

SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> Method for screening a candidate molecule which can form a complex with multiple target molecules

<130> C1-A2032P

<150> JP 2020-216004

<151> 2020-12-25

<160> 124

<170> PatentIn version 3.5

<210> 1

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<223> Avi-tag sequence

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Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His Glu
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<223> TEV protease sequence

<400> 2

Glu Asn Leu Tyr Phe Gln Gly
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His His His His His His
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tttttttaga gccagagcca gagccaga 28

<210> 6
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<223> Fw_1for SNAP(C) prep.

<400> 11

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<211> 51

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cgtaccatta gttcaagga cgatggcaag tataaaaccc gtgcggtggt taaatttgag 360
ggcgataccc tggtaaccg tatcgagctg aagggtaccg acttcaaaga agatggcaac 420
attctgggtc acaagctgga atacaactt aacagccaca acgtgtatat caccgcggac 480
aagcagaaaa acggcattaa agcgaactc accgtgcgtc acaacgtga ggacggtagc 540
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ggtagcatcg aaggctgtca cagcggcagc ggtagccgtg accacatggt gctgcacgaa 780

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acctaaggat cc 852

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acttcaggg tcaccatcat caccatcata tgcgtaaggc cgaggaact 109

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<211> 203

<212> DNA

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<223> GFP10-11

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ggacgaccac tacctgtcta cccagaccat cctgctgaaa gacctgaacg aaaaacgtga 120

ccacatggtt ctgctggaat acgttaccgc ggcgggtatc accgacgcgt ctggctctgg 180

ctctggctct ggctctaaaa aaa 203

<210> 18

<211> 140

<212> DNA

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<223> GFP10

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 tggctctggc tctaaaaaaa 140

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 <223> GFP11

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<210> 20
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 <223> Rapamycin-nucleic acid

<400> 20
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 ttaggagatt ctgaggccga ccggcaccgg caccggcgat agggcggcgg ggacaaa 117

<210> 21
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 <212> DNA
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 <223> Hisx6-FKBP12-Link12-GFP11

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 ggtaaaaaat ttgatagctc tcgtgaccgc aacaaaccgt ttaaattcat gctgggcaaa 180
 caggaagtga ttctggctg ggaagaagggt gttgcacaga tgagcgctgg tcaacgcgct 240
 aaactgacca tcagtccgga ttatgcgtac ggtgccacgg gccatccggg tattatcccg 300
 ccgcacgcaa ccctggtctt tgacgtggaa ctgctgaaac tggaaggcgg tggcggttca 360
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 gtcacggctg cgggtatcac cgatgcttcg 450

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 <212> DNA
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 <223> GFP10-Link12-FRB-Hisx6

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 ctggaagaag caagccgtct gtattttggc gaacgcaacg tgaaaggcat gttcgaagtt 180
 ctggaaccgc tgcacgttat gatggaacgt ggccgcgaga ccctgaaaga aacgagtttt 240
 aaccaagcgt atggtcgtga tctgatggaa gcccaggaat ggtgccgcaa atacatgaaa 300
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 atctctaaac aacaccatca tcaccacat 390

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<212> DNA

<213> Artificial Sequence

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<223> SNAP(N) whole_DNA

<400> 23

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cgaacagggc ctgcaccgta tcattctcct gggcaaagga acatctgccg ccgacgccgt 180

ggaagtgcct gccccagccg ccgtgctggg cgaccagag ccactgatgc aggccaccgc 240

ctggctcaac gcctactttc accagcctga ggccatcgag gagttccctg tgccagccct 300

gcaccacca gtgtccagc agggctctgg ctctggctct ggctctggct ctaaaaaa 359

<210> 24

<211> 404

<212> DNA

<213> Artificial Sequence

<220>

<223> SNAP(C) whole_DNA

<400> 24

ggcgtaatac gactcactat agggttaact ttaataagga gatataaata tggtcgacga 60

gagctttacc cgccagggtc tgtggaaact gctgaaagt gtgaagttcg gagaggcat 120

cagctacagc cacctggccg ccctggccgg caatccgcc gccaccgccg ccgtgaaaac 180

cgccctgagc ggaaatcccg tgcccattct gatccctgc caccgggtgg tgcagggcga 240

cctggacgtg gggggctacg agggcgggct cgccgtgaaa gagggtgctc tggccacga 300

gggccacaga ctgggcaagc ctgggtctgg tctgcaggc ggatccgcgt taaactcga 360

ggttaatggc tctggctctg gctctggctc tggctctaaa aaaa 404

<210> 25

<211> 668
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<213> Artificial Sequence

<220>
<223> SNAP(full) whole_DNA

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ctgcgaaatg aagcgacca ccctggatag ccctctgggc aagctggaac tgtctgggtg 120
cgaacagggc ctgcaccgta tcatcttct gggcaaagga acatctgccg ccgacgccgt 180
ggaagtgcct gccccagccg ccgtgtggg cggaccagag cactgatgc aggccaccgc 240
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gcaccacca gtgtccagc aggagagctt taccgccag gtgctgtga aactgtgaa 360
agtgtgaag ttcggagagg tcatcagcta cagccacctg gccgccctgg ccggcaatcc 420
cgccgccacc gccgccgta aaaccgccct gagcggaaat cccgtgccca ttctgatccc 480
ctgccaccgg gtggtgcagg gcgacctgga cgtggggggc tacgagggcg ggctcgccgt 540
gaaagagtgg ctgctggccc acgagggcca cagactgggc aagcctgggc tgggtcctgc 600
aggcggatcc gcgtttaaac tcgaggttaa tggctctggc tctggctctg gctctggctc 660
taaaaaaa 668

<210> 26
<211> 194
<212> DNA
<213> Artificial Sequence

<220>
<223> UbNter_DNA

<400> 26
ggcgtatac gactactat agggtaact ttaagaagga gatatacata tgatgcagat 60
cttcgtgaag accctgaccg gcaagaccgc cactctggag gtggagccca gtgacaccat 120

cgaaaatgtg aaggccaaga tccaagataa agaaggcatc cccggctctg gctctggctc 180

tggctctaaa aaaa 194

<210> 27

<211> 209

<212> DNA

<213> Artificial Sequence

<220>

<223> UbCter_DNA

<400> 27

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ccccgaccag cagaggctca tcttgcagg caagcagctg gaagatggcc gcactcttc 120

tgactacaac atccagaaag agtcgaccct gcacctggc ctgcgcctga ggggtggcgg 180

ctctggctct ggctctggct ctaaaaaaaa 209

<210> 28

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<212> DNA

<213> Artificial Sequence

<220>

<223> UbI13A full_DNA

<400> 28

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cttcgtgaag accctgaccg gcaagaccgc cactctggag gtggagccca gtgacaccat 120

cgaaaatgtg aaggccaaga tccaagataa agaaggcatc cccggctctg gctctggcat 180

ccccccgac cagcagaggc tcacttttc aggcaagcag ctggaagatg gccgcactct 240

ttctgactac aacatccaga aagatcgac cctgcacctg gtctgcgcc tgaggggtgg 300

cggctctggc tctggctctg gctctaaaaa aa 332

<210> 29
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<212> RNA
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<223> GFP10-11

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ccagaccauc cugcugaaag accugaacga aaaacgugac cacaugguuc ugcuggaaua 120
cguuaccgcg gcggguauca ccgacgcguc uggcucuggc ucuggcucug gcucuaaaaa 180
aa 182

<210> 30
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<213> Artificial Sequence

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<223> GFP10

<400> 30
ggguuaacuu uaagaaggag auauacauau ggaccugccg gacgaccacu accugucuac 60
ccagaccauc cugcugaaag accugaacgg cucuggcucu ggcucuggcu cuaaaaaaaa 119

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<212> RNA
<213> Artificial Sequence

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<223> GFP11

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auaugugacc gcggcgggca uuaccgaugc gucuggcucu ggcucuggcu cuggcucuaa 120

aaaaa

125

<210> 32

<211> 99

<212> RNA

<213> Artificial Sequence

<220>

<223> Rapamycin-nucleic acid

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ggguuaacuu uaagaaggag auauacauau gcaguuuauug uuuuaggaga uucugaggcc 60

gaccggcacc ggcaccggcg auagggcggc ggggacaaa 99

<210> 33

<211> 338

<212> RNA

<213> Artificial Sequence

<220>

<223> SNAP(N) whole_mRNA

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ccuggauagc ccucugggca agcuggaacu gucugggugc gaacagggcc ugcaccguau 120

caucuuccug ggcaaaggaa caucugccgc cgacgccgug gaagugccug cccagccgc 180

cgugcugggc ggaccagagc cacugaugca ggccaccgcc uggcucaacg ccuacuuuca 240

ccagccugag gccaucgagg aguucccugu gccagcccug caccaccag uguuccagca 300

gggcucuggc ucuggcucug gcucuggcuc uaaaaaaaa 338

<210> 34

<211> 383

<212> RNA

<213> Artificial Sequence

<220>

<223> SNAP(C) whole_mRNA

<400> 34

ggguuaacuu uaauaaggag auauaaaauau ggucgacgag agcuuuaccc gccaggugcu 60

guggaaacug cugaaagugg ugaaguucgg agaggucauc agcuacagcc accuggccgc 120

ccuggccggc aaucccgccg ccaccggcgc cgugaaaacc gccugagcg gaaauccgu 180

gcccauucug aucccugcc accggguggu gcagggcgac cuggacgugg ggggcuacga 240

gggcgggcuc gccugaaaag aguggcugcu ggcccacgag ggccacagac ugggcaagcc 300

ugggcugggu ccugcaggcg gauccgcguu uaaacucgag guuaauggcu cuggcucugg 360

cucuggcucu ggcucuaaaa aaa 383

<210> 35

<211> 647

<212> RNA

<213> Artificial Sequence

<220>

<223> SNAP(full) whole_mRNA

<400> 35

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ccuggauagc ccucugggca agcuggaacu gucugggugc gaacagggcc ugcaccguau 120

caucuuccug ggcaaaggaa caucugccgc cgacgccgug gaagugccug cccagccgc 180

cgugcugggc ggaccagagc cacugaugca ggccaccgcc uggcucaacg ccuacuuuca 240

ccagccugag gccaucgagg aguucccugu gccagcccug caccaccag uguuccagca 300

ggagagcuuu acccgccagg ugcuguggaa acugcugaaa guggugaagu ucggagaggu 360

caucagcuac agccaccugg ccgcccuggc cggcaauccc gccgccaccg ccgccgugaa 420

aaccgcccug agcggaaucc cugugcccau ucugaucccc ugccaccggg uggugcaggg 480

cgaccuggac guggggggcu acgagggcgg gcucgccgug aaagaguggc ugcuggccca 540

cgagggccac agacugggca agccugggcu ggguccugca ggcggauccg cguuuaaacu 600

cgagguuaau ggcucuggcu cuggcucugg cucuggcucu aaaaaaa 647

<210> 36

<211> 173

<212> RNA

<213> Artificial Sequence

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<223> UbNter_mRNA

<400> 36

ggguuaacuu uaagaaggag auauacauau gaugcagauc uucgugaaga ccugaccgg 60

caagaccgcc acucuggagg uggagcccag ugacaccauc gaaaauguga aggccaagau 120

ccaagauaaa gaaggcaucc ccggcucugg cucuggcucu ggcucuaaaa aaa 173

<210> 37

<211> 188

<212> RNA

<213> Artificial Sequence

<220>

<223> UbCter_mRNA

<400> 37

ggguuaacuu uaagaaggag auauacauau gggcaucccc cccgaccagc agaggcucau 60

cuuugcaggc aagcagcugg aagauggccg cacucuucuu gacuacaaca uccagaaaga 120

gucgaccug caccuggucc ugcgccugag ggguggcggc ucuggcucug gcucuggcuc 180

uaaaaaaaa 188

<210> 38

<211> 311

<212> RNA

<213> Artificial Sequence

<220>

<223> Ubl13A full_mRNA

<400> 38

ggguuaacuu uaagaaggag auauacauau gaugcagauc uucgugaaga cccugaccgg 60

caagaccgcc acucuggagg uggagcccag ugacaccauc gaaaauguga aggccaagau 120

ccaagauaaa gaaggcaucc ccggcucugg cucuggcauc ccccccgacc agcagaggcu 180

caucuugca ggcaagcagc uggaagaugg ccgcacucuu ucugacuaca acauccagaa 240

agagucgacc cugcaccugg uccugcgccu gagggguggc ggucucuggcu cuggcucugg 300

cucuaaaaa a 311

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<212> PRT

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<223> GFP10-GFP11-GS4

<400> 39

Met Asp Leu Pro Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu
1 5 10 15

Lys Asp Leu Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Tyr Val
20 25 30

Thr Ala Ala Gly Ile Thr Asp Ala Ser Gly Ser Gly Ser Gly
35 40 45

Ser Lys Lys
50

<210> 40

<211> 30

<212> PRT
<213> Artificial Sequence

<220>
<223> GFP10-GS4

<400> 40

Met Asp Leu Pro Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu
1 5 10 15

Lys Asp Leu Asn Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
20 25 30

<210> 41
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> GFP11-GS4

<400> 41

Met Glu Lys Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala Ala
1 5 10 15

Gly Ile Thr Asp Ala Ser Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
20 25 30

<210> 42
<211> 103
<212> PRT
<213> Artificial Sequence

<220>
<223> splitSNAP (N)-GS5

<400> 42

Met Asp Lys Asp Cys Glu Met Lys Arg Thr Thr Leu Asp Ser Pro Leu

1 5 10 15

Gly Lys Leu Glu Leu Ser Gly Cys Glu Gln Gly Leu His Arg Ile Ile
20 25 30

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

Pro Ala Ala Val Leu Gly Gly Pro Glu Pro Leu Met Gln Ala Thr Ala
50 55 60

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

Val Pro Ala Leu His His Pro Val Phe Gln Gln Gly Ser Gly Ser Gly
85 90 95

Ser Gly Ser Gly Ser Lys Lys
100

<210> 43

<211> 118

<212> PRT

<213> Artificial Sequence

<220>

<223> SNAP (C)-GS5

<400> 43

Met Val Asp Glu Ser Phe Thr Arg Gln Val Leu Trp Lys Leu Leu Lys
1 5 10 15

Val Val Lys Phe Gly Glu Val Ile Ser Tyr Ser His Leu Ala Ala Leu
20 25 30

Ala Gly Asn Pro Ala Ala Thr Ala Ala Val Lys Thr Ala Leu Ser Gly
35 40 45

Asn Pro Val Pro Ile Leu Ile Pro Cys His Arg Val Val Gln Gly Asp
50 55 60

Leu Asp Val Gly Gly Tyr Glu Gly Gly Leu Ala Val Lys Glu Trp Leu
65 70 75 80

Leu Ala His Glu Gly His Arg Leu Gly Lys Pro Gly Leu Gly Pro Ala
85 90 95

Gly Gly Ser Ala Phe Lys Leu Glu Val Asn Gly Ser Gly Ser Gly Ser
100 105 110

Gly Ser Gly Ser Lys Lys
115

<210> 44

<211> 206

<212> PRT

<213> Artificial Sequence

<220>

<223> SNAP (full)-GS5

<400> 44

Met Asp Lys Asp Cys Glu Met Lys Arg Thr Thr Leu Asp Ser Pro Leu
1 5 10 15

Gly Lys Leu Glu Leu Ser Gly Cys Glu Gln Gly Leu His Arg Ile Ile
20 25 30

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

Pro Ala Ala Val Leu Gly Gly Pro Glu Pro Leu Met Gln Ala Thr Ala
50 55 60

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

Val Pro Ala Leu His His Pro Val Phe Gln Gln Glu Ser Phe Thr Arg
85 90 95

Gln Val Leu Trp Lys Leu Leu Lys Val Val Lys Phe Gly Glu Val Ile
100 105 110

Ser Tyr Ser His Leu Ala Ala Leu Ala Gly Asn Pro Ala Ala Thr Ala
115 120 125

Ala Val Lys Thr Ala Leu Ser Gly Asn Pro Val Pro Ile Leu Ile Pro
130 135 140

Cys His Arg Val Val Gln Gly Asp Leu Asp Val Gly Gly Tyr Glu Gly
145 150 155 160

Gly Leu Ala Val Lys Glu Trp Leu Leu Ala His Glu Gly His Arg Leu
165 170 175

Gly Lys Pro Gly Leu Gly Pro Ala Gly Gly Ser Ala Phe Lys Leu Glu
180 185 190

Val Asn Gly Ser Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
195 200 205

<210> 45

<211> 48

<212> PRT

<213> Artificial Sequence

<220>

<223> splitUb (N)-GS4

<400> 45

Met Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu
1 5 10 15

Glu Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln
20 25 30

Asp Lys Glu Gly Ile Pro Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
35 40 45

<210> 46

<211> 53

<212> PRT

<213> Artificial Sequence

<220>

<223> splitUb (C)-GS4

<400> 46

Met Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys Gln
1 5 10 15

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

Thr Leu His Leu Val Leu Arg Leu Arg Gly Gly Gly Ser Gly Ser Gly
35 40 45

Ser Gly Ser Lys Lys
50

<210> 47

<211> 94
<212> PRT
<213> Artificial Sequence

<220>
<223> splitUb (N-C)-GS4

<400> 47

Met Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu
1 5 10 15

Glu Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln
20 25 30

Asp Lys Glu Gly Ile Pro Gly Ser Gly Ser Gly Ile Pro Pro Asp Gln
35 40 45

Gln Arg Leu Ile Phe Ala Gly Lys Gln Leu Glu Asp Gly Arg Thr Leu
50 55 60

Ser Asp Tyr Asn Ile Gln Lys Glu Ser Thr Leu His Leu Val Leu Arg
65 70 75 80

Leu Arg Gly Gly Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
85 90

<210> 48
<211> 233
<212> PRT
<213> Artificial Sequence

<220>
<223> Avi-Tev-His-GFP1-9

<400> 48

Met Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His Glu
1 5 10 15

Glu Asn Leu Tyr Phe Gln Gly His His His His His His Gly Gly Ser
20 25 30

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

Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Arg Gly Glu
50 55 60

Gly Glu Gly Asp Ala Thr Ile Gly Lys Leu Thr Leu Lys Phe Ile Ser
65 70 75 80

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
85 90 95

Thr Tyr Gly Val Gln Ala Phe Ser Arg Tyr Pro Asp His Met Lys Arg
100 105 110

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
115 120 125

Thr Ile Ser Phe Lys Asp Asp Gly Lys Tyr Lys Thr Arg Ala Val Val
130 135 140

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Thr
145 150 155 160

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
165 170 175

Phe Asn Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn Gly
180 185 190

Ile Lys Ala Asn Phe Thr Val Arg His Asn Val Glu Asp Gly Ser Val
195 200 205

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Thr
210 215 220

Arg Gly Ser Gly Ser Ile Glu Gly Arg
225 230

<210> 49

<211> 320

<212> DNA

<213> Artificial Sequence

<220>

<223> Kpep-UbNter_DNA

<400> 49

gtaatacgac tcactatagg gttaacttta agaaggagat atacatatga aagtgagcgc 60

gctgaaagaa aacgtgagcg cctgaaaga aaaagtgagc gcgctgaccg aaaaagtgag 120

cgcgctgaaa gagaaagtga gcgcgctgaa agaaggctct ggctctggct ctggctctat 180

gcagatcttc gtgaagacct tgaccggcaa gaccgccact ctggaggtgg agcccagtga 240

caccatcgaa aatgtgaagg ccaagatcca agataaagaa ggcatccccg gctctggctc 300

tggtctggc tctaaaaaaa 320

<210> 50

<211> 320

<212> DNA

<213> Artificial Sequence

<220>

<223> Epep-UbNter_DNA

<400> 50

gtaatacgac tcactatagg gttaacttta agaaggagat atacatatga aagtgagcgc 60

gctggaaaac gaagtgagcg cgctggaaaa agaagtgagc gtgctggaaa aagaagtgag 120
 gcgcgtggaa aaagaagtgc gcgcgtgga aaaaggctct ggctctggct ctggctctat 180
 gcagatcttc gtgaagacct tgaccggcaa gaccgccact ctggaggtgg agcccagtga 240
 caccatcgaa aatgtgaagg ccaagatcca agataaagaa ggcatccccg gctctggctc 300
 tggctctggc tctaaaaaa 320

<210> 51
 <211> 338
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Epep-UbCter_DNA

<400> 51
 ggcgtaatac gactcactat agggtaact ttaagaagga gatatacata tgggcatccc 60
 ccccgaccag cagaggctca tcttgcagg caagcagctg gaagatggcc gcactcttc 120
 tgactacaac atccagaaag agtcgaccct gcacctggc ctgcgcctga ggggtggcgg 180
 ctctggctct ggctctggct ctaaagtga gcgcgtggaa aacgaagtga gcgcgtgga 240
 aaaagaagtg agcgtgctgg aaaaagaagt gagcgcgctg gaaaaagaag tgcgcgcgct 300
 ggaaaaaggc tctggctctg gctctggctc taaaaaa 338

<210> 52
 <211> 302
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Kpep-UbNter_mRNA

<400> 52
 ggguaacu uuaagaaggag auauacauau gaaagugagc gcgcugaaag aaaacgugag 60

cgccugaaa gaaaaaguga gcgcgcugac cgaaaaagug agcgcgcuga aagagaaagu 120
gagcgcgcug aaagaaggcu cuggcucugg cucuggcucu augcagaucu ucgugaagac 180
ccugaccggc aagaccgcca cucuggaggu ggagcccagu gacaccaucg aaaaugugaa 240
ggccaagauc caagauaaag aaggcauccc cggcucuggc ucuggcucug gcucuaaaaa 300
aa 302

<210> 53
<211> 302
<212> RNA
<213> Artificial Sequence

<220>
<223> Epep-UbNter_mRNA

<400> 53
ggguuaacuu uaagaaggag auauacauau gaaagugagc gcgcuggaaa acgaagugag 60
gcgcuggaaa aaagaaguga gcgugcugga aaaagaagug agcgcgcugg aaaaagaagu 120
gcgcgcgcug gaaaaaggcu cuggcucugg cucuggcucu augcagaucu ucgugaagac 180
ccugaccggc aagaccgcca cucuggaggu ggagcccagu gacaccaucg aaaaugugaa 240
ggccaagauc caagauaaag aaggcauccc cggcucuggc ucuggcucug gcucuaaaaa 300
aa 302

<210> 54
<211> 317
<212> RNA
<213> Artificial Sequence

<220>
<223> Epep-UbCter_mRNA

<400> 54
ggguuaacuu uaagaaggag auauacauau gggcauccc cccgaccagc agaggcucau 60
cuuugcaggc aagcagcugg aagauggccg cacucuucuu gacuacaaca uccagaaaga 120

gucgaccucg caccuggucc ugcgccugag ggguggcggc ucuggcucug gcucuggcuc 180
 uaaagugagc gcgucggaaa acgaagugag cgcgcuggaa aaagaaguga gcgugcugga 240
 aaaagaagug agcgcgucgg aaaaagaagu gcgcgcgucg gaaaaaggcu cuggcucugg 300
 cucuggcucu aaaaaaa 317

<210> 55
 <211> 91
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Kpep-splitUb(N)-GS4

<400> 55

Met Lys Val Ser Ala Leu Lys Glu Asn Val Ser Ala Leu Lys Glu Lys
 1 5 10 15

Val Ser Ala Leu Thr Glu Lys Val Ser Ala Leu Lys Glu Lys Val Ser
 20 25 30

Ala Leu Lys Glu Gly Ser Gly Ser Gly Ser Gly Ser Met Gln Ile Phe
 35 40 45

Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu Glu Val Glu Pro Ser
 50 55 60

Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp Lys Glu Gly Ile
 65 70 75 80

Pro Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
 85 90

<210> 56

<211> 91
<212> PRT
<213> Artificial Sequence

<220>
<223> Epep-splitUb(N)-GS4

<400> 56

Met Lys Val Ser Ala Leu Glu Asn Glu Val Ser Ala Leu Glu Lys Glu
1 5 10 15

Val Ser Val Leu Glu Lys Glu Val Ser Ala Leu Glu Lys Glu Val Arg
20 25 30

Ala Leu Glu Lys Gly Ser Gly Ser Gly Ser Gly Ser Met Gln Ile Phe
35 40 45

Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu Glu Val Glu Pro Ser
50 55 60

Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp Lys Glu Gly Ile
65 70 75 80

Pro Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
85 90

<210> 57
<211> 96
<212> PRT
<213> Artificial Sequence

<220>
<223> Epep-splitUb(C)-GS4

<400> 57

Met Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys Gln
1 5 10 15

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

Thr Leu His Leu Val Leu Arg Leu Arg Gly Gly Gly Ser Gly Ser Gly
35 40 45

Ser Gly Ser Lys Val Ser Ala Leu Glu Asn Glu Val Ser Ala Leu Glu
50 55 60

Lys Glu Val Ser Val Leu Glu Lys Glu Val Ser Ala Leu Glu Lys Glu
65 70 75 80

Val Arg Ala Leu Glu Lys Gly Ser Gly Ser Gly Ser Gly Ser Lys Lys
85 90 95

<210> 58

<211> 533

<212> DNA

<213> Artificial Sequence

<220>

<223> Avi-His-splitNanoluc1-8

<400> 58

ccatgggcct gaacgatatt ttgaagcgc agaagattga gtggcacgaa caccatcatc 60

atcatcacgg tggtagcagc gtgtcaccc tggaggactt tgttggcgat tgggaacaga 120

ccgcggcgta caacctggac caggtgctgg agcaaggtgg cgtagcagc ctgctgcaga 180

acctggcggg gagcggtacc ccgatccaac gtattgttcg tagcggcgag aacgcgctga 240

agatcgacat tcacgtgatc attccgatg aaggcctgag cgcggatcag atggcgcaaa 300

tcgaggaagt gttcaagggt gtttaccggg ttgacgatca ccactttaa gtgatcctgc 360

cgatatgtac cctggtgatt gacggcggtt cccgaacat gctgaactac ttcggtcgtc 420

cgtatgaagg catcgcggtt ttgatggta agaaaattac cgtaccggc accctgtgga 480

acggcaacaa gattattgac gaacgcctga ttaccccgga ctaatgagga tcc 533

<210> 59

<211> 200

<212> DNA

<213> Artificial Sequence

<220>

<223> Nanoluc9-10

<400> 59

ggcgaatac gactactat agggtaact ttaagaagga gatatacata tgggcagcat 60

gctgttcgt gtgaccatta acagcggcgg cggcagcggc ggcggcggca gcggcgtgag 120

cggctggcgt ctgttataaa aaattagcgg ttctggttct ggttctggt ctgaaaacct 180

gtatttcag ggcaaaaaaa 200

<210> 60

<211> 137

<212> DNA

<213> Artificial Sequence

<220>

<223> Nanoluc-9

<400> 60

ggcgaatac gactactat agggtaact ttaagaagga gatatacata tgggcagcat 60

gctgttcgt gtgaccatta acagcggc tgggtctggt tctggtctg aaaacctgta 120

tttcagggc aaaaaaa 137

<210> 61

<211> 137

<212> DNA

<213> Artificial Sequence

<220>

<223> Nanoluc-10

<400> 61

ggcgtaatac gactcactat agggttaact ttaagaagga gatatacata tggtagcgcg 60

ctggcgctctg ttaaaaaaa ttagcgggtc tggttctggt tctggttctg aaaacctgta 120

ttttcagggc aaaaaaa 137

<210> 62

<211> 179

<212> RNA

<213> Artificial Sequence

<220>

<223> Nanoluc9-10

<400> 62

ggguuaacuu uaagaaggag auauacauau gggcagcaug cuguuucgug ugaccauuaa 60

cagcggcggc ggcagcggcg gcggcggcag cggcgugagc ggcuggcguc uguuuaaaaa 120

aaauagcggg ucugguucug guucugguuc ugaaaaccug uauuuucagg gcaaaaaa 179

<210> 63

<211> 116

<212> RNA

<213> Artificial Sequence

<220>

<223> Nanoluc-9

<400> 63

ggguuaacuu uaagaaggag auauacauau gggcagcaug cuguuucgug ugaccauuaa 60

cagcggguucu gguucugguu cugguucuga aaaccuguau uuucaggga aaaaaa 116

<210> 64

<211> 116

<212> RNA

<213> Artificial Sequence

<220>

<223> Nanoluc-10

<400> 64

ggguuaacuu uaagaaggag auauacauau ggugagcggc uggcgucugu uaaaaaaaaau 60

uagcgguucu gguucugguu cugguucuga aaaccuguau uuucagggca aaaaaa 116

<210> 65

<211> 50

<212> PRT

<213> Artificial Sequence

<220>

<223> SplitNanoluc9-10-GS4-TEV

<400> 65

Met Gly Ser Met Leu Phe Arg Val Thr Ile Asn Ser Gly Gly Gly Ser
1 5 10 15

Gly Gly Gly Gly Ser Gly Val Ser Gly Trp Arg Leu Phe Lys Lys Ile
20 25 30

Ser Gly Ser Gly Ser Gly Ser Gly Ser Glu Asn Leu Tyr Phe Gln Gly
35 40 45

Lys Lys
50

<210> 66

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> SplitNanoluc-9-GS4-TEV

<400> 66

Met Gly Ser Met Leu Phe Arg Val Thr Ile Asn Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Glu Asn Leu Tyr Phe Gln Gly Lys Lys
20 25

<210> 67
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> SplitNanoluc-10-GS4-TEV

<400> 67

Met Val Ser Gly Trp Arg Leu Phe Lys Lys Ile Ser Gly Ser Gly Ser
1 5 10 15

Gly Ser Gly Ser Glu Asn Leu Tyr Phe Gln Gly Lys Lys
20 25

<210> 68
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Nanoluc_qPCR_Rvprimer

<400> 68
ttttttgcc ctgaaaatac aggttttc 28

<210> 69
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Fw primer for #13Rapa_F5

<400> 69
gatatacata tgcagtttat gtt 23

<210> 70
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Rv primer for #13Rapa_R4

<400> 70
ggtcggcctc agaatctcct a 21

<210> 71
<211> 231
<212> PRT
<213> Artificial Sequence

<220>
<223> GFP full

<400> 71

Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
1 5 10 15

Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Arg Gly Glu
20 25 30

Gly Glu Gly Asp Ala Thr Ile Gly Lys Leu Thr Leu Lys Phe Ile Ser
35 40 45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
50 55 60

Thr Tyr Gly Val Gln Ala Phe Ser Arg Tyr Pro Asp His Met Lys Arg
65 70 75 80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Ser Phe Lys Asp Asp Gly Lys Tyr Lys Thr Arg Ala Val Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Thr
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
130 135 140

Phe Asn Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn Gly
145 150 155 160

Ile Lys Ala Asn Phe Thr Val Arg His Asn Val Glu Asp Gly Ser Val
165 170 175

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Asp
180 185 190

Leu Pro Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu Lys Asp
195 200 205

Leu Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala
210 215 220

Ala Gly Ile Thr Asp Ala Ser
225 230

<210> 72
<211> 191
<212> PRT

<213> Artificial Sequence

<220>

<223> GFP1-9

<400> 72

Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val
1 5 10 15

Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Arg Gly Glu
20 25 30

Gly Glu Gly Asp Ala Thr Ile Gly Lys Leu Thr Leu Lys Phe Ile Ser
35 40 45

Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu
50 55 60

Thr Tyr Gly Val Gln Ala Phe Ser Arg Tyr Pro Asp His Met Lys Arg
65 70 75 80

His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg
85 90 95

Thr Ile Ser Phe Lys Asp Asp Gly Lys Tyr Lys Thr Arg Ala Val Val
100 105 110

Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Thr
115 120 125

Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn
130 135 140

Phe Asn Ser His Asn Val Tyr Ile Thr Ala Asp Lys Gln Lys Asn Gly
145 150 155 160

Ile Lys Ala Asn Phe Thr Val Arg His Asn Val Glu Asp Gly Ser Val
165 170 175

Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly
180 185 190

<210> 73
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> GFP10

<400> 73

Asp Leu Pro Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu Lys
1 5 10 15

Asp Leu Asn

<210> 74
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> GFP11

<400> 74

Glu Lys Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala Ala Gly
1 5 10 15

Ile Thr Asp Ala Ser
20

<210> 75
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Ubiquitin full

<400> 75

Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu Glu
1 5 10 15

Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp
20 25 30

Lys Glu Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys
35 40 45

Gln Leu Glu Asp Gly Arg Thr Leu Ser Asp Tyr Asn Ile Gln Lys Glu
50 55 60

Ser Thr Leu His Leu Val Leu Arg Leu Arg Gly Gly
65 70 75

<210> 76
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> splitUb (N)

<400> 76

Met Gln Ile Phe Val Lys Thr Leu Thr Gly Lys Thr Ala Thr Leu Glu
1 5 10 15

Val Glu Pro Ser Asp Thr Ile Glu Asn Val Lys Ala Lys Ile Gln Asp
20 25 30

Lys Glu Gly Ile Pro
35

<210> 77
<211> 42
<212> PRT
<213> Artificial Sequence

<220>
<223> splitUb (C)

<400> 77

Gly Ile Pro Pro Asp Gln Gln Arg Leu Ile Phe Ala Gly Lys Gln Leu
1 5 10 15

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

Leu His Leu Val Leu Arg Leu Arg Gly Gly
35 40

<210> 78
<211> 170
<212> PRT
<213> Artificial Sequence

<220>
<223> Nanoluc full

<400> 78

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

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

20 25 30

Leu Gln Asn Leu Ala Val Ser Val Thr Pro Ile Gln Arg Ile Val Arg
35 40 45

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

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

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

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

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

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

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

Ser Gly Trp Arg Leu Phe Lys Lys Ile Ser
165 170

<210> 79

<211> 148

<212> PRT

<213> Artificial Sequence

<220>

<223> SplitNanoluc1-8

<400> 79

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

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

Leu Gln Asn Leu Ala Val Ser Val Thr Pro Ile Gln Arg Ile Val Arg
35 40 45

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

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

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

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

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

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

Ile Thr Pro Asp
145

<210> 80

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

<220>
<223> SplitNanoluc-9

<400> 80

Gly Ser Met Leu Phe Arg Val Thr Ile Asn Ser
1 5 10

<210> 81
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> SplitNanoluc-10

<400> 81

Val Ser Gly Trp Arg Leu Phe Lys Lys Ile Ser
1 5 10

<210> 82
<211> 194
<212> PRT
<213> Artificial Sequence

<220>
<223> SNAP (full)

<400> 82

Met Asp Lys Asp Cys Glu Met Lys Arg Thr Thr Leu Asp Ser Pro Leu
1 5 10 15

Gly Lys Leu Glu Leu Ser Gly Cys Glu Gln Gly Leu His Arg Ile Ile
20 25 30

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

Pro Ala Ala Val Leu Gly Gly Pro Glu Pro Leu Met Gln Ala Thr Ala
50 55 60

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

Val Pro Ala Leu His His Pro Val Phe Gln Gln Glu Ser Phe Thr Arg
85 90 95

Gln Val Leu Trp Lys Leu Leu Lys Val Val Lys Phe Gly Glu Val Ile
100 105 110

Ser Tyr Ser His Leu Ala Ala Leu Ala Gly Asn Pro Ala Ala Thr Ala
115 120 125

Ala Val Lys Thr Ala Leu Ser Gly Asn Pro Val Pro Ile Leu Ile Pro
130 135 140

Cys His Arg Val Val Gln Gly Asp Leu Asp Val Gly Gly Tyr Glu Gly
145 150 155 160

Gly Leu Ala Val Lys Glu Trp Leu Leu Ala His Glu Gly His Arg Leu
165 170 175

Gly Lys Pro Gly Leu Gly Pro Ala Gly Gly Ser Ala Phe Lys Leu Glu
180 185 190

Val Asn

<210> 83

<211> 91
<212> PRT
<213> Artificial Sequence

<220>
<223> SplitSNAP (N)

<400> 83

Met Asp Lys Asp Cys Glu Met Lys Arg Thr Thr Leu Asp Ser Pro Leu
1 5 10 15

Gly Lys Leu Glu Leu Ser Gly Cys Glu Gln Gly Leu His Arg Ile Ile
20 25 30

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

Pro Ala Ala Val Leu Gly Gly Pro Glu Pro Leu Met Gln Ala Thr Ala
50 55 60

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

Val Pro Ala Leu His His Pro Val Phe Gln Gln
85 90

<210> 84
<211> 105
<212> PRT
<213> Artificial Sequence

<220>
<223> SplitSNAP (C)

<400> 84

Val Asp Glu Ser Phe Thr Arg Gln Val Leu Trp Lys Leu Leu Lys Val
1 5 10 15

Val Lys Phe Gly Glu Val Ile Ser Tyr Ser His Leu Ala Ala Leu Ala
20 25 30

Gly Asn Pro Ala Ala Thr Ala Ala Val Lys Thr Ala Leu Ser Gly Asn
35 40 45

Pro Val Pro Ile Leu Ile Pro Cys His Arg Val Val Gln Gly Asp Leu
50 55 60

Asp Val Gly Gly Tyr Glu Gly Gly Leu Ala Val Lys Glu Trp Leu Leu
65 70 75 80

Ala His Glu Gly His Arg Leu Gly Lys Pro Gly Leu Gly Pro Ala Gly
85 90 95

Gly Ser Ala Phe Lys Leu Glu Val Asn
100 105

<210> 85
<211> 173
<212> PRT
<213> Artificial Sequence

<220>
<223> Avi-His-spNluc1-8

<400> 85

Met Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His Glu
1 5 10 15

His His His His His His Gly Gly Ser Ser Val Phe Thr Leu Glu Asp
20 25 30

Phe Val Gly Asp Trp Glu Gln Thr Ala Ala Tyr Asn Leu Asp Gln Val

35 40 45

Leu Glu Gln Gly Gly Val Ser Ser Leu Leu Gln Asn Leu Ala Val Ser
50 55 60

Val Thr Pro Ile Gln Arg Ile Val Arg Ser Gly Glu Asn Ala Leu Lys
65 70 75 80

Ile Asp Ile His Val Ile Ile Pro Tyr Glu Gly Leu Ser Ala Asp Gln
85 90 95

Met Ala Gln Ile Glu Glu Val Phe Lys Val Val Tyr Pro Val Asp Asp
100 105 110

His His Phe Lys Val Ile Leu Pro Tyr Gly Thr Leu Val Ile Asp Gly
115 120 125

Val Thr Pro Asn Met Leu Asn Tyr Phe Gly Arg Pro Tyr Glu Gly Ile
130 135 140

Ala Val Phe Asp Gly Lys Lys Ile Thr Val Thr Gly Thr Leu Trp Asn
145 150 155 160

Gly Asn Lys Ile Ile Asp Glu Arg Leu Ile Thr Pro Asp
165 170

<210> 86

<211> 150

<212> PRT

<213> Artificial Sequence

<220>

<223> Hisx6-FKBP12-Link12-GFP11

<400> 86

Met His His His His His His Met Gly Val Gln Val Glu Thr Ile Ser
1 5 10 15

Pro Gly Asp Gly Arg Thr Phe Pro Lys Arg Gly Gln Thr Cys Val Val
20 25 30

His Tyr Thr Gly Met Leu Glu Asp Gly Lys Lys Phe Asp Ser Ser Arg
35 40 45

Asp Arg Asn Lys Pro Phe Lys Phe Met Leu Gly Lys Gln Glu Val Ile
50 55 60

Arg Gly Trp Glu Glu Gly Val Ala Gln Met Ser Val Gly Gln Arg Ala
65 70 75 80

Lys Leu Thr Ile Ser Pro Asp Tyr Ala Tyr Gly Ala Thr Gly His Pro
85 90 95

Gly Ile Ile Pro Pro His Ala Thr Leu Val Phe Asp Val Glu Leu Leu
100 105 110

Lys Leu Glu Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Thr
115 120 125

Ser Glu Lys Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala Ala
130 135 140

Gly Ile Thr Asp Ala Ser
145 150

<210> 87

<211> 130

<212> PRT

<213> Artificial Sequence

<220>

<223> GFP10-Link12-FRB-Hisx6

<400> 87

Met Asp Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Thr Ile Leu Leu
1 5 10 15

Lys Asp Leu Asn Asp Val Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly
20 25 30

Gly Ser Glu Met Trp His Glu Gly Leu Glu Glu Ala Ser Arg Leu Tyr
35 40 45

Phe Gly Glu Arg Asn Val Lys Gly Met Phe Glu Val Leu Glu Pro Leu
50 55 60

His Ala Met Met Glu Arg Gly Pro Gln Thr Leu Lys Glu Thr Ser Phe
65 70 75 80

Asn Gln Ala Tyr Gly Arg Asp Leu Met Glu Ala Gln Glu Trp Cys Arg
85 90 95

Lys Tyr Met Lys Ser Gly Asn Val Lys Asp Leu Thr Gln Ala Trp Asp
100 105 110

Leu Tyr Tyr His Val Phe Arg Arg Ile Ser Lys Gln His His His His
115 120 125

His His
130

<210> 88

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 88

Gly Gly Ser Ser

1

<210> 89

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 89

Gly Gly Gly Ser

1

<210> 90

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 90

Ser Gly Gly Gly

1

<210> 91

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 91

Gly Ser Gly Ser
1

<210> 92

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 92

Gly Gly Gly Gly Ser
1 5

<210> 93

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 93

Ser Gly Gly Gly Gly
1 5

<210> 94

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> GS linker

<400> 94

Gly Gly Gly Gly Gly Ser
1 5

<210> 95
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> GS linker

<400> 95

Ser Gly Gly Gly Gly Gly
1 5

<210> 96
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> GS linker

<400> 96

Gly Gly Gly Gly Gly Gly Ser
1 5

<210> 97
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> GS linker

<400> 97

Ser Gly Gly Gly Gly Gly Gly
1 5

<210> 98
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Annealing seq. for Rapamycin-nucleic acid prep.

<400> 98
cccgccccg ccgcct 17

<210> 99
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> SNAP_qPCR_Fw

<400> 99
gtaatacgac tcactatagg gttaactta ataaggag 38

<210> 100
<211> 233
<212> PRT
<213> Artificial Sequence

<220>
<223> KRAS-FLAGSorHisTEV-Bio

<400> 100

Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys
1 5 10 15

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Gly Ser
165 170 175

Ser Asp Tyr Lys Asp Asp Asp Asp Lys Gly Gly Ser Ser Leu Pro Met
180 185 190

Thr Gly Gly Gly Gly Ser Ser His His His His His His Ser Ser Gly
195 200 205

Glu Asn Leu Tyr Phe Gln Gly Ser Gly Gly Gly Leu Asn Asp Ile Phe
210 215 220

Glu Ala Gln Lys Ile Glu Trp His Glu
225 230

<210> 101
<211> 205
<212> PRT
<213> Artificial Sequence

<220>
<223> HAT-KRAS-nonbio

<400> 101

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

Ala His Ser Ser Gly Ser Leu Val Pro Arg Gly Ser Ser Gly Gly Ser
20 25 30

Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys Ser
35 40 45

Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr Asp
50 55 60

Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly Glu
65 70 75 80

Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr Ser
85 90 95

Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys Val
100 105 110

Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr Arg
115 120 125

Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val Leu
130 135 140

Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys Gln
145 150 155 160

Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr Ser
165 170 175

Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val Arg
180 185 190

Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly
195 200 205

<210> 102

<211> 258

<212> PRT

<213> Artificial Sequence

<220>

<223> GST-HisTEV-Bio

<400> 102

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15

Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30

Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45

Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp Gly Asp Val Lys

50 55 60

Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80

Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95

Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110

Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125

Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140

Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160

Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175

Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190

Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205

Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Gly Gly Ser Ser
210 215 220

His His His His His His Ser Ser Gly Glu Asn Leu Tyr Phe Gln Gly
225 230 235 240

Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp
245 250 255

His Glu

<210> 103
<211> 258
<212> PRT
<213> Artificial Sequence

<220>
<223> GST-HisTEVAvi

<400> 103

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15

Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30

Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45

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

Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80

Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95

Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser

100 105 110

Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125

Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140

Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160

Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175

Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190

Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205

Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Gly Gly Ser Ser
210 215 220

His His His His His His Ser Ser Gly Glu Asn Leu Tyr Phe Gln Gly
225 230 235 240

Ser Gly Gly Gly Leu Asn Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp
245 250 255

His Glu

<210> 104

<211> 254

<212> PRT

<213> Artificial Sequence

<220>

<223> GST-SrtAHis

<400> 104

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15

Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30

Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45

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

Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80

Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95

Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110

Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125

Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140

Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp

145 150 155 160

Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
 165 170 175

Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
 180 185 190

Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
 195 200 205

Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Gly Gly Ser Ser
 210 215 220

Asp Tyr Lys Asp Asp Asp Asp Lys Gly Gly Ser Ser Leu Pro Met Thr
225 230 235 240

Gly Gly Gly Gly Ser Ser His His His His His His His His
 245 250

<210> 105

<211> 156

<212> PRT

<213> Artificial Sequence

<220>

<223> eSrtA

<400> 105

Met Gln Ala Lys Pro Gln Ile Pro Lys Asp Lys Ser Lys Val Ala Gly
1 5 10 15

Tyr Ile Glu Ile Pro Asp Ala Asp Ile Lys Glu Pro Val Tyr Pro Gly
 20 25 30

Pro Ala Thr Arg Glu Gln Leu Asn Arg Gly Val Ser Phe Ala Glu Glu
35 40 45

Asn Glu Ser Leu Asp Asp Gln Asn Ile Ser Ile Ala Gly His Thr Phe
50 55 60

Ile Asp Arg Pro Asn Tyr Gln Phe Thr Asn Leu Lys Ala Ala Lys Lys
65 70 75 80

Gly Ser Met Val Tyr Phe Lys Val Gly Asn Glu Thr Arg Lys Tyr Lys
85 90 95

Met Thr Ser Ile Arg Asn Val Lys Pro Thr Ala Val Glu Val Leu Asp
100 105 110

Glu Gln Lys Gly Lys Asp Lys Gln Leu Thr Leu Ile Thr Cys Asp Asp
115 120 125

Tyr Asn Glu Glu Thr Gly Val Trp Glu Thr Arg Lys Ile Phe Val Ala
130 135 140

Thr Glu Val Lys Leu Glu His His His His His His
145 150 155

<210> 106

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Sor-sp11-L12

<400> 106

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Thr Ser Glu Lys
1 5 10 15

Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala Ala Gly Ile Thr
20 25 30

Asp Ala Ser
35

<210> 107
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Sor-sp10-12

<400> 107

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Met Asp Leu Pro
1 5 10 15

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

<210> 108
<211> 228
<212> PRT
<213> Artificial Sequence

<220>
<223> KRAS-sp11

<400> 108

Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys
1 5 10 15

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Gly Ser
165 170 175

Ser Asp Tyr Lys Asp Asp Asp Asp Lys Gly Gly Ser Ser Leu Pro Met
180 185 190

Thr Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Thr Ser Glu
195 200 205

Lys Arg Asp His Met Val Leu Leu Glu Tyr Val Thr Ala Ala Gly Ile

210 215 220

Thr Asp Ala Ser
225

<210> 109
<211> 225
<212> PRT
<213> Artificial Sequence

<220>
<223> KRAS-sp10

<400> 109

Met Thr Glu Tyr Lys Leu Val Val Val Gly Ala Asp Gly Val Gly Lys
1 5 10 15

Ser Ala Leu Thr Ile Gln Leu Ile Gln Asn His Phe Val Asp Glu Tyr
20 25 30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Val Ile Asp Gly
35 40 45

Glu Thr Cys Leu Leu Asp Ile Leu Asp Thr Ala Gly Gln Glu Glu Tyr
50 55 60

Ser Ala Met Arg Asp Gln Tyr Met Arg Thr Gly Glu Gly Phe Leu Cys
65 70 75 80

Val Phe Ala Ile Asn Asn Thr Lys Ser Phe Glu Asp Ile His His Tyr
85 90 95

Arg Glu Gln Ile Lys Arg Val Lys Asp Ser Glu Asp Val Pro Met Val
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Pro Ser Arg Thr Val Asp Thr Lys
115 120 125

Gln Ala Gln Asp Leu Ala Arg Ser Tyr Gly Ile Pro Phe Ile Glu Thr
130 135 140

Ser Ala Lys Thr Arg Gln Gly Val Asp Asp Ala Phe Tyr Thr Leu Val
145 150 155 160

Arg Glu Ile Arg Lys His Lys Glu Lys Met Ser Lys Asp Gly Gly Ser
165 170 175

Ser Asp Tyr Lys Asp Asp Asp Asp Lys Gly Gly Ser Ser Leu Pro Met
180 185 190

Thr Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Met Asp Leu
195 200 205

Pro Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu Lys Asp Leu
210 215 220

Asn
225

<210> 110
<211> 272
<212> PRT
<213> Artificial Sequence

<220>
<223> GST-sp10

<400> 110

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
1 5 10 15

Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
20 25 30

Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
35 40 45

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

Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
65 70 75 80

Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
85 90 95

Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
100 105 110

Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
115 120 125

Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
130 135 140

Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
145 150 155 160

Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
165 170 175

Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
180 185 190

Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
195 200 205

Thr Phe Gly Gly Gly Asp His Pro Pro Lys Ser Asp Gly Gly Ser Ser
210 215 220

Asp Tyr Lys Asp Asp Asp Asp Lys Gly Gly Ser Ser Leu Pro Met Thr
225 230 235 240

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser Met Asp Leu Pro
245 250 255

Asp Asp His Tyr Leu Ser Thr Gln Thr Ile Leu Leu Lys Asp Leu Asn
260 265 270

<210> 111

<211> 107

<212> DNA

<213> Artificial Sequence

<220>

<223> DNA library

<220>

<221> misc_feature

<222> (50)..(52)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (53)..(55)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (56)..(58)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (59)..(61)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (62)..(64)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (65)..(67)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (68)..(70)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (71)..(73)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>
<221> misc_feature
<222> (74)..(76)
<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,

or ggt

<400> 111
gtaatacgac tcactatagg gttaacttta ataaggagat ataaatatgn nnnnnnnnnn 60

nnnnnnnnnn nnnnnntagc cgaccggcac cggcaccggc aaaaaaa 107

<210> 112
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> qPCR primer_Fw

<400> 112
gtaatacgac tcactatagg gttaacttta ataaggag 38

<210> 113
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> qPCR primer_Rv

<400> 113
ttttttgcc ggtgccggtg ccggtcggct a 31

<210> 114
<211> 156
<212> PRT
<213> Artificial Sequence

<220>
<223> FKBP-HisTEVAvi

<400> 114

Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Ser Ser
100 105 110

Leu Pro Met Thr Gly Gly Gly Gly Ser Ser His His His His His His
115 120 125

Ser Ser Gly Glu Asn Leu Tyr Phe Gln Gly Ser Gly Gly Gly Leu Asn
130 135 140

Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His Glu
145 150 155

<210> 115

<211> 156

<212> PRT

<213> Artificial Sequence

<220>

<223> FKBP-SrtAHis

<400> 115

Met Gly Val Gln Val Glu Thr Ile Ser Pro Gly Asp Gly Arg Thr Phe
1 5 10 15

Pro Lys Arg Gly Gln Thr Cys Val Val His Tyr Thr Gly Met Leu Glu
20 25 30

Asp Gly Lys Lys Phe Asp Ser Ser Arg Asp Arg Asn Lys Pro Phe Lys
35 40 45

Phe Met Leu Gly Lys Gln Glu Val Ile Arg Gly Trp Glu Glu Gly Val
50 55 60

Ala Gln Met Ser Val Gly Gln Arg Ala Lys Leu Thr Ile Ser Pro Asp
65 70 75 80

Tyr Ala Tyr Gly Ala Thr Gly His Pro Gly Ile Ile Pro Pro His Ala
85 90 95

Thr Leu Val Phe Asp Val Glu Leu Leu Lys Leu Glu Gly Gly Ser Ser
100 105 110

Leu Pro Met Thr Gly Gly Gly Gly Ser Ser His His His His His His
115 120 125

Ser Ser Gly Glu Asn Leu Tyr Phe Gln Gly Ser Gly Gly Gly Leu Asn
130 135 140

Asp Ile Phe Glu Ala Gln Lys Ile Glu Trp His Glu
145 150 155

<210> 116

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> sortase recognition sequence

<220>

<221> misc_feature

<222> (3)..(3)

<223> Xaa can be any naturally occurring amino acid

<400> 116

Leu Pro Xaa Thr Gly

1 5

<210> 117

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Fw-primer

<400> 117

gtaatacgac tcactatagg gttaacttta agaaggaga 39

<210> 118

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Rv-primer

<400> 118

tttgtccccg ccgccctatc gccggtgccg gtgccggtcg gct 43

<210> 119

<211> 104

<212> DNA

<213> Artificial Sequence

<220>

<223> v9case1 lib

<220>

<221> misc_feature

<222> (50)..(52)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (53)..(55)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (56)..(58)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (59)..(61)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (62)..(64)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (65)..(67)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,

or ggt

<220>

<221> misc_feature

<222> (68)..(70)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<220>

<221> misc_feature

<222> (71)..(73)

<223> nnn = ttt, ttg, ctt, ctg, att, atg, gtt, gtg, tct, tcg, ccg, act,
gct, tac, cat, cag, aac, gat, gag, tgc, tgg, cgt, cgg, agt, agg,
or ggt

<400> 119

gtaatacgac tcactatagg gttaacttta ataaggagat ataaatatgn nnnnnnnnnn 60

nnnnnnnnnn nnntagccga ccggcaccgg caccggcaaa aaaa 104

<210> 120

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> v7c1 ID45_9 (ATG)

<220>

<221> misc_feature

<222> (50)..(52)

<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>

<221> misc_feature

<222> (53)..(55)

<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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<220>

<221> misc_feature

<222> (56)..(58)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
 gct, ggt, gta, tgc, tgg, or ttt

 <220>
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 <222> (59)..(61)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
 gct, ggt, gta, tgc, tgg, or ttt

 <220>
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 <222> (62)..(64)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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 <220>
 <221> misc_feature
 <222> (65)..(67)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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 <220>
 <221> misc_feature
 <222> (68)..(70)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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 <220>
 <221> misc_feature
 <222> (71)..(73)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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 <220>
 <221> misc_feature
 <222> (74)..(76)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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 <400> 120
 gtaatacgac tcactatagg gttaacttta agaaggagat atacatatgn nnnnnnnnnn 60

 nnnnnnnnnn nnnnnnatgc cgaccggcac cggcaccggc gatagggcgg cggggacaaa 120

<210> 121
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> v7c1 ID45_9 (TAG)

<220>
<221> misc_feature
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<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>
<221> misc_feature
<222> (53)..(55)
<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>
<221> misc_feature
<222> (56)..(58)
<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>
<221> misc_feature
<222> (59)..(61)
<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>
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<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
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<223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa,
gct, ggt, gta, tgc, tgg, or ttt

<220>
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 <222> (68)..(70)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa, gct, ggt, gta, tgc, tgg, or ttt

<220>
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 <222> (71)..(73)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa, gct, ggt, gta, tgc, tgg, or ttt

<220>
 <221> misc_feature
 <222> (74)..(76)
 <223> nnn = aac, act, agg, agt, att, cag, cat, ccg, cgg, cgt, cta, gaa, gct, ggt, gta, tgc, tgg, or ttt

<400> 121
 gtaatcgcac tcactatagg gtaacttta agaaggagat atacatatgn nnnnnnnnnn 60

 nnnnnnnnnn nnnnnntagc cgaccggcac cggcaccggc gatagggcgg cggggacaaa 120

<210> 122
 <211> 102
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> v7c1 ID45_9 (ATG)

<220>
 <221> misc_feature
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 <223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>
 <221> misc_feature
 <222> (35)..(37)
 <223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (38)..(40)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (41)..(43)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (44)..(46)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (47)..(49)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (50)..(52)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (53)..(55)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<220>
<221> misc_feature
<222> (56)..(58)
<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa,
gcu, ggu, gua, ugc, ugg, or uuu

<400> 122
ggguuaacuu uaagaaggag auauacauau gnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnau 60

gccgaccggc accggcaccg gcgauagggc ggcggggaca aa

102

<210> 123

<211> 102

<212> RNA

<213> Artificial Sequence

<220>

<223> v7c1 ID45_9 (TAG)

<220>

<221> misc_feature

<222> (32)..(34)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (35)..(37)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (38)..(40)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (41)..(43)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (44)..(46)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (47)..(49)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (50)..(52)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (53)..(55)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<220>

<221> misc_feature

<222> (56)..(58)

<223> nnn = aac, acu, agg, agu, auu, cag, cau, ccg, cgg, cgu, cua, gaa, gcu, ggu, gua, ugc, ugg, or uuu

<400> 123

ggguuaacuu uaagaaggag auauacauau gnnnnnnnnnn nnnnnnnnnnn nnnnnnnnnua 60

gccgaccggc accggcaccg gcgauagggc ggcggggaca aa 102

<210> 124

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<213> Artificial Sequence

<220>

<223> GS linker

<400> 124

Gly Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Ser

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