctacagaaa aacagtatga aactctcgaa aatcaattag 2640

ccttttttatg ccaacaaggt ttttcactag agaatgcatt atatgcactc agcgcagtgg 2700

ggcattttac tttaggttgc gtattggaag atcaagagca tcaagtcgct aaagaagaaa 2760

gggaaacacc tactactgat agtatgccgc cattattacg acaagctatc gaattatttg 2820

atcaccaagg tgcagagcca gccttcttat tcggccttga attgatcata tgcggattag 2880

aaaaacaact taaatgtgaa agtgggtctt aaaagcagca taacctttttt ccgtgatggt 2940

aacttcacta gtttaaaagg atctaggtga agatcctttt tgataatctc atgaccaaaa 3000

tcccttaacg tgagttttcg ttccactgag cgtcagaccc cgtagaaaag atcaaaggat 3060

cttcttgaga tccttttttt ctgcgcgtaa tctgctgctt gcaaacaaaa aaaccaccgc 3120

taccagcggt ggtttgtttg ccggatcaag agctaccaac tctttttccg aaggtaactg 3180

gcttcagcag agcgcagata ccaaatactg tccttctagt gtagccgtag ttaggccacc 3240

acttcaagaa ctctgtagca ccgcctacat acctcgctct gctaatcctg ttaccagtgg 3300

ctgctgccag tggcgataag tcgtgtctta ccgggttgga ctcaagacga tagttaccgg 3360

ataaggcgca gcggtcgggc tgaacggggg gttcgtgcac acagcccagc ttggagcgaa 3420

cgacctacac cgaactgaga tacctacagc gtgagctatg agaaagcgcc acgcttcccg 3480

aagggagaaa ggcggacagg tatccggtaa gcggcagggt cggaacagga gagcgcacga 3540

gggagcttcc agggggaaac gcctggtatc tttatagtcc tgtcgggttt cgccacctct 3600

gacttgagcg tcgatttttg tgatgctcgt caggggggcg gagcctatgg aaaaacgcca 3660

gcaacgcggc ctttttacgg ttcctggcct tttgctggcc ttttgctcac atgacccgac 3720

a 3721

<210> 33
<211> 90
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (upper/coding strand) encoding the C-terminus of Strep-tag II and the N-terminus of IFNa2b after insertion of one PA#1 polymer sequence cassette"

<400> 33
gaaaaaggcg ccagctcttc tgccgctcca gctgcacctg ctccagcagc acctgctgca 60

ccagctccgg ctgctcctgc tgcctgtgat 90

<210> 34
<211> 90
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (lower/non-coding strand) of the C-terminus of Strep-tag II and the N-terminus of IFNa2b after insertion of one PA#1 polymer sequence cassette"

<400> 34
atcacaggca gcaggagcag ccggagctgg tgcagcaggt gctgctggag caggtgcagc 60

tggagcggca gaagagctgg cgccttttc 90

<210> 35
<211> 30
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence stretch of the C-terminus of Strep-tag II and the N-terminus of IFNa2b ater fusion with one PA#1 polymer cassette"

<400> 35

Glu Lys Gly Ala Ser Ser Ser Ala Ala Pro Ala Ala Pro Ala Pro Ala
1 5 10 15

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Cys Asp
20 25 30

<210> 36
<211> 381
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of IFNa2b and Strep-tag II fused with the PA#1(200) polymer as encoded on pPA#1(200)-IFNa2b"

<400> 36

Ala Ser Trp Ser His Pro Gln Phe Glu Lys Gly Ala Ser Ser Ser Ala
1 5 10 15

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala
20 25 30

Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
35 40 45

Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala
50 55 60

```
Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala
65                  70                  75                  80

Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
                85                  90                  95

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala
            100                 105                 110

Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
        115                 120                 125

Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala
    130                 135                 140

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala
145                 150                 155                 160

Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
                165                 170                 175

Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala
            180                 185                 190

Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala
        195                 200                 205

Pro Ala Pro Ala Ala Pro Ala Ala Cys Asp Leu Pro Gln Thr His Ser
    210                 215                 220

Leu Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile
225                 230                 235                 240

Ser Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln
                245                 250                 255

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

His Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser
        275                 280                 285

Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu
    290                 295                 300

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly
305                 310                 315                 320

Val Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg
                325                 330                 335
```

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser
340 345 350

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
355 360 365

Leu Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu
370 375 380

<210> 37
<211> 4321
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pPA#1(200)-IFNa2b"

<400> 37
ccatcgaatg gccagatgat taattcctaa tttttgttga cactctatca ttgatagagt 60

tattttacca ctccctatca gtgatagaga aaagtgaaat gaatagttcg acaaaaatct 120

agataacgag ggcaaaaaat gaaaaagaca gctatcgcga ttgcagtggc actggctggt 180

ttcgctaccg tagcgcaggc cgctagctgg agccacccgc agttcgaaaa aggcgccagc 240

tcttctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 300

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 360

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 420

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 480

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 540

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 600

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 660

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 720

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 780

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 840

cctgctgcct gtgatctgcc tcaaacccac agcctgggta gcaggaggac cttgatgctc 900

ctggcacaga tgaggagaat ctctcttttc tcctgcttga aggacagaca tgactttgga 960

tttccccagg aggagtttgg caaccagttc caaaaggctg aaaccatccc tgtcctccat 1020

gagatgatcc agcagatctt caatctcttc agcacaaagg actcatctgc tgcttgggat 1080

gagaccctcc tagacaaatt ctacactgaa ctctaccagc agctgaatga cctggaagcc 1140

tgtgtgatac agggggtggg ggtgacagag actcccctga tgaaggagga ctccattctg 1200

gctgtgagga aatacttcca aagaatcact ctctatctga aagagaagaa atacagccct 1260

tgtgcctggg aggttgtcag agcagaaatc atgagatctt tttctttgtc aacaaacttg 1320

caagaaagtt taagaagtaa ggaataagct tgacctgtga agtgaaaaat ggcgcacatt 1380

gtgcgacatt ttttttgtct gccgtttacc gctactgcgt cacggatctc cacgcgccct 1440

gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg cagcgtgacc gctacacttg 1500

ccagcgccct agcgcccgct cctttcgctt tcttcccttc ctttctcgcc acgttcgccg 1560

gctttccccg tcaagctcta aatcgggggc tccctttagg gttccgattt agtgctttac 1620

ggcacctcga ccccaaaaaa cttgattagg gtgatggttc acgtagtggg ccatcgccct 1680

gatagacggt ttttcgccct ttgacgttgg agtccacgtt ctttaatagt ggactcttgt 1740

tccaaactgg aacaacactc aaccctatct cggtctattc ttttgattta taagggattt 1800

tgccgatttc ggcctattgg ttaaaaaatg agctgattta acaaaaattt aacgcgaatt 1860

ttaacaaaat attaacgctt acaatttcag gtggcacttt tcggggaaat gtgcgcggaa 1920

cccctatttg tttatttttc taaatacatt caaatatgta tccgctcatg agacaataac 1980

cctgataaat gcttcaataa tattgaaaaa ggaagagtat gagtattcaa catttccgtg 2040

tcgcccttat tccctttttt gcggcatttt gccttcctgt ttttgctcac ccagaaacgc 2100

tggtgaaagt aaaagatgct gaagatcagt tgggtgcacg agtgggttac atcgaactgg 2160

atctcaacag cggtaagatc cttgagagtt ttcgccccga agaacgtttt ccaatgatga 2220

gcacttttaa agttctgcta tgtggcgcgg tattatcccg tattgacgcc gggcaagagc 2280

aactcggtcg ccgcatacac tattctcaga atgacttggt tgagtactca ccagtcacag 2340

aaaagcatct tacggatggc atgacagtaa gagaattatg cagtgctgcc ataaccatga 2400

gtgataacac tgcggccaac ttacttctga caacgatcgg aggaccgaag gagctaaccg 2460

ctttttgca caacatgggg gatcatgtaa ctcgccttga tcgttgggaa ccggagctga 2520

atgaagccat accaaacgac gagcgtgaca ccacgatgcc tgtagcaatg gcaacaacgt 2580

tgcgcaaact attaactggc gaactactta ctctagcttc ccggcaacaa ttgatagact 2640

ggatggaggc ggataaagtt gcaggaccac ttctgcgctc ggcccttccg gctggctggt 2700

ttattgctga taaatctgga gccggtgagc gtggctctcg cggtatcatt gcagcactgg 2760

ggccagatgg taagccctcc cgtatcgtag ttatctacac gacggggagt caggcaacta 2820

tggatgaacg aaatagacag atcgctgaga taggtgcctc actgattaag cattggtagg 2880

aattaatgat gtctcgttta gataaaagta aagtgattaa cagcgcatta gagctgctta 2940

atgaggtcgg aatcgaaggt ttaacaaccc gtaaactcgc ccagaagcta ggtgtagagc 3000

agcctacatt gtattggcat gtaaaaaata agcgggcttt gctcgacgcc ttagccattg 3060

agatgttaga taggcaccat actcactttt gcccttaga aggggaaagc tggcaagatt 3120

ttttacgtaa taacgctaaa agttttagat gtgctttact aagtcatcgc gatggagcaa 3180

aagtacattt aggtacacgg cctacagaaa aacagtatga aactctcgaa aatcaattag 3240

cctttttatg ccaacaaggt ttttcactag agaatgcatt atatgcactc agcgcagtgg 3300

ggcattttac tttaggttgc gtattggaag atcaagagca tcaagtcgct aaagaagaaa 3360

gggaaacacc tactactgat agtatgccgc cattattacg acaagctatc gaattatttg 3420

atcaccaagg tgcagagcca gccttcttat tcggccttga attgatcata tgcggattag 3480

aaaaacaact taaatgtgaa agtgggtctt aaaagcagca taacctttt ccgtgatggt 3540

aacttcacta gtttaaaagg atctaggtga agatcctttt tgataatctc atgaccaaaa 3600

tcccttaacg tgagttttcg ttccactgag cgtcagaccc cgtagaaaag atcaaaggat 3660

cttcttgaga tcctttttt ctgcgcgtaa tctgctgctt gcaaacaaaa aaaccaccgc 3720

taccagcggt ggtttgtttg ccggatcaag agctaccaac tctttttccg aaggtaactg 3780

gcttcagcag agcgcagata ccaaatactg tccttctagt gtagccgtag ttaggccacc 3840

acttcaagaa ctctgtagca ccgcctacat acctcgctct gctaatcctg ttaccagtgg 3900

ctgctgccag tggcgataag tcgtgtctta ccgggttgga ctcaagacga tagttaccgg 3960

ataaggcgca gcggtcgggc tgaacggggg gttcgtgcac acagcccagc ttggagcgaa 4020

cgacctacac cgaactgaga tacctacagc gtgagctatg agaaagcgcc acgcttcccg 4080

aagggagaaa ggcggacagg tatccggtaa gcggcagggt cggaacagga gagcgcacga 4140

gggagcttcc agggggaaac gcctggtatc tttatagtcc tgtcgggttt cgccacctct 4200

gacttgagcg tcgatttttg tgatgctcgt caggggggcg gagcctatgg aaaaacgcca 4260

gcaacgcggc ctttttacgg ttcctggcct tttgctggcc ttttgctcac atgacccgac 4320

a 4321

<210> 38
<211> 54
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (upper/ coding strand) on pASK75-His6-hGH encoding the amino acid sequence around the N-terminus of His6-hGH"

<400> 38
gccgctagcc atcaccacca tcaccatggc gccagctctt ctgccttccc aacc 54

<210> 39
<211> 54
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence stretch (lower/non-coding strand) on pASK75-His6-hGH encoding the amino acid sequence around the N-terminus of hGH"

<400> 39
ggttgggaag gcagaagagc tggcgccatg gtgatggtgg tgatggctag cggc 54

<210> 40
<211> 18

<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence stretch of the N-terminus of His6-hGH as encoded on pASK75-His6-hGH"

<400> 40

Ala Ala Ser His His His His His His Gly Ala Ser Ser Ser Ala Phe
1 5 10 15

Pro Thr

<210> 41
<211> 3793
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pASK75-His6-hGH"

<400> 41
acccgacacc atcgaatggc cagatgatta attcctaatt tttgttgaca ctctatcatt 60

gatagagtta ttttaccact ccctatcagt gatagagaaa agtgaaatga atagttcgac 120

aaaaatctag ataacgaggg caaaaaatga aaaagacagc tatcgcgatt gcagtggcac 180

tggctggttt cgctaccgta gcgcaggccg ctagccatca ccaccatcac catggcgcca 240

gctcttctgc cttcccaacc attcccttat ccaggctttt tgacaacgct atgctccgcg 300

cccatcgtct gcaccagctg gcctttgaca cctaccagga gtttgaagaa gcctatatcc 360

caaaggaaca gaagtattca ttcctgcaga acccccagac ctccctctgt ttctcagagt 420

ctattccgac accctccaac agggaggaaa cacaacagaa atccaaccta gagctgctcc 480

gcatctccct gctgctcatc cagtcgtggc tggagcccgt gcagttcctc aggagtgtct 540

tcgccaacag cctggtgtac ggcgcctctg acagcaacgt ctatgacctc ctaaaggacc 600

tagaggaagg catccaaacg ctgatgggga ggctggaaga tggcagcccc cggactgggc 660

agatcttcaa gcagacctac agcaagttcg acacaaactc acacaacgat gacgcactac 720

tcaagaacta cgggctgctc tactgcttca ggaaggacat ggacaaggtc gagacattcc 780

tgcgcatcgt gcagtgccgc tctgtggagg gcagctgtgg cttctaagct tgacctgtga 840

agtgaaaaat ggcgcacatt gtgcgacatt ttttttgtct gccgtttacc gctactgcgt 900

cacggatctc cacgcgccct gtagcggcgc attaagcgcg gcgggtgtgg tggttacgcg 960

cagcgtgacc gctacacttg ccagcgccct agcgcccgct cctttcgctt tcttcccttc 1020

ctttctcgcc acgttcgccg gctttccccg tcaagctcta aatcgggggc tccctttagg 1080

gttccgattt agtgctttac ggcacctcga ccccaaaaaa cttgattagg gtgatggttc 1140

acgtagtggg ccatcgccct gatagacggt ttttcgccct ttgacgttgg agtccacgtt 1200

ctttaatagt ggactcttgt tccaaactgg aacaacactc aaccctatct cggtctattc 1260

ttttgattta taagggattt tgccgatttc ggcctattgg ttaaaaaatg agctgattta 1320

acaaaaattt aacgcgaatt ttaacaaaat attaacgttt acaatttcag gtggcacttt 1380

tcggggaaat gtgcgcggaa cccctatttg tttatttttc taaatacatt caaatatgta 1440

tccgctcatg agacaataac cctgataaat gcttcaataa tattgaaaaa ggaagagtat 1500

gagtattcaa catttccgtg tcgcccttat tccctttttt gcggcatttt gccttcctgt 1560

ttttgctcac ccagaaacgc tggtgaaagt aaaagatgct gaagatcagt tgggtgcacg 1620

agtgggttac atcgaactgg atctcaacag cggtaagatc cttgagagtt ttcgccccga 1680

agaacgtttt ccaatgatga gcacttttaa agttctgcta tgtggcgcgg tattatcccg 1740

tattgacgcc gggcaagagc aactcggtcg ccgcatacac tattctcaga atgacttggt 1800

tgagtactca ccagtcacag aaaagcatct tacggatggc atgacagtaa gagaattatg 1860

cagtgctgcc ataaccatga gtgataacac tgcggccaac ttacttctga caacgatcgg 1920

aggaccgaag gagctaaccg ctttttttgca caacatgggg gatcatgtaa ctcgccttga 1980

tcgttgggaa ccggagctga atgaagccat accaaacgac gagcgtgaca ccacgatgcc 2040

tgtagcaatg gcaacaacgt tgcgcaaact attaactggc gaactactta ctctagcttc 2100

ccggcaacaa ttgatagact ggatggaggc ggataaagtt gcaggaccac ttctgcgctc 2160

ggcccttccg gctggctggt ttattgctga taaatctgga gccggtgagc gtggctctcg 2220

cggtatcatt gcagcactgg ggccagatgg taagccctcc cgtatcgtag ttatctacac 2280

gacggggagt caggcaacta tggatgaacg aaatagacag atcgctgaga taggtgcctc 2340

actgattaag cattggtagg aattaatgat gtctcgttta gataaaagta aagtgattaa 2400

cagcgcatta gagctgctta atgaggtcgg aatcgaaggt ttaacaaccc gtaaactcgc 2460

ccagaagcta ggtgtagagc agcctacatt gtattggcat gtaaaaaata agcgggcttt 2520

gctcgacgcc ttagccattg agatgttaga taggcaccat actcactttt gcccctttaga 2580

aggggaaagc tggcaagatt ttttacgtaa taacgctaaa agttttagat gtgctttact 2640

aagtcatcgc gatggagcaa aagtacattt aggtacacgg cctacagaaa aacagtatga 2700

aactctcgaa aatcaattag ccttttttatg ccaacaaggt ttttcactag agaatgcatt 2760

atatgcactc agcgcagtgg ggcattttac tttaggttgc gtattggaag atcaagagca 2820

tcaagtcgct aaagaagaaa gggaaacacc tactactgat agtatgccgc cattattacg 2880

acaagctatc gaattatttg atcaccaagg tgcagagcca gccttcttat tcggccttga 2940

attgatcata tgcggattag aaaaacaact taaatgtgaa agtgggtctt aaaagcagca 3000

taacctttttt ccgtgatggt aacttcacta gtttaaaagg atctaggtga agatcctttt 3060

tgataatctc atgaccaaaa tcccttaacg tgagttttcg ttccactgag cgtcagaccc 3120

cgtagaaaag atcaaaggat cttcttgaga tccttttttt ctgcgcgtaa tctgctgctt 3180

gcaaacaaaa aaaccaccgc taccagcggt ggtttgtttg ccggatcaag agctaccaac 3240

tctttttccg aaggtaactg gcttcagcag agcgcagata ccaaatactg tccttctagt 3300

gtagccgtag ttaggccacc acttcaagaa ctctgtagca ccgcctacat acctcgctct 3360

gctaatcctg ttaccagtgg ctgctgccag tggcgataag tcgtgtctta ccgggttgga 3420

ctcaagacga tagttaccgg ataaggcgca gcggtcgggc tgaacggggg gttcgtgcac 3480

acagcccagc ttggagcgaa cgacctacac cgaactgaga tacctacagc gtgagctatg 3540

agaaagcgcc acgcttcccg aagggagaaa ggcggacagg tatccggtaa gcggcagggt 3600

cggaacagga gagcgcacga gggagcttcc agggggaaac gcctggtatc tttatagtcc 3660

tgtcgggttt cgccacctct gacttgagcg tcgatttttg tgatgctcgt caggggggcg 3720

gagcctatgg aaaaacgcca gcaacgcggc ctttttacgg ttcctggcct tttgctggcc 3780

ttttgctcac atg 3793

<210> 42
<211> 114
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence (upper/coding-strand) stretch encoding amino acid sequence of the N-terminus of His6-hGH after insertion of the PA#1(20) polymer"

<400> 42
gccgctagcc atcaccacca tcaccatggc gccagctctt ctgccgctcc agctgcacct 60

gctccagcag cacctgctgc accagctccg gctgctcctg ctgccttccc aacc 114

<210> 43
<211> 114
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence (lower/non-coding strand) encoding the N-terminus of hGH after insertion of one PA#1 polymer sequence cassette"

<400> 43
ggttgggaag gcagcaggag cagccggagc tggtgcagca ggtgctgctg gagcaggtgc 60

agctggagcg gcagaagagc tggcgccatg gtgatggtgg tgatggctag cggc 114

<210> 44
<211> 38
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the N-terminus of His6-hGH after insertion of the PA#1(20) polymer"

<400> 44

Ala Ala Ser His His His His His His Gly Ala Ser Ser Ser Ala Ala
1 5 10 15

Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala
20 25 30

Pro Ala Ala Phe Pro Thr
35

<210> 45
<211> 405
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of mature His6-PA#1(200)-hGH as encoded on pASK75-His6-PA#1(200)-hGH"

<400> 45

Ala Ser His His His His His His Gly Ala Ser Ser Ser Ala Ala Pro
1 5 10 15

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
20 25 30

Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala
35 40 45

Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
50 55 60

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala
65 70 75 80

Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro
85 90 95

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
100 105 110

Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala
115 120 125

Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
130 135 140

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala
145 150 155 160

Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro

165 170 175

Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro
180 185 190

Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala
195 200 205

Pro Ala Ala Pro Ala Ala Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe
210 215 220

Asp Asn Ala Met Leu Arg Ala His Arg Leu His Gln Leu Ala Phe Asp
225 230 235 240

Thr Tyr Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln Lys Tyr
245 250 255

Ser Phe Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile
260 265 270

Pro Thr Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu
275 280 285

Leu Leu Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val
290 295 300

Gln Phe Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser
305 310 315 320

Asp Ser Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln
325 330 335

Thr Leu Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile
340 345 350

Phe Lys Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp
355 360 365

Ala Leu Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met
370 375 380

Asp Lys Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu
385 390 395 400

Gly Ser Cys Gly Phe
405

<210> 46
<211> 4393
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pASK75-His6-PA#1(200)-hGH"

<400> 46

gacccgacac catcgaatgg ccagatgatt aattcctaat ttttgttgac actctatcat 60

tgatagagtt attttaccac tccctatcag tgatagagaa aagtgaaatg aatagttcga 120

caaaaatcta gataacgagg gcaaaaaatg aaaaagacag ctatcgcgat tgcagtggca 180

ctggctggtt tcgctaccgt agcgcaggcc gctagccatc accaccatca ccatggcgcc 240

agctcttctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 300

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 360

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 420

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 480

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 540

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 600

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 660

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 720

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 780

gctcctgctg ccgctccagc tgcacctgct ccagcagcac ctgctgcacc agctccggct 840

gctcctgctg ccttcccaac cattccctta tccaggcttt ttgacaacgc tatgctccgc 900

gcccatcgtc tgcaccagct ggcctttgac acctaccagg agtttgaaga agcctatatc 960

ccaaaggaac agaagtattc attcctgcag aacccccaga cctccctctg tttctcagag 1020

tctattccga caccctccaa cagggaggaa acacaacaga aatccaacct agagctgctc 1080

cgcatctccc tgctgctcat ccagtcgtgg ctggagcccg tgcagttcct caggagtgtc 1140

ttcgccaaca gcctggtgta cggcgcctct gacagcaacg tctatgacct cctaaaggac 1200

ctagaggaag gcatccaaac gctgatgggg aggctggaag atggcagccc ccggactggg 1260

cagatcttca agcagaccta cagcaagttc gacacaaact cacacaacga tgacgcacta 1320

ctcaagaact acgggctgct ctactgcttc aggaaggaca tggacaaggt cgagacattc 1380

ctgcgcatcg tgcagtgccg ctctgtggag ggcagctgtg gcttctaagc ttgacctgtg 1440

aagtgaaaaa tggcgcacat tgtgcgacat ttttttgtc tgccgtttac cgctactgcg 1500

tcacggatct ccacgcgccc tgtagcggcg cattaagcgc ggcgggtgtg gtggttacgc 1560

gcagcgtgac cgctacactt gccagcgccc tagcgcccgc tcctttcgct ttcttccctt 1620

cctttctcgc cacgttcgcc ggctttcccc gtcaagctct aaatcggggg ctccctttag 1680

ggttccgatt tagtgcttta cggcacctcg accccaaaaa acttgattag ggtgatggtt 1740

cacgtagtgg gccatcgccc tgatagacgg tttttcgccc tttgacgttg gagtccacgt 1800

tctttaatag tggactcttg ttccaaactg gaacaacact caaccctatc tcggtctatt 1860

```
cttttgattt ataagggatt ttgccgattt cggcctattg gttaaaaaat gagctgattt   1920
aacaaaaatt taacgcgaat tttaacaaaa tattaacgtt tacaatttca ggtggcactt   1980
ttcggggaaa tgtgcgcgga acccctattt gtttattttt ctaaatacat tcaaatatgt   2040
atccgctcat gagacaataa ccctgataaa tgcttcaata atattgaaaa aggaagagta   2100
tgagtattca acatttccgt gtcgccctta ttccctttt tgcggcattt tgccttcctg   2160
tttttgctca cccagaaacg ctggtgaaag taaaagatgc tgaagatcag ttgggtgcac   2220
gagtgggtta catcgaactg gatctcaaca gcggtaagat ccttgagagt tttcgccccg   2280
aagaacgttt tccaatgatg agcactttta aagttctgct atgtggcgcg gtattatccc   2340
gtattgacgc cgggcaagag caactcggtc gccgcataca ctattctcag aatgacttgg   2400
ttgagtactc accagtcaca gaaaagcatc ttacggatgg catgacagta agagaattat   2460
gcagtgctgc cataaccatg agtgataaca ctgcggccaa cttacttctg acaacgatcg   2520
gaggaccgaa ggagctaacc gcttttttgc acaacatggg ggatcatgta actcgccttg   2580
atcgttggga accggagctg aatgaagcca taccaaacga cgagcgtgac accacgatgc   2640
ctgtagcaat ggcaacaacg ttgcgcaaac tattaactgg cgaactactt actctagctt   2700
cccggcaaca attgatagac tggatggagg cggataaagt tgcaggacca cttctgcgct   2760
cggcccttcc ggctggctgg tttattgctg ataaatctgg agccggtgag cgtggctctc   2820
gcggtatcat tgcagcactg gggccagatg gtaagccctc ccgtatcgta gttatctaca   2880
cgacggggag tcaggcaact atggatgaac gaaatagaca gatcgctgag ataggtgcct   2940
cactgattaa gcattggtag gaattaatga tgtctcgttt agataaaagt aaagtgatta   3000
acagcgcatt agagctgctt aatgaggtcg gaatcgaagg tttaacaacc cgtaaactcg   3060
cccagaagct aggtgtagag cagcctacat tgtattggca tgtaaaaaat aagcgggctt   3120
tgctcgacgc cttagccatt gagatgttag ataggcacca tactcacttt tgccctttag   3180
aaggggaaag ctggcaagat tttttacgta ataacgctaa aagttttaga tgtgctttac   3240
taagtcatcg cgatggagca aaagtacatt taggtacacg gcctacagaa aaacagtatg   3300
aaactctcga aaatcaatta gccttttttat gccaacaagg tttttcacta gagaatgcat   3360
tatatgcact cagcgcagtg gggcatttta ctttaggttg cgtattggaa gatcaagagc   3420
atcaagtcgc taaagaagaa agggaaacac ctactactga tagtatgccg ccattattac   3480
gacaagctat cgaattattt gatcaccaag gtgcagagcc agccttctta ttcggccttg   3540
aattgatcat atgcggatta gaaaaacaac ttaaatgtga aagtgggtct taaaagcagc   3600
ataacctttt tccgtgatgg taacttcact agtttaaaag gatctaggtg aagatccttt   3660
ttgataatct catgaccaaa atcccttaac gtgagttttc gttccactga gcgtcagacc   3720
ccgtagaaaa gatcaaagga tcttcttgag atccttttttt tctgcgcgta atctgctgct   3780
tgcaaacaaa aaaaccaccg ctaccagcgg tggtttgttt gccggatcaa gagctaccaa   3840
ctctttttcc gaaggtaact ggcttcagca gagcgcagat accaaatact gtccttctag   3900
```

tgtagccgta gttaggccac cacttcaaga actctgtagc accgcctaca tacctcgctc 3960

tgctaatcct gttaccagtg gctgctgcca gtggcgataa gtcgtgtctt accgggttgg 4020

actcaagacg atagttaccg gataaggcgc agcggtcggg ctgaacgggg ggttcgtgca 4080

cacagcccag cttggagcga acgacctaca ccgaactgag atacctacag cgtgagctat 4140

gagaaagcgc cacgcttccc gaagggagaa aggcggacag gtatccggta agcggcaggg 4200

tcggaacagg agagcgcacg agggagcttc caggggggaaa cgcctggtat ctttatagtc 4260

ctgtcgggtt tcgccacctc tgacttgagc gtcgattttt gtgatgctcg tcaggggggc 4320

ggagcctatg gaaaaacgcc agcaacgcgg cctttttacg gttcctggcc ttttgctggc 4380

cttttgctca cat 4393

<210> 47
<211> 404
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of His6-PA#1(200)-hGH as encoded on pCHO-PA#1(200)-hGH"

<400> 47

Ser His His His His His His Gly Ala Ser Ser Ser Ala Ala Pro Ala
1 5 10 15

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
20 25 30

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
35 40 45

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
50 55 60

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro
65 70 75 80

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
85 90 95

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
100 105 110

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
115 120 125

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
130 135 140

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro

145 150 155 160

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
165 170 175

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
180 185 190

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
195 200 205

Ala Ala Pro Ala Ala Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp
210 215 220

Asn Ala Met Leu Arg Ala His Arg Leu His Gln Leu Ala Phe Asp Thr
225 230 235 240

Tyr Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln Lys Tyr Ser
245 250 255

Phe Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro
260 265 270

Thr Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu Leu
275 280 285

Leu Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln
290 295 300

Phe Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp
305 310 315 320

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

Leu Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe
340 345 350

Lys Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala
355 360 365

Leu Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp
370 375 380

Lys Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly
385 390 395 400

Ser Cys Gly Phe

<210> 48

<211> 6653
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pCHO-PA#1(200)-hGH"

<400> 48
ctattctata gtgtcaccta aatgctagag ctcgctgatc agcctcgact gtgccttcta 60

gttgccagcc atctgttgtt tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca 120

ctcccactgt cctttcctaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc 180

attctattct ggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata 240

gcaggcatgc tggggatgcg gtgggctcta tggcttctga ggcggaaaga accagctggg 300

gctctagggg gtatccccac gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg 360

ttacgcgcag cgtgaccgct acacttgcca gcgccctagc gcccgctcct ttcgctttct 420

tcccttcctt tctcgccacg ttcgccggct ttccccgtca agctctaaat cggggcatcc 480

ctttagggtt ccgatttagt gctttacggc acctcgaccc caaaaaactt gattagggtg 540

atggttcacg tagtgggcca tcgccctgat agacggtttt tcgccctttg acgttggagt 600

ccacgttctt taatagtgga ctcttgttcc aaactggaac aacactcaac cctatctcgg 660

tctattcttt tgatttataa gggattttgg ggatttcggc ctattggtta aaaaatgagc 720

tgatttaaca aaaatttaac gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg 780

aaagtcccca ggctccccag gcaggcagaa gtatgcaaag catgcatctc aattagtcag 840

caaccaggtg tggaaagtcc ccaggctccc cagcaggcag aagtatgcaa agcatgcatc 900

tcaattagtc agcaaccata gtcccgcccc taactccgcc catcccgccc ctaactccgc 960

ccagttccgc ccattctccg ccccatggct gactaatttt ttttatttat gcagaggccg 1020

aggccgcctc tgcctctgag ctattccaga agtagtgagg aggcttttt ggaggcctag 1080

gcttttgcaa aaagctcccg ggagcttgta tatccatttt cggatctgat caagagacag 1140

gatgaggatc gtttcgcatg attgaacaag atggattgca cgcaggttct ccggccgctt 1200

gggtggagag gctattcggc tatgactggg cacaacagac aatcggctgc tctgatgccg 1260

ccgtgttccg gctgtcagcg caggggcgcc cggttctttt tgtcaagacc gacctgtccg 1320

gtgccctgaa tgaactgcag gacgaggcag cgcggctatc gtggctggcc acgacgggcg 1380

ttccttgcgc agctgtgctc gacgttgtca ctgaagcggg aagggactgg ctgctattgg 1440

gcgaagtgcc ggggcaggat ctcctgtcat ctcaccttgc tcctgccgag aaagtatcca 1500

tcatggctga tgcaatgcgg cggctgcata cgcttgatcc ggctacctgc ccattcgacc 1560

accaagcgaa acatcgcatc gagcgagcac gtactcggat ggaagccggt cttgtcgatc 1620

aggatgatct ggacgaagag catcaggggc tcgcgccagc cgaactgttc gccaggctca 1680

aggcgcgcat gcccgacggc gaggatctcg tcgtgaccca tggcgatgcc tgcttgccga 1740

atatcatggt ggaaaatggc cgcttttctg gattcatcga ctgtggccgg ctgggtgtgg 1800

cggaccgcta tcaggacata gcgttggcta cccgtgatat tgctgaagag cttggcggcg 1860

aatgggctga ccgcttcctc gtgctttacg gtatcgccgc tcccgattcg cagcgcatcg 1920

ccttctatcg ccttcttgac gagttcttct gagcgggact ctggggttcg aaatgaccga 1980

ccaagcgacg cccaacctgc catcacgaga tttcgattcc accgccgcct tctatgaaag 2040

gttgggcttc ggaatcgttt tccgggacgc cggctggatg atcctccagc gcggggatct 2100

catgctggag ttcttcgccc accccaactt gtttattgca gcttataatg gttacaaata 2160

aagcaatagc atcacaaatt tcacaaataa agcatttttt tcactgcatt ctagttgtgg 2220

tttgtccaaa ctcatcaatg tatcttatca tgtctgtata ccgtcgacct ctagctagag 2280

cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc tcacaattcc 2340

acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat gagtgagcta 2400

actcacatta attgcgttgc gctcactgcc cgctttccag tcgggaaacc tgtcgtgcca 2460

gctgcattaa tgaatcggcc aacgcgcggg gagaggcggt ttgcgtattg ggcgctcttc 2520

cgcttcctcg ctcactgact cgctgcgctc ggtcgttcgg ctgcggcgag cggtatcagc 2580

tcactcaaag gcggtaatac ggttatccac agaatcaggg gataacgcag gaaagaacat 2640

gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcgttgc tggcgttttt 2700

ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc agaggtggcg 2760

aaacccgaca ggactataaa gataccaggc gtttcccccct ggaagctccc tcgtgcgctc 2820

tcctgttccg accctgccgc ttaccggata cctgtccgcc tttctccctt cgggaagcgt 2880

ggcgctttct caatgctcac gctgtaggta tctcagttcg gtgtaggtcg ttcgctccaa 2940

gctgggctgt gtgcacgaac cccccgttca gcccgaccgc tgcgccttat ccggtaacta 3000

tcgtcttgag tccaacccgg taagacacga cttatcgcca ctggcagcag ccactggtaa 3060

caggattagc agagcgaggt atgtaggcgg tgctacagag ttcttgaagt ggtggcctaa 3120

ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc cagttacctt 3180

cggaaaaaga gttggtagct cttgatccgg caaacaaacc accgctggta gcggtggttt 3240

ttttgtttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag atcctttgat 3300

cttttctacg gggtctgacg ctcagtggaa cgaaaactca cgttaaggga ttttggtcat 3360

gagattatca aaaaggatct tcacctagat ccttttaaat taaaaatgaa gttttaaatc 3420

aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagtgaggc 3480

acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta 3540

gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga 3600

cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg 3660

cagaagtggt cctgcaactt tatccgcctc catccagtct attaattgtt gccgggaagc 3720

tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg ctacaggcat 3780

cgtggtgtca cgctcgtcgt ttggtatggc ttcattcagc tccggttccc aacgatcaag 3840

gcgagttaca tgatccccca tgttgtgcaa aaaagcggtt agctccttcg gtcctccgat 3900

cgttgtcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag cactgcataa 3960

ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt actcaaccaa 4020

gtcattctga gaatagtgta tgcggcgacc gagttgctct tgcccggcgt caatacggga 4080

taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac gttcttcggg 4140

gcgaaaactc tcaaggatct taccgctgtt gagatccagt tcgatgtaac ccactcgtgc 4200

acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag caaaaacagg 4260

aaggcaaaat gccgcaaaaa agggaataag ggcgacacgg aaatgttgaa tactcatact 4320

cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat 4380

atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt 4440

gccacctgac gtcgacggat cgggagatct cccgatcccc tatggtcgac tctcagtaca 4500

atctgctctg atgccgcata gttaagccag tatctgctcc ctgcttgtgt gttggaggtc 4560

gctgagtagt gcgcgagcaa aatttaagct acaacaaggc aaggcttgac cgacaattgc 4620

atgaagaatc tgcttagggt taggcgtttt gcgctgcttc gcgatgtacg ggccagatat 4680

acgcgttgac attgattatt gactagttat taatagtaat caattacggg gtcattagtt 4740

catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc gcctggctga 4800

ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat agtaacgcca 4860

atagggactt tccattgacg tcaatgggtg gactatttac ggtaaactgc ccacttggca 4920

gtacatcaag tgtatcatat gccaagtacg ccccctattg acgtcaatga cggtaaatgg 4980

cccgcctggc attatgccca gtacatgacc ttatgggact ttcctacttg gcagtacatc 5040

tacgtattag tcatcgctat taccatggtg atgcggtttt ggcagtacat caatgggcgt 5100

ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt caatgggagt 5160

ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaacaactc cgccccattg 5220

acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc tctctggcta 5280

actagagaac ccactgctta ctggcttatc gaaattaata cgactcacta tagggagacc 5340

caagctgcca ccatggctac aggctcccgg acgtccctgc tcctggcttt tggcctgctc 5400

tgcctgccct ggcttcaaga gggcagcgct agccatcacc accatcacca tggcgccagc 5460

tcttctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5520

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5580

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5640

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5700

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5760

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5820

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5880

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 5940

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 6000

cctgctgccg ctccagctgc acctgctcca gcagcacctg ctgcaccagc tccggctgct 6060

cctgctgcct tcccaaccat tcccttatcc aggctttttg acaacgctat gctccgcgcc 6120

catcgtctgc accagctggc ctttgacacc taccaggagt ttgaagaagc ctatatccca 6180

aaggaacaga agtattcatt cctgcagaac ccccagacct ccctctgttt ctcagagtct 6240

attccgacac cctccaacag ggaggaaaca caacagaaat ccaacctaga gctgctccgc 6300

atctccctgc tgctcatcca gtcgtggctg gagcccgtgc agttcctcag gagtgtcttc 6360

gccaacagcc tggtgtacgg cgcctctgac agcaacgtct atgacctcct aaaggaccta 6420

gaggaaggca tccaaacgct gatggggagg ctggaagatg gcagcccccg gactgggcag 6480

atcttcaagc agacctacag caagttcgac acaaactcac acaacgatga cgcactactc 6540

aagaactacg ggctgctcta ctgcttcagg aaggacatgg acaaggtcga gacattcctg 6600

cgcatcgtgc agtgccgctc tgtggagggc agctgtggct tctaagcttg gcc 6653

<210> 49
<211> 6041
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pCHO-hGH"

<400> 49
ctattctata gtgtcaccta aatgctagag ctcgctgatc agcctcgact gtgccttcta 60

gttgccagcc atctgttgtt tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca 120

ctcccactgt cctttcctaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc 180

attctattct gggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata 240

gcaggcatgc tggggatgcg gtgggctcta tggcttctga ggcggaaaga accagctggg 300

gctctagggg gtatccccac gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg 360

ttacgcgcag cgtgaccgct acacttgcca gcgccctagc gcccgctcct ttcgctttct 420

tcccttcctt tctcgccacg ttcgccggct ttccccgtca agctctaaat cggggcatcc 480

ctttagggtt ccgatttagt gctttacggc acctcgaccc caaaaaactt gattagggtg 540

atggttcacg tagtgggcca tcgccctgat agacggtttt tcgccctttg acgttggagt 600

ccacgttctt taatagtgga ctcttgttcc aaactggaac aacactcaac cctatctcgg 660

tctattcttt tgatttataa gggattttgg ggatttcggc ctattggtta aaaaatgagc 720

tgatttaaca aaaatttaac gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg 780

aaagtcccca ggctccccag gcaggcagaa gtatgcaaag catgcatctc aattagtcag 840

caaccaggtg tggaaagtcc ccaggctccc cagcaggcag aagtatgcaa agcatgcatc 900

tcaattagtc agcaaccata gtcccgcccc taactccgcc catcccgccc ctaactccgc 960

ccagttccgc ccattctccg ccccatggct gactaatttt ttttatttat gcagaggccg 1020

aggccgcctc tgcctctgag ctattccaga agtagtgagg aggcttttt ggaggcctag 1080

gcttttgcaa aaagctcccg ggagcttgta tatccatttt cggatctgat caagagacag 1140

gatgaggatc gtttcgcatg attgaacaag atggattgca cgcaggttct ccggccgctt 1200

gggtggagag gctattcggc tatgactggg cacaacagac aatcggctgc tctgatgccg 1260

ccgtgttccg gctgtcagcg caggggcgcc cggttctttt tgtcaagacc gacctgtccg 1320

gtgccctgaa tgaactgcag gacgaggcag cgcggctatc gtggctggcc acgacgggcg 1380

ttccttgcgc agctgtgctc gacgttgtca ctgaagcggg aagggactgg ctgctattgg 1440

gcgaagtgcc ggggcaggat ctcctgtcat ctcaccttgc tcctgccgag aaagtatcca 1500

tcatggctga tgcaatgcgg cggctgcata cgcttgatcc ggctacctgc ccattcgacc 1560

accaagcgaa acatcgcatc gagcgagcac gtactcggat ggaagccggt cttgtcgatc 1620

aggatgatct ggacgaagag catcaggggc tcgcgccagc cgaactgttc gccaggctca 1680

aggcgcgcat gcccgacggc gaggatctcg tcgtgaccca tggcgatgcc tgcttgccga 1740

atatcatggt ggaaaatggc cgcttttctg gattcatcga ctgtggccgg ctgggtgtgg 1800

cggaccgcta tcaggacata gcgttggcta cccgtgatat tgctgaagag cttggcggcg 1860

aatgggctga ccgcttcctc gtgctttacg gtatcgccgc tcccgattcg cagcgcatcg 1920

ccttctatcg ccttcttgac gagttcttct gagcgggact ctggggttcg aaatgaccga 1980

ccaagcgacg cccaacctgc catcacgaga tttcgattcc accgccgcct tctatgaaag 2040

gttgggcttc ggaatcgttt tccgggacgc cggctggatg atcctccagc gcggggatct 2100

catgctggag ttcttcgccc accccaactt gtttattgca gcttataatg gttacaaata 2160

aagcaatagc atcacaaatt tcacaaataa agcatttttt tcactgcatt ctagttgtgg 2220

tttgtccaaa ctcatcaatg tatcttatca tgtctgtata ccgtcgacct ctagctagag 2280

cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc tcacaattcc 2340

acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat gagtgagcta 2400

actcacatta attgcgttgc gctcactgcc cgctttccag tcgggaaacc tgtcgtgcca 2460

gctgcattaa tgaatcggcc aacgcgcggg gagaggcggt ttgcgtattg ggcgctcttc 2520

cgcttcctcg ctcactgact cgctgcgctc ggtcgttcgg ctgcggcgag cggtatcagc 2580

tcactcaaag gcggtaatac ggttatccac agaatcaggg gataacgcag gaaagaacat 2640

gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcgttgc tggcgttttt 2700

ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc agaggtggcg 2760

aaacccgaca ggactataaa gataccaggc gtttcccccct ggaagctccc tcgtgcgctc 2820

tcctgttccg accctgccgc ttaccggata cctgtccgcc tttctccctt cgggaagcgt 2880

ggcgctttct caatgctcac gctgtaggta tctcagttcg gtgtaggtcg ttcgctccaa 2940

gctgggctgt gtgcacgaac cccccgttca gcccgaccgc tgcgccttat ccggtaacta 3000

tcgtcttgag tccaacccgg taagacacga cttatcgcca ctggcagcag ccactggtaa 3060

caggattagc agagcgaggt atgtaggcgg tgctacagag ttcttgaagt ggtggcctaa 3120

ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc cagttacctt 3180

cggaaaaaga gttggtagct cttgatccgg caaacaaacc accgctggta gcggtggttt 3240

ttttgtttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag atcctttgat 3300

cttttctacg gggtctgacg ctcagtggaa cgaaaactca cgttaaggga ttttggtcat 3360

gagattatca aaaaggatct tcacctagat ccttttaaat taaaaatgaa gttttaaatc 3420

aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagtgaggc 3480

acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta 3540

gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga 3600

cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg 3660

cagaagtggt cctgcaactt tatccgcctc catccagtct attaattgtt gccgggaagc 3720

tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg ctacaggcat 3780

cgtggtgtca cgctcgtcgt ttggtatggc ttcattcagc tccggttccc aacgatcaag 3840

gcgagttaca tgatccccca tgttgtgcaa aaaagcggtt agctccttcg gtcctccgat 3900

cgttgtcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag cactgcataa 3960

ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt actcaaccaa 4020

gtcattctga gaatagtgta tgcggcgacc gagttgctct tgcccggcgt caatacggga 4080

taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac gttcttcggg 4140

gcgaaaactc tcaaggatct taccgctgtt gagatccagt tcgatgtaac ccactcgtgc 4200

acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag caaaaacagg 4260

aaggcaaaat gccgcaaaaa agggaataag ggcgacacgg aaatgttgaa tactcatact 4320

cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat 4380

atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt 4440

gccacctgac gtcgacggat cgggagatct cccgatcccc tatggtcgac tctcagtaca 4500

atctgctctg atgccgcata gttaagccag tatctgctcc ctgcttgtgt gttggaggtc 4560

gctgagtagt gcgcgagcaa aatttaagct acaacaaggc aaggcttgac cgacaattgc 4620

atgaagaatc tgcttagggt taggcgtttt gcgctgcttc gcgatgtacg ggccagatat 4680

acgcgttgac attgattatt gactagttat taatagtaat caattacggg gtcattagtt 4740

catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc gcctggctga 4800

ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat agtaacgcca 4860

atagggactt tccattgacg tcaatgggtg gactatttac ggtaaactgc ccacttggca 4920

gtacatcaag tgtatcatat gccaagtacg ccccctattg acgtcaatga cggtaaatgg 4980

cccgcctggc attatgccca gtacatgacc ttatgggact ttcctacttg gcagtacatc 5040

tacgtattag tcatcgctat taccatggtg atgcggtttt ggcagtacat caatgggcgt 5100

ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt caatgggagt 5160

ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaacaactc cgccccattg 5220

acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc tctctggcta 5280

actagagaac ccactgctta ctggcttatc gaaattaata cgactcacta tagggagacc 5340

caagctgcca ccatggctac aggctcccgg acgtccctgc tcctggcttt tggcctgctc 5400

tgcctgccct ggcttcaaga gggcagcgct agccatcacc accatcacca tggcgccttc 5460

ccaaccattc ccttatccag gctttttgac aacgctatgc tccgcgccca tcgtctgcac 5520

cagctggcct ttgacaccta ccaggagttt gaagaagcct atatcccaaa ggaacagaag 5580

tattcattcc tgcagaaccc ccagacctcc ctctgtttct cagagtctat tccgacaccc 5640

tccaacaggg aggaaacaca acagaaatcc aacctagagc tgctccgcat ctccctgctg 5700

ctcatccagt cgtggctgga gcccgtgcag ttcctcagga gtgtcttcgc caacagcctg 5760

gtgtacggcg cctctgacag caacgtctat gacctcctaa aggacctaga ggaaggcatc 5820

caaacgctga tggggaggct ggaagatggc agcccccgga ctgggcagat cttcaagcag 5880

acctacagca agttcgacac aaactcacac aacgatgacg cactactcaa gaactacggg 5940

ctgctctact gcttcaggaa ggacatggac aaggtcgaga cattcctgcg catcgtgcag 6000

tgccgctctg tggagggcag ctgtggcttc taagcttggc c 6041

<210> 50
<211> 5449
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pCHO"

<400> 50
ctattctata gtgtcaccta aatgctagag ctcgctgatc agcctcgact gtgccttcta 60

gttgccagcc atctgttgtt tgcccctccc ccgtgccttc cttgaccctg gaaggtgcca 120

ctcccactgt cctttcctaa taaaatgagg aaattgcatc gcattgtctg agtaggtgtc 180

attctattct gggggggtggg gtggggcagg acagcaaggg ggaggattgg gaagacaata 240

gcaggcatgc tggggatgcg gtgggctcta tggcttctga ggcggaaaga accagctggg 300

gctctagggg gtatccccac gcgccctgta gcggcgcatt aagcgcggcg ggtgtggtgg 360

ttacgcgcag cgtgaccgct acacttgcca gcgccctagc gcccgctcct ttcgctttct 420

tcccttcctt tctcgccacg ttcgccggct ttccccgtca agctctaaat cggggcatcc 480

ctttagggtt ccgatttagt gctttacggc acctcgaccc caaaaaactt gattagggtg 540

atggttcacg tagtgggcca tcgccctgat agacggtttt tcgccctttg acgttggagt 600
ccacgttctt taatagtgga ctcttgttcc aaactggaac aacactcaac cctatctcgg 660
tctattcttt tgatttataa gggattttgg ggatttcggc ctattggtta aaaaatgagc 720
tgatttaaca aaaatttaac gcgaattaat tctgtggaat gtgtgtcagt tagggtgtgg 780
aaagtcccca ggctccccag gcaggcagaa gtatgcaaag catgcatctc aattagtcag 840
caaccaggtg tggaaagtcc ccaggctccc cagcaggcag aagtatgcaa agcatgcatc 900
tcaattagtc agcaaccata gtcccgcccc taactccgcc catcccgccc ctaactccgc 960
ccagttccgc ccattctccg ccccatggct gactaatttt ttttatttat gcagaggccg 1020
aggccgcctc tgcctctgag ctattccaga agtagtgagg aggcttttt ggaggcctag 1080
gcttttgcaa aaagctcccg ggagcttgta tatccatttt cggatctgat caagagacag 1140
gatgaggatc gtttcgcatg attgaacaag atggattgca cgcaggttct ccggccgctt 1200
gggtggagag gctattcggc tatgactggg cacaacagac aatcggctgc tctgatgccg 1260
ccgtgttccg gctgtcagcg caggggcgcc cggttctttt tgtcaagacc gacctgtccg 1320
gtgccctgaa tgaactgcag gacgaggcag cgcggctatc gtggctggcc acgacgggcg 1380
ttccttgcgc agctgtgctc gacgttgtca ctgaagcggg aagggactgg ctgctattgg 1440
gcgaagtgcc ggggcaggat ctcctgtcat ctcaccttgc tcctgccgag aaagtatcca 1500
tcatggctga tgcaatgcgg cggctgcata cgcttgatcc ggctacctgc ccattcgacc 1560
accaagcgaa acatcgcatc gagcgagcac gtactcggat ggaagccggt cttgtcgatc 1620
aggatgatct ggacgaagag catcaggggc tcgcgccagc cgaactgttc gccaggctca 1680
aggcgcgcat gcccgacggc gaggatctcg tcgtgaccca tggcgatgcc tgcttgccga 1740
atatcatggt ggaaaatggc cgcttttctg gattcatcga ctgtggccgg ctgggtgtgg 1800
cggaccgcta tcaggacata gcgttggcta cccgtgatat tgctgaagag cttggcggcg 1860
aatgggctga ccgcttcctc gtgctttacg gtatcgccgc tcccgattcg cagcgcatcg 1920
ccttctatcg ccttcttgac gagttcttct gagcgggact ctggggttcg aaatgaccga 1980
ccaagcgacg cccaacctgc catcacgaga tttcgattcc accgccgcct tctatgaaag 2040
gttgggcttc ggaatcgttt tccgggacgc cggctggatg atcctccagc gcggggatct 2100
catgctggag ttcttcgccc accccaactt gtttattgca gcttataatg gttacaaata 2160
aagcaatagc atcacaaatt tcacaaataa agcatttttt tcactgcatt ctagttgtgg 2220
tttgtccaaa ctcatcaatg tatcttatca tgtctgtata ccgtcgacct ctagctagag 2280
cttggcgtaa tcatggtcat agctgtttcc tgtgtgaaat tgttatccgc tcacaattcc 2340
acacaacata cgagccggaa gcataaagtg taaagcctgg ggtgcctaat gagtgagcta 2400
actcacatta attgcgttgc gctcactgcc cgctttccag tcgggaaacc tgtcgtgcca 2460
gctgcattaa tgaatcggcc aacgcgcggg gagaggcggt ttgcgtattg ggcgctcttc 2520
cgcttcctcg ctcactgact cgctgcgctc ggtcgttcgg ctgcggcgag cggtatcagc 2580

tcactcaaag gcggtaatac ggttatccac agaatcaggg gataacgcag gaaagaacat 2640

gtgagcaaaa ggccagcaaa aggccaggaa ccgtaaaaag gccgcgttgc tggcgttttt 2700

ccataggctc cgccccctg acgagcatca caaaaatcga cgctcaagtc agaggtggcg 2760

aaacccgaca ggactataaa gataccaggc gtttcccct ggaagctccc tcgtgcgctc 2820

tcctgttccg accctgccgc ttaccggata cctgtccgcc tttctccctt cgggaagcgt 2880

ggcgctttct caatgctcac gctgtaggta tctcagttcg gtgtaggtcg ttcgctccaa 2940

gctgggctgt gtgcacgaac ccccgttca gcccgaccgc tgcgccttat ccggtaacta 3000

tcgtcttgag tccaacccgg taagacacga cttatcgcca ctggcagcag ccactggtaa 3060

caggattagc agagcgaggt atgtaggcgg tgctacagag ttcttgaagt ggtggcctaa 3120

ctacggctac actagaagga cagtatttgg tatctgcgct ctgctgaagc cagttacctt 3180

cggaaaaaga gttggtagct cttgatccgg caaacaaacc accgctggta gcggtggttt 3240

ttttgtttgc aagcagcaga ttacgcgcag aaaaaaagga tctcaagaag atcctttgat 3300

cttttctacg gggtctgacg ctcagtggaa cgaaaactca cgttaaggga ttttggtcat 3360

gagattatca aaaaggatct tcacctagat ccttttaaat taaaaatgaa gttttaaatc 3420

aatctaaagt atatatgagt aaacttggtc tgacagttac caatgcttaa tcagtgaggc 3480

acctatctca gcgatctgtc tatttcgttc atccatagtt gcctgactcc ccgtcgtgta 3540

gataactacg atacgggagg gcttaccatc tggccccagt gctgcaatga taccgcgaga 3600

cccacgctca ccggctccag atttatcagc aataaaccag ccagccggaa gggccgagcg 3660

cagaagtggt cctgcaactt tatccgcctc catccagtct attaattgtt gccgggaagc 3720

tagagtaagt agttcgccag ttaatagttt gcgcaacgtt gttgccattg ctacaggcat 3780

cgtggtgtca cgctcgtcgt ttggtatggc ttcattcagc tccggttccc aacgatcaag 3840

gcgagttaca tgatccccca tgttgtgcaa aaaagcggtt agctccttcg gtcctccgat 3900

cgttgtcaga agtaagttgg ccgcagtgtt atcactcatg gttatggcag cactgcataa 3960

ttctcttact gtcatgccat ccgtaagatg cttttctgtg actggtgagt actcaaccaa 4020

gtcattctga gaatagtgta tgcggcgacc gagttgctct tgcccggcgt caatacggga 4080

taataccgcg ccacatagca gaactttaaa agtgctcatc attggaaaac gttcttcggg 4140

gcgaaaactc tcaaggatct taccgctgtt gagatccagt tcgatgtaac ccactcgtgc 4200

acccaactga tcttcagcat cttttacttt caccagcgtt tctgggtgag caaaaacagg 4260

aaggcaaaat gccgcaaaaa agggaataag ggcgacacgg aaatgttgaa tactcatact 4320

cttccttttt caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat 4380

atttgaatgt atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt 4440

gccacctgac gtcgacggat cgggagatct cccgatcccc tatggtcgac tctcagtaca 4500

atctgctctg atgccgcata gttaagccag tatctgctcc ctgcttgtgt gttggaggtc 4560

gctgagtagt gcgcgagcaa aatttaagct acaacaaggc aaggcttgac cgacaattgc 4620

atgaagaatc tgcttagggt taggcgtttt gcgctgcttc gcgatgtacg ggccagatat 4680

acgcgttgac attgattatt gactagttat taatagtaat caattacggg gtcattagtt 4740

catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc gcctggctga 4800

ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat agtaacgcca 4860

atagggactt tccattgacg tcaatgggtg gactatttac ggtaaactgc ccacttggca 4920

gtacatcaag tgtatcatat gccaagtacg ccccctattg acgtcaatga cggtaaatgg 4980

cccgcctggc attatgccca gtacatgacc ttatgggact ttcctacttg gcagtacatc 5040

tacgtattag tcatcgctat taccatggtg atgcggtttt ggcagtacat caatgggcgt 5100

ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt caatgggagt 5160

ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaacaactc cgccccattg 5220

acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc tctctggcta 5280

actagagaac ccactgctta ctggcttatc gaaattaata cgactcacta tagggagacc 5340

caagctgcca ccatggctac aggctcccgg acgtccctgc tcctggcttt tggcctgctc 5400

tgcctgccct ggcttcaaga gggcagcgct agctctagaa agcttggcc 5449

<210> 51
<211> 20
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of P1A1"

<400> 51

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
1 5 10 15

Ala Pro Ala Pro
20

<210> 52
<211> 60
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of upper/coding strand oligodesoxynucleotide used for the generation of the building block for P1A1"

<400> 52
gcccctgctc ctgctccagc acctgcacca gcacctgctc cagcaccagc tcctgcacca 60

<210> 53
<211> 60
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of lower/non-coding strand oligodesoxynucleotide used for the generation of the building block for P1A1"

<400> 53
ggctggtgca ggagctggtg ctggagcagg tgctggtgca ggtgctggag caggagcagg 60

<210> 54
<211> 60
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of upper/coding strand oligodesoxynucleotide used for the generation of the building block for P1A3"

<400> 54
gccgctgcac ctgctgcagc acctgctgca gctccagcag ctgctcctgc agcagctcca 60

<210> 55
<211> 60
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of lower/non-coding strand oligodesoxynucleotide used for the generation of the building block for P1A3"

<400> 55
ggctggagct gctgcaggag cagctgctgg agctgcagca ggtgctgcag caggtgcagc 60

<210> 56
<211> 417
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the Fab light chain fused with the P1A1(200) polymer as encoded on pFab-P1A1(200)"

<400> 56

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

eolf-seql

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
            100                 105                 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly
        115                 120                 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
    130                 135                 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145                 150                 155                 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
                165                 170                 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
            180                 185                 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
        195                 200                 205

Phe Asn Arg Gly Glu Cys Ser Ser Ala Pro Ala Pro Ala Pro Ala Pro
    210                 215                 220

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
225                 230                 235                 240

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
                245                 250                 255

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
            260                 265                 270

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
        275                 280                 285

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
    290                 295                 300

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
305                 310                 315                 320

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
                325                 330                 335
```

eolf-seql

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
340 345 350

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
355 360 365

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
370 375 380

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
385 390 395 400

Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro Ala Pro
405 410 415

Ala

<210> 57
<211> 417
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: amino acid sequence of the Fab light chain fused with the P1A3(200) polymer as encoded on pFab-P1A3(200)"

<400> 57

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Val Asn Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Phe Leu Tyr Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

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

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln His Tyr Thr Thr Pro Pro
85 90 95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala Ala
100 105 110

Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly

115 120 125

Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala
130 135 140

Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln
145 150 155 160

Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser
165 170 175

Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr
180 185 190

Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser
195 200 205

Phe Asn Arg Gly Glu Cys Ser Ser Ala Ala Ala Pro Ala Ala Ala Pro
210 215 220

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
225 230 235 240

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
245 250 255

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
260 265 270

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
275 280 285

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
290 295 300

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
305 310 315 320

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
325 330 335

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
340 345 350

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
355 360 365

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
370 375 380

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro

385 390 395 400

Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro Ala Ala Ala Pro
405 410 415

Ala

<210> 58
<211> 5210
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pFab-P1A1(200)"

<400> 58
acccgacacc atcgaatggc cagatgatta attcctaatt tttgttgaca ctctatcatt 60

gatagagtta ttttaccact ccctatcagt gatagagaaa agtgaaatga atagttcgac 120

aaaaatctag ataacgaggg caaaaaatga aaaagacagc tatcgcgatt gcagtggcac 180

tggctggttt cgctaccgta gcgcaggccg aagttaaact gcaggaatcc ggtggtggtc 240

tggttcagcc aggtggttcc ctgcggctct cgtgtgctgc ttccggtttc aacatcaaag 300

acacctacat ccactgggtt cgtcaggctc cgggtaaagg cctggaatgg gttgctcgta 360

tctacccgac caacggttac accaggtatg ccgattcagt taaaggtcgt ttcaccatct 420

cggccgacac ttccaaaaac accgcttacc tccagatgaa ctccctgcgt gctgaagaca 480

cagctgttta ttattgctcc cgttggggtg gtgacggttt ctacgctatg gactactggg 540

gtcagggtac cctggtcacc gtctcctcag cctccaccaa gggcccatcg gtcttccccc 600

tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc ctggtcaagg 660

actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc agcggcgtgc 720

acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc gtggtgactg 780

tgccctccag cagcttgggc acccagacct acatctgcaa cgttaatcac aaacccagca 840

acaccaaggt cgacaagaaa gttgagccca aatcttgcca tcaccaccat caccattaat 900

aaccatggag aaaataaagt gaaacaaagc actattgcac tggcactctt accgttactg 960

tttacccctg tgacaaaagc cgacatcgag ctcacccaat ccccgtcctc cctgtccgct 1020

tccgttggcg accgtgttac catcacgtgt agggcctcgc aagacgtaaa caccgccgta 1080

gcgtggtatc agcagaaacc cgggaaagct ccgaaactgc tgatctatag cgcttccttc 1140

ctgtattccg gagttccgag caggttcagt ggttcccgtt ccggtaccga cttcaccctg 1200

acgatatcct ccctccagcc ggaagacttc gctacctact actgtcaaca gcactacacc 1260

accccgccga ccttcggtca gggtaccaaa ctcgagatca aacggactgt ggctgcacca 1320

tctgtcttca tcttcccgcc atctgatgag cagttgaaat ctggaactgc ctctgttgtg 1380

tgcctgctga ataacttcta tcccagagag gccaaagtac agtggaaggt ggataacgcc 1440

ctccaatcgg gtaactccca ggagagtgtc acagagcagg acagcaagga cagcacctac 1500

agcctcagca gcaccctgac gctgagcaaa gcagactacg agaaacacaa agtctacgcc 1560

tgcgaagtca cccatcaggg cctgagttcg cccgtcacaa agagcttcaa ccgcggagag 1620

tgctcttctg cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1680

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1740

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1800

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1860

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1920

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 1980

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 2040

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 2100

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 2160

cctgcaccag cccctgctcc tgctccagca cctgcaccag cacctgctcc agcaccagct 2220

cctgcaccag cctgaagagc ttaagcttga cctgtgaagt gaaaaatggc gcacattgtg 2280

cgacattttt tttgtctgcc gtttaccgct actgcgtcac ggatctccac gcgccctgta 2340

gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag cgtgaccgct acacttgcca 2400

gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg ttcgccggct 2460

ttccccgtca agctctaaat cgggggctcc ctttagggtt ccgatttagt gctttacggc 2520

acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca tcgccctgat 2580

agacggtttt tcgccctttg acgttggagt ccacgttctt taatagtgga ctcttgttcc 2640

aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa gggattttgc 2700

cgatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac gcgaatttta 2760

acaaaatatt aacgtttaca atttcaggtg gcacttttcg gggaaatgtg cgcggaaccc 2820

ctatttgttt atttttctaa atacattcaa atatgtatcc gctcatgaga caataaccct 2880

gataaatgct tcaataatat tgaaaaagga agagtatgag tattcaacat ttccgtgtcg 2940

cccttattcc ctttttttgcg gcattttgcc ttcctgtttt tgctcaccca gaaacgctgg 3000

tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc gaactggatc 3060

tcaacagcgg taagatcctt gagagttttc gccccgaaga acgttttcca atgatgagca 3120

cttttaaagt tctgctatgt ggcgcggtat tatcccgtat tgacgccggg caagagcaac 3180

tcggtcgccg catacactat tctcagaatg acttggttga gtactcacca gtcacagaaa 3240

agcatcttac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagtg 3300

ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag ctaaccgctt 3360

ttttgcacaa catgggggat catgtaactc gccttgatcg ttgggaaccg gagctgaatg 3420

aagccatacc aaacgacgag cgtgacacca cgatgcctgt agcaatggca acaacgttgc 3480

gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaattg atagactgga 3540

tggaggcgga taaagttgca ggaccacttc tgcgctcggc ccttccggct ggctggttta 3600

ttgctgataa atctggagcc ggtgagcgtg gctctcgcgg tatcattgca gcactggggc 3660

cagatggtaa gccctcccgt atcgtagtta tctacacgac ggggagtcag gcaactatgg 3720

atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaggaat 3780

taatgatgtc tcgtttagat aaaagtaaag tgattaacag cgcattagag ctgcttaatg 3840

aggtcggaat cgaaggttta acaacccgta aactcgccca gaagctaggt gtagagcagc 3900

ctacattgta ttggcatgta aaaaataagc gggctttgct cgacgcctta gccattgaga 3960

tgttagatag gcaccatact cacttttgcc ctttagaagg ggaaagctgg caagattttt 4020

tacgtaataa cgctaaaagt tttagatgtg ctttactaag tcatcgcgat ggagcaaaag 4080

tacatttagg tacacggcct acagaaaaac agtatgaaac tctcgaaaat caattagcct 4140

ttttatgcca acaaggtttt tcactagaga atgcattata tgcactcagc gcagtggggc 4200

attttacttt aggttgcgta ttggaagatc aagagcatca agtcgctaaa gaagaaaggg 4260

aaacacctac tactgatagt atgccgccat tattacgaca agctatcgaa ttatttgatc 4320

accaaggtgc agagccagcc ttcttattcg gccttgaatt gatcatatgc ggattagaaa 4380

aacaacttaa atgtgaaagt gggtcttaaa agcagcataa ccttttccg tgatggtaac 4440

ttcactagtt taaaaggatc taggtgaaga tccttttga taatctcatg accaaaatcc 4500

cttaacgtga gttttcgttc cactgagcgt cagaccccgt agaaaagatc aaaggatctt 4560

cttgagatcc ttttttttctg cgcgtaatct gctgcttgca aacaaaaaaa ccaccgctac 4620

cagcggtggt ttgtttgccg gatcaagagc taccaactct ttttccgaag gtaactggct 4680

tcagcagagc gcagatacca aatactgtcc ttctagtgta gccgtagtta ggccaccact 4740

tcaagaactc tgtagcaccg cctacatacc tcgctctgct aatcctgtta ccagtggctg 4800

ctgccagtgg cgataagtcg tgtcttaccg ggttggactc aagacgatag ttaccggata 4860

aggcgcagcg gtcgggctga acgggggggtt cgtgcacaca gcccagcttg gagcgaacga 4920

cctacaccga actgagatac ctacagcgtg agctatgaga aagcgccacg cttcccgaag 4980

ggagaaaggc ggacaggtat ccggtaagcg gcagggtcgg aacaggagag cgcacgaggg 5040

agcttccagg gggaaacgcc tggtatcttt atagtcctgt cgggtttcgc cacctctgac 5100

ttgagcgtcg atttttgtga tgctcgtcag gggggcggag cctatggaaa aacgccagca 5160

acgcggcctt tttacggttc ctggcctttt gctggccttt tgctcacatg 5210

<210> 59
<211> 5210
<212> DNA
<213> artificial sequence

<220>
<221> source

<223> /note="Description of artificial sequence: nucleic acid sequence of pFab-P1A3(200)"

<400> 59

acccgacacc atcgaatggc cagatgatta attcctaatt tttgttgaca ctctatcatt 60

gatagagtta ttttaccact ccctatcagt gatagagaaa agtgaaatga atagttcgac 120

aaaaatctag ataacgaggg caaaaaatga aaaagacagc tatcgcgatt gcagtggcac 180

tggctggttt cgctaccgta gcgcaggccg aagttaaact gcaggaatcc ggtggtggtc 240

tggttcagcc aggtggttcc ctgcggctct cgtgtgctgc ttccggtttc aacatcaaag 300

acacctacat ccactgggtt cgtcaggctc cgggtaaagg cctggaatgg gttgctcgta 360

tctacccgac caacggttac accaggtatg ccgattcagt taaaggtcgt ttcaccatct 420

cggccgacac ttccaaaaac accgcttacc tccagatgaa ctccctgcgt gctgaagaca 480

cagctgttta ttattgctcc cgttggggtg gtgacggttt ctacgctatg gactactggg 540

gtcagggtac cctggtcacc gtctcctcag cctccaccaa gggcccatcg gtcttccccc 600

tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc ctggtcaagg 660

actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc agcggcgtgc 720

acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc gtggtgactg 780

tgccctccag cagcttgggc acccagacct acatctgcaa cgttaatcac aaacccagca 840

acaccaaggt cgacaagaaa gttgagccca aatcttgcca tcaccaccat caccattaat 900

aaccatggag aaaataaagt gaaacaaagc actattgcac tggcactctt accgttactg 960

tttacccctg tgacaaaagc cgacatcgag ctcacccaat ccccgtcctc cctgtccgct 1020

tccgttggcg accgtgttac catcacgtgt agggcctcgc aagacgtaaa caccgccgta 1080

gcgtggtatc agcagaaacc cgggaaagct ccgaaactgc tgatctatag cgcttccttc 1140

ctgtattccg gagttccgag caggttcagt ggttcccgtt ccggtaccga cttcaccctg 1200

acgatatcct ccctccagcc ggaagacttc gctacctact actgtcaaca gcactacacc 1260

accccgccga ccttcggtca gggtaccaaa ctcgagatca aacggactgt ggctgcacca 1320

tctgtcttca tcttcccgcc atctgatgag cagttgaaat ctggaactgc ctctgttgtg 1380

tgcctgctga ataacttcta tcccagagag gccaaagtac agtggaaggt ggataacgcc 1440

ctccaatcgg gtaactccca ggagagtgtc acagagcagg acagcaagga cagcacctac 1500

agcctcagca gcaccctgac gctgagcaaa gcagactacg agaaacacaa agtctacgcc 1560

tgcgaagtca cccatcaggg cctgagttcg cccgtcacaa agagcttcaa ccgcggagag 1620

tgctcttctg ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1680

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1740

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1800

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1860

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1920

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 1980

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 2040

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 2100

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 2160

gcagctccag ccgctgcacc tgctgcagca cctgctgcag ctccagcagc tgctcctgca 2220

gcagctccag cctgaagagc ttaagcttga cctgtgaagt gaaaaatggc gcacattgtg 2280

cgacattttt tttgtctgcc gtttaccgct actgcgtcac ggatctccac gcgccctgta 2340

gcggcgcatt aagcgcggcg ggtgtggtgg ttacgcgcag cgtgaccgct acacttgcca 2400

gcgccctagc gcccgctcct ttcgctttct tcccttcctt tctcgccacg ttcgccggct 2460

ttccccgtca agctctaaat cgggggctcc ctttagggtt ccgatttagt gctttacggc 2520

acctcgaccc caaaaaactt gattagggtg atggttcacg tagtgggcca tcgccctgat 2580

agacggtttt tcgccctttg acgttggagt ccacgttctt taatagtgga ctcttgttcc 2640

aaactggaac aacactcaac cctatctcgg tctattcttt tgatttataa gggattttgc 2700

cgatttcggc ctattggtta aaaaatgagc tgatttaaca aaaatttaac gcgaatttta 2760

acaaaatatt aacgtttaca atttcaggtg gcacttttcg gggaaatgtg cgcggaaccc 2820

ctatttgttt atttttctaa atacattcaa atatgtatcc gctcatgaga caataaccct 2880

gataaatgct tcaataatat tgaaaaagga agagtatgag tattcaacat ttccgtgtcg 2940

cccttattcc ctttttttgcg gcattttgcc ttcctgtttt tgctcaccca gaaacgctgg 3000

tgaaagtaaa agatgctgaa gatcagttgg gtgcacgagt gggttacatc gaactggatc 3060

tcaacagcgg taagatcctt gagagttttc gccccgaaga acgttttcca atgatgagca 3120

cttttaaagt tctgctatgt ggcgcggtat tatcccgtat tgacgccggg caagagcaac 3180

tcggtcgccg catacactat tctcagaatg acttggttga gtactcacca gtcacagaaa 3240

agcatcttac ggatggcatg acagtaagag aattatgcag tgctgccata accatgagtg 3300

ataacactgc ggccaactta cttctgacaa cgatcggagg accgaaggag ctaaccgctt 3360

ttttgcacaa catgggggat catgtaactc gccttgatcg ttgggaaccg gagctgaatg 3420

aagccatacc aaacgacgag cgtgacacca cgatgcctgt agcaatggca acaacgttgc 3480

gcaaactatt aactggcgaa ctacttactc tagcttcccg gcaacaattg atagactgga 3540

tggaggcgga taaagttgca ggaccacttc tgcgctcggc ccttccggct ggctggttta 3600

ttgctgataa atctggagcc ggtgagcgtg gctctcgcgg tatcattgca gcactggggc 3660

cagatggtaa gccctcccgt atcgtagtta tctacacgac ggggagtcag gcaactatgg 3720

atgaacgaaa tagacagatc gctgagatag gtgcctcact gattaagcat tggtaggaat 3780

taatgatgtc tcgtttagat aaaagtaaag tgattaacag cgcattagag ctgcttaatg 3840

aggtcggaat cgaaggttta acaacccgta aactcgccca gaagctaggt gtagagcagc 3900

ctacattgta ttggcatgta aaaaataagc gggctttgct cgacgcctta gccattgaga 3960

tgttagatag gcaccatact cacttttgcc ctttagaagg ggaaagctgg caagattttt 4020

tacgtaataa cgctaaaagt tttagatgtg ctttactaag tcatcgcgat ggagcaaaag 4080

tacatttagg tacacggcct acagaaaaac agtatgaaac tctcgaaaat caattagcct 4140

ttttatgcca acaaggtttt tcactagaga atgcattata tgcactcagc gcagtggggc 4200

attttacttt aggttgcgta ttggaagatc aagagcatca agtcgctaaa gaagaaaggg 4260

aaacacctac tactgatagt atgccgccat tattacgaca agctatcgaa ttatttgatc 4320

accaaggtgc agagccagcc ttcttattcg gccttgaatt gatcatatgc ggattagaaa 4380

aacaacttaa atgtgaaagt gggtcttaaa agcagcataa ccttttccg tgatggtaac 4440

ttcactagtt taaaaggatc taggtgaaga tccttttga taatctcatg accaaaatcc 4500

cttaacgtga gttttcgttc cactgagcgt cagaccccgt agaaaagatc aaaggatctt 4560

cttgagatcc ttttttttctg cgcgtaatct gctgcttgca aacaaaaaaa ccaccgctac 4620

cagcggtggt ttgtttgccg gatcaagagc taccaactct ttttccgaag gtaactggct 4680

tcagcagagc gcagatacca aatactgtcc ttctagtgta gccgtagtta ggccaccact 4740

tcaagaactc tgtagcaccg cctacatacc tcgctctgct aatcctgtta ccagtggctg 4800

ctgccagtgg cgataagtcg tgtcttaccg ggttggactc aagacgatag ttaccggata 4860

aggcgcagcg gtcgggctga cgggggggtt cgtgcacaca gcccagcttg gagcgaacga 4920

cctacaccga actgagatac ctacagcgtg agctatgaga aagcgccacg cttcccgaag 4980

ggagaaaggc ggacaggtat ccggtaagcg gcagggtcgg aacaggagag cgcacgaggg 5040

agcttccagg gggaaacgcc tggtatcttt atagtcctgt cgggtttcgc cacctctgac 5100

ttgagcgtcg atttttgtga tgctcgtcag gggggcggag cctatggaaa aacgccagca 5160

acgcggcctt tttacggttc ctggcctttt gctggccttt tgctcacatg 5210

<210> 60
<211> 3680
<212> DNA
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: nucleic acid sequence of pSUMO-PA#1(200)"

<400> 60
gcacttttcg gggaaatgtg cgcggaaccc ctatttgttt atttttctaa atacattcaa 60

atatgtatcc gctcatgaga caataaccct gataaatgct tcaataatat tgaaaaagga 120

agagtatgag tattcaacat ttccgtgtcg cccttattcc ctttttgcg gcattttgcc 180

ttcctgtttt tgctcaccca gaaacgctgg tgaaagtaaa agatgctgaa gatcagttgg 240

gtgcacgagt gggttacatc gaactggatc tcaacagcgg taagatcctt gagagtttc 300

gccccgaaga acgttttcca atgatgagca cttttaaagt tctgctatgt ggcgcggtat 360

tatcccgtat tgacgccggg caagagcaac tcggtcgccg catacactat tctcagaatg 420

acttggttga gtactcacca gtcacagaaa agcatcttac ggatggcatg acagtaagag 480

aattatgcag tgctgccata accatgagtg ataacactgc ggccaactta cttctgacaa 540

cgatcggagg accgaaggag ctaaccgctt ttttgcacaa catgggggat catgtaactc 600

gccttgatcg ttgggaaccg gagctgaatg aagccatacc aaacgacgag cgtgacacca 660

cgatgcctgt agcaatggca acaacgttgc gcaaactatt aactggcgaa ctacttactc 720

tagcttcccg gcaacaatta atagactgga tggaggcgga taaagttgca ggaccacttc 780

tgcgctcggc ccttccggct ggctggttta ttgctgataa atctggagcc ggtgagcgtg 840

ggtctcgcgg tatcattgca gcactggggc cagatggtaa gccctcccgt atcgtagtta 900

tctacacgac ggggagtcag gcaactatgg atgaacgaaa tagacagatc gctgagatag 960

gtgcctcact gattaagcat tggtaactgt cagaccaagt ttactcatat atactttaga 1020

ttgatttaaa acttcatttt taatttaaaa ggatctaggt gaagatcctt tttgataatc 1080

tcatgaccaa aatcccttaa cgtgagtttt cgttccactg agcgtcagac cccgtagaaa 1140

agatcaaagg atcttcttga gatccttttt ttctgcgcgt aatctgctgc ttgcaaacaa 1200

aaaaaccacc gctaccagcg gtggtttgtt tgccggatca agagctacca actcttttc 1260

cgaaggtaac tggcttcagc agagcgcaga taccaaatac tgtccttcta gtgtagccgt 1320

agttaggcca ccacttcaag aactctgtag caccgcctac atacctcgct ctgctaatcc 1380

tgttaccagt ggctgctgcc agtggcgata agtcgtgtct taccgggttg gactcaagac 1440

gatagttacc ggataaggcg cagcggtcgg gctgaacggg gggttcgtgc acacagccca 1500

gcttggagcg aacgacctac accgaactga gatacctaca gcgtgagcta tgagaaagcg 1560

ccacgcttcc cgaagggaga aaggcggaca ggtatccggt aagcggcagg gtcggaacag 1620

gagagcgcac gagggagctt ccagggggaa acgcctggta tctttatagt cctgtcgggt 1680

ttcgccacct ctgacttgag cgtcgatttt tgtgatgctc gtcaggggg cggagcctat 1740

ggaaaaacgc cagcaacgcg gccttttac ggttcctggc cttttgctgg ccttttgctc 1800

acatgttctt tcctgcgtta tcccctgatt ctgtggataa ccgtattacc gcctttgagt 1860

gagctgatac cgctcgccgc agccgaacga ccgagcgcag cgagtcagtg agcgaggaag 1920

cggagaagcg cccaatacgc aaaccgcctc tccccgcgcg ttggccgatt cattaatgca 1980

ggatctcgat cccgcgaaat taatacgact cactataggg agaccacaac ggtttccctc 2040

tagaaataat tttgtttaac tttaagaagg agatatacat atgaaacatc accaccatca 2100

ccattcggac tcagaagtca atcaagaagc taagccagag gtcaagccag aagtcaagcc 2160

tgagactcac atcaatttaa aggtgtccga tggatcttca gaaatcttct ttaagatcaa 2220

aaagaccact cctttaagaa ggctgatgga agcgttcgct aaaagacagg gtaaggaaat 2280

ggactcctta agattcttgt acgacggtat tagaattcaa gctgatcaga cccctgaaga 2340

tttggacatg gaggataacg atattattga ggctcacaga gaacagattg gtggcgccgc 2400

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2460

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2520

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2580

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2640

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2700

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2760

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2820

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2880

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgccgc 2940

tccagctgca cctgctccag cagcacctgc tgcaccagct ccggctgctc ctgctgcctg 3000

aagagcaagc ttgatccggc tgctaacaaa gcccgaaagg aagctgagtt ggctgctgcc 3060

accgctgagc aataactagc ataacccctt ggggcctcta aacgggtctt gaggggtttt 3120

ttgctgaaag gaggaactat atccggatct ggcgtaatag cgaagaggcc cgcaccgatc 3180

gcccttccca acagttgcgc agcctgaatg gcgaatggga cgcgccctgt agcggcgcat 3240

taagcgcggc gggtgtggtg gttacgcgca gcgtgaccgc tacacttgcc agcgccctag 3300

cgcccgctcc tttcgctttc ttcccttcct ttctcgccac gttcgccggc tttccccgtc 3360

aagctctaaa tcgggggctc cctttagggt tccgatttag tgctttacgg cacctcgacc 3420

ccaaaaaact tgattagggt gatggttcac gtagtgggcc atcgccctga tagacggttt 3480

ttcgcccttt gacgttggag tccacgttct ttaatagtgg actcttgttc caaactggaa 3540

caacactcaa ccctatctcg gtctattctt ttgatttata agggattttg ccgatttcgg 3600

cctattggtt aaaaaatgag ctgatttaac aaaaatttaa cgcgaatttt aacaaaatat 3660

taacgcttac aatttaggtg 3680

<210> 61
<211> 201
<212> PRT
<213> artificial sequence

<220>
<221> source
<223> /note="Description of artificial sequence: PA#1(200)
polypeptide/polymer used for the preparation of drug conjugates
(made by ligation of 10 20mer encoding gene cassettes, including
one additional C-terminal Ala residue resulting from the downstream
ligation site)"

<400> 61

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
1 5 10 15

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
20 25 30

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro
35 40 45

eolf-seql

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
50 55 60

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
65 70 75 80

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
85 90 95

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
100 105 110

Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro
115 120 125

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Ala Pro Ala
130 135 140

Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
145 150 155 160

Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala Ala Pro Ala Pro
165 170 175

Ala Ala Pro Ala Ala Ala Pro Ala Ala Pro Ala Pro Ala Ala Pro Ala
180 185 190

Ala Pro Ala Pro Ala Ala Pro Ala Ala
195 200