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SEQUENCE LISTING

<110> Herring, Christopher
Holt, Lucy
Jespers, Laurent
Mayer, Sebastian
Pupecka, Malgorzata

<120> Drug fusions and conjugates

<130> DB63558 WO

<150> US 61/163917
<151> 2009-03-27

<160> 52

<170> FastSEQ for Windows Version 4.0

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<220>
<223> 2xGLP-1 A8G DOM7h-14 fusion (DAT0114)

<400> 1
His Gly Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1 5 10 15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg His Gly
20 25 30
Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly Gln Ala
35 40 45
Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Asp Ile Gln Met
50 55 60
Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr
65 70 75 80
Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr
85 90 95
Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser
100 105 110
Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly
115 120 125
Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala
130 135 140
Thr Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln
145 150 155 160
Gly Thr Lys Val Glu Ile Lys Arg
165

<210> 2
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin 4, (G4S)3 linker, DOM7h-14 fusion
(DAT0115)

<400> 2
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu

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1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
35 40 45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
50 55 60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65 70 75 80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
85 90 95
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
100 105 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
115 120 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
130 135 140
Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu
145 150 155 160
Ile Lys Arg

<210> 3
<211> 148
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin 4 DOM7h-14 fusion (DAT0116)

<400> 3
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Asp Ile Gln Met Thr Gln Ser Pro
35 40 45
Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg
50 55 60
Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro
65 70 75 80
Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser
85 90 95
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
100 105 110
Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
115 120 125
Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys Val
130 135 140
Glu Ile Lys Arg
145

<210> 4
<211> 188
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin 4, helical linker, DOM7h-14 fusion
(DAT0117)

<400> 4
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

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Ser Gly Ala Pro Pro Pro Ser Gly Lys Glu Ala Ala Ala Lys Glu Ala
35 40 45
Ala Ala Lys Glu Ala Ala Ala Lys Glu Leu Ala Ala Lys Glu Ala Ala
50 55 60
Ala Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu Leu Ala Ala
65 70 75 80
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
85 90 95
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln
100 105 110
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
115 120 125
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
130 135 140
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
145 150 155 160
Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg
165 170 175
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
180 185

<210> 5
<211> 153
<212> PRT
<213> Artificial Sequence

<220>
<223> GLP-1 A8G, (G4S)3, linker DOM7h-14 fusion
(DAT0118)

<400> 5
His Gly Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1 5 10 15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly Gly
20 25 30
Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln
35 40 45
Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly Asp Arg Val
50 55 60
Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp
65 70 75 80
Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile Met Trp Arg
85 90 95
Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
100 105 110
Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
115 120 125
Ala Thr Tyr Tyr Cys Ala Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly
130 135 140
Gln Gly Thr Lys Val Glu Ile Lys Arg
145 150

<210> 6
<211> 142
<212> PRT
<213> Artificial Sequence

<220>
<223> GLP-1 A8G, PSS linker, DOM7h-14 fusion (DAT0119)

<400> 6
His Gly Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1 5 10 15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly Pro
20 25 30
Ser Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser

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        35                  40                  45
Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Trp Ile Gly
    50                  55                  60
Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu
65                  70                  75                  80
Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe
                85                  90                  95
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu
            100                 105                 110
Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala Gln Gly Ala Ala Leu
        115                 120                 125
Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
    130                 135                 140


<210> 7
<211> 179
<212> PRT
<213> Artificial Sequence

<220>
<223> GLP-1 A8G, helical linker, DOM7h-14 fusion
      (DAT0120)

<400> 7
His Gly Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
 1               5                  10                  15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly Lys
            20                  25                  30
Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu
        35                  40                  45
Leu Ala Ala Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu Ala
    50                  55                  60
Ala Ala Lys Glu Leu Ala Ala Asp Ile Gln Met Thr Gln Ser Pro Ser
65                  70                  75                  80
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
                85                  90                  95
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
            100                 105                 110
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
        115                 120                 125
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
    130                 135                 140
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
145                 150                 155                 160
Gln Gly Ala Ala Leu Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu
                165                 170                 175
Ile Lys Arg


<210> 8
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> DOM7h-14

<400> 8
Asp Ile Gln Met 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 Trp Ile Gly Ser Gln
            20                  25                  30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35                  40                  45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50                  55                  60
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Ser Gly 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 Ala Gln Gly Ala Ala Leu Pro Arg
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 9
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> GLP-1 (7-37) A8G

<400> 9
His Gly Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1 5 10 15
Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly
20 25 30

<210> 10
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> exendin-4

<400> 10
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser
35

<210> 11
<211> 40
<212> PRT
<213> Artificial Sequence

<220>
<223> helical linker

<400> 11
Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys
1 5 10 15
Glu Leu Ala Ala Lys Glu Ala Ala Ala Lys Glu Ala Ala Ala Lys Glu
20 25 30
Ala Ala Ala Lys Glu Leu Ala Ala
35 40

<210> 12
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Gly-ser linker

<400> 12
Gly Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 13
<211> 504
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0114 - nucleic acid sequence (from mammalian construct)

<400> 13
catggtgaag ggacctttac cagtgatgta agttcttatt tggaaggcca agctgccaag 60
gaattcattg cttggctggt gaaaggccga catggtgaag ggacctttac cagtgatgta 120
agttcttatt tggaaggcca agctgccaag gaattcattg cttggctggt gaaaggccga 180
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 240
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 300
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 360
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 420
gaagattttg ctacgtacta ctgtgctcag ggtgcggcgt tgcctaggac gttcggccaa 480
gggaccaagg tggaaatcaa acgg 504

<210> 14
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0115 - nucleic acid sequence (from mammalian construct)

<400> 14
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggtgc ggcgttgcct aggacgttcg gccaagggac caaggtggaa 480
atcaaacgg 489

<210> 15
<211> 495
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0115 - nucleic acid sequence (from E.coli construct)

<400> 15
cacggtgaag gtaccttcac ctctgacctg agcaaacaga tggaggaaga agcggttcgt 60
ctgttcatcg agtggctgaa aaacggtggt ccgtcttctg gtgctccgcc accgtctggt 120
ggtggtggtg gttctggtgg tggtggttct ggtggtggcg gtagcgacat ccagatgact 180
cagtccccaa gctctctgtc tgcctccgtt ggcgatcgtg ttacgatcac gtgccgtgct 240
tctcagtgga tcggttccca gctgtcctgg tatcagcaga aaccgggcaa agccccgaaa 300
ctcctgatca tgtggcgtag ctctctgcag tctggtgtac cgagccgctt ctctggttct 360
ggttctggta ccgacttcac cctgaccatt tcctctctgc agccggaaga tttcgcgacc 420
tactactgtg ctcagggtgc ggcactgcca cgtacttttg gccagggtac gaaagtcgag 480
attaaacgtt aatga 495

<210> 16
<211> 444
<212> DNA
<213> Artificial Sequence

<220>

<223> DAT0116 - nucleic acid sequence (from mammalian construct)

<400> 16
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 180
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 240
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 300
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 360
gaagattttg ctacgtacta ctgtgctcag ggtgcggcgt tgcctaggac gttcggccaa 420
gggaccaagg tggaaatcaa acgg 444

<210> 17
<211> 447
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0116 - nucleic acid sequence (from E.coli construct)

<400> 17
cacggtgaag gtaccttcac ctctgacctg agcaaacaga tggaggaaga agcggttcgt 60
ctgttcatcg agtggctgaa aaacggtggt ccgtcttctg gtgctccgcc accgtctgac 120
atccagatga ctcagtcccc aagctctctg tctgcctccg ttggcgatcg tgttacgatc 180
acgtgccgtg cttctcagtg gatcggttcc cagctgtcct ggtatcagca gaaaccgggc 240
aaagccccga aactcctgat catgtggcgt agctctctgc agtctggtgt accgagccgc 300
ttctctggtt ctggttctgg taccgacttc accctgacca tttcctctct gcagccggaa 360
gatttcgcga cctactactg tgctcagggt gcggcactgc cacgtacttt tggccagggt 420
acgaaagtcg agattaaacg ttaatga 447

<210> 18
<211> 564
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0117 - nucleic acid sequence (from mammalian construct)

<400> 18
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
aaagaagcgg cggcgaaaga agcggcggcg aaagaagcgg cggcgaaaga attggccgca 180
aaagaagcgg cggcgaaaga agcggcggcg aaagaagcgg cggcgaaaga attggccgca 240
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 300
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 360
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 420
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 480
gaagattttg ctacgtacta ctgtgctcag ggtgcggcgt tgcctaggac gttcggccaa 540
gggaccaagg tggaaatcaa acgg 564

<210> 19
<211> 567
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0117 - nucleic acid sequence (from E.coli construct)

<400> 19
cacggtgaag gtaccttcac ctctgacctg agcaaacaga tggaggaaga agcggttcgt 60
ctgttcatcg agtggctgaa aaacggtggt ccgtcttctg gtgctccgcc accgtctaaa 120
gaagcggcgg cgaaagaagc ggcggcgaaa gaagcggcgg cgaaagaatt ggccgcaaaa 180
gaagcggcgg cgaaagaagc ggcggcgaaa gaagcggcgg cgaaagaatt ggccgcagac 240
atccagatga ctcagtcccc aagctctctg tctgcctccg ttggcgatcg tgttacgatc 300

acgtgccgtg cttctcagtg gatcggttcc cagctgtcct ggtatcagca gaaaccgggc 360
aaagccccga aactcctgat catgtggcgt agctctctgc agtctggtgt accgagccgc 420
ttctctggtt ctggttctgg taccgacttc accctgacca tttcctctct gcagccggaa 480
gatttcgcga cctactactg tgctcagggt gcggcactgc cacgtacttt tggccagggt 540
acgaaagtcg agattaaacg ttaatga 567

<210> 20
<211> 459
<212> DNA
<213> DAT0118 - nucleic acid sequence (from mammalian c)

<220>
<223> DAT0118 - nucleic acid sequence (from mammalian construct)

<400> 20
catggtgaag ggacctttac cagtgatgta agttcttatt tggaaggcca agctgccaag 60
gaattcattg cttggctggt gaaaggccga ggtggaggcg gttcaggcgg aggtggcagc 120
ggcggtggcg ggtcggacat ccagatgacc cagtctccat cctccctgtc tgcatctgta 180
ggagaccgtg tcaccatcac ttgccgggca agtcagtgga ttgggtctca gttatcttgg 240
taccagcaga aaccagggaa agcccctaag ctcctgatca tgtggcgttc ctcgttgcaa 300
agtggggtcc catcacgttt cagtggcagt ggatctggga cagatttcac tctcaccatc 360
agcagtctgc aacctgaaga ttttgctacg tactactgtg ctcagggtgc ggcgttgcct 420
aggacgttcg gccaagggac caaggtggaa atcaaacgg 459

<210> 21
<211> 426
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0119 - nucleic acid sequence (from mammalian construct)

<400> 21
catggtgaag ggacctttac cagtgatgta agttcttatt tggaaggcca agctgccaag 60
gaattcattg cttggctggt gaaaggccga ggaccaagct cggacatcca gatgacccag 120
tctccatcct ccctgtctgc atctgtagga gaccgtgtca ccatcacttg ccgggcaagt 180
cagtggattg ggtctcagtt atcttggtac cagcagaaac cagggaaagc ccctaagctc 240
ctgatcatgt ggcgttcctc gttgcaaagt ggggtcccat cacgtttcag tggcagtgga 300
tctgggacag atttcactct caccatcagc agtctgcaac ctgaagattt tgctacgtac 360
tactgtgctc agggtgcggc gttgcctagg acgttcggcc aagggaccaa ggtggaaatc 420
aaacgg 426

<210> 22
<211> 537
<212> DNA
<213> Artificial Sequence

<220>
<223> DAT0120 - nucleic acid sequence (from mammalian construct)

<400> 22
catggtgaag ggacctttac cagtgatgta agttcttatt tggaaggcca agctgccaag 60
gaattcattg cttggctggt gaaaggccga ggaaaagaag cggcggcgaa agaagcggcg 120
gcgaaagaag cggcggcgaa agaattggcc gcaaaagaag cggcggcgaa agaagcggcg 180
gcgaaagaag cggcggcgaa agaattggcc gcagacatcc agatgaccca gtctccatcc 240
tccctgtctg catctgtagg agaccgtgtc accatcactt gccgggcaag tcagtggatt 300
gggtctcagt tatcttggta ccagcagaaa ccagggaaag cccctaagct cctgatcatg 360
tggcgttcct cgttgcaaag tggggtccca tcacgtttca gtggcagtgg atctgggaca 420
gatttcactc tcaccatcag cagtctgcaa cctgaagatt ttgctacgta ctactgtgct 480
cagggtgcgg cgttgcctag gacgttcggc caagggacca aggtggaaat caaacgg 537

<210> 23
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Dom7h-14 - nucleic acid sequence

<400> 23
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtgcggcgt tgcctaggac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 24
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin 4, (G4S)3, linker DOM7h-14-10 fusion
(DMS7139)

<400> 24
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
35 40 45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
50 55 60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65 70 75 80
Ser Gln Trp Ile Gly Ser Gln Leu Ser Trp Tyr Gln Gln Lys Pro Gly
85 90 95
Lys Ala Pro Lys Leu Leu Ile Met Trp Arg Ser Ser Leu Gln Ser Gly
100 105 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
115 120 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
130 135 140
Gln Gly Leu Arg His Pro Lys Thr Phe Gly Gln Gly Thr Lys Val Glu
145 150 155 160
Ile Lys Arg

<210> 25
<211> 163
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin 4, (G4S)3, linker DOM7h-11-15 fusion
(DMS7143)

<400> 25
His Gly Glu Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Met Glu Glu
1 5 10 15
Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30
Ser Gly Ala Pro Pro Pro Ser Gly Gly Gly Gly Gly Ser Gly Gly Gly
35 40 45
Gly Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Ser
50 55 60
Ser Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala
65 70 75 80
Ser Arg Pro Ile Gly Thr Met Leu Ser Trp Tyr Gln Gln Lys Pro Gly
85 90 95

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Lys Ala Pro Lys Leu Leu Ile Leu Ala Phe Ser Arg Leu Gln Ser Gly
100 105 110
Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu
115 120 125
Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Ala
130 135 140
Gln Ala Gly Thr His Pro Thr Thr Phe Gly Gln Gly Thr Lys Val Glu
145 150 155 160
Ile Lys Arg

<210> 26
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> DOM7h-14-10

<400> 26
Asp Ile Gln Met 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 Trp Ile Gly Ser Gln
20 25 30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly 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 Ala Gln Gly Leu Arg His Pro Lys
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 27
<211> 108
<212> PRT
<213> DOM7h-11-15Artificial Sequence

<220>
<223> DOM7h-11-15

<400> 27
Asp Ile Gln Met 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 Arg Pro Ile Gly Thr Met
20 25 30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
35 40 45
Leu Ala Phe Ser Arg Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60
Ser Gly 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 Ala Gln Ala Gly Thr His Pro Thr
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
100 105

<210> 28
<211> 20
<212> PRT
<213> Artificial Sequence

<220>

<223> OmpT AWA signal peptide (leader)

<400> 28
Met Arg Ala Lys Leu Leu Gly Ile Val Leu Thr Thr Pro Ile Ala Ile
 1   5   10   15
Ser Ala Trp Ala
            20

<210> 29
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Exendin 4, (G4S)3, linker DOM7h-14-10 fusion
      (DMS7139)

<400> 29
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcagtgga ttgggtctca gttatcttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatca tgtggcgttc ctcgttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgtg ctcagggttt gaggcatcct aagacgttcg gccaagggac caaggtggaa 480
atcaaacgg   489

<210> 30
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> Exendin 4, (G4S)3, linker DOM7h-11-115 fusion
      (DMS7143)

<400> 30
catggtgaag gaacatttac cagtgacttg tcaaaacaga tggaagagga ggcagtgcgg 60
ttatttattg agtggcttaa gaacggagga ccaagtagcg gggcacctcc gccatcgggt 120
ggtggaggcg gttcaggcgg aggtggcagc ggcggtggcg ggtcggacat ccagatgacc 180
cagtctccat cctccctgtc tgcatctgta ggagaccgtg tcaccatcac ttgccgggca 240
agtcgtccga ttgggacgat gttaagttgg taccagcaga aaccagggaa agcccctaag 300
ctcctgatcc ttgctttttc ccgtttgcaa agtggggtcc catcacgttt cagtggcagt 360
ggatctggga cagatttcac tctcaccatc agcagtctgc aacctgaaga ttttgctacg 420
tactactgcg cgcaggctgg gacgcatcct acgacgttcg gccaagggac caaggtggaa 480
atcaaacgg   489

<210> 31
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> Dom7h-14-10 - nucleic acid

<400> 31
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtttgaggc atcctaagac gttcggccaa 300
gggaccaagg tggaaatcaa acgg   324

<210> 32
<211> 324
<212> DNA

<213> Artificial Sequence

<220>
<223> Dom7h-11-15 - nucleic acid

<400> 32
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtcg tccgattggg acgatgttaa gttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatccttgct ttttcccgtt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgcgcgcag gctgggacgc atcctacgac gttcggccaa 300
gggaccaagg tggaaatcaa acgg 324

<210> 33
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<223> OmpAWA signal peptide - nucleic acid sequence

<400> 33
atgcgggcga aactcctagg aatagtcctg acaaccccta tcgcgatcag cgcttgggcc 60

<210> 34
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> ompA (E. coli derived)

<400> 34
Met Lys Lys Thr Ala Ile Ala Ile Ala Val Ala Leu Ala Gly Phe Ala
1 5 10 15
Thr Val Ala Gln Ala
20

<210> 35
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> ompA-AMA (artificial sequence)

<400> 35
Met Lys Lys Thr Ala Ile Ala Ile Ala Val Ala Leu Ala Gly Phe Ala
1 5 10 15
Thr Val Ala Met Ala
20

<210> 36
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> ompA-AWA

<400> 36
Met Lys Lys Thr Ala Ile Ala Ile Ala Val Ala Leu Ala Gly Phe Ala
1 5 10 15
Thr Val Ala Trp Ala
20

<210> 37
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> ompT (E. coli derived)

<400> 37
Met Arg Ala Lys Leu Leu Gly Ile Val Leu Thr Thr Pro Ile Ala Ile
1 5 10 15
Ser Ser Phe Ala
20

<210> 38
<211> 20
<212> PRT
<213> Artificial Sequence

<220>
<223> ompT-AMA

<400> 38
Met Arg Ala Lys Leu Leu Gly Ile Val Leu Thr Thr Pro Ile Ala Ile
1 5 10 15
Ser Ala Met Ala
20

<210> 39
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> GAS (S. cerevisiae derived)

<400> 39
Met Leu Phe Lys Ser Leu Ser Lys Leu Ala Thr Ala Ala Ala Phe Phe
1 5 10 15
Ala Gly Val Ala Thr Ala
20

<210> 40
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> GAS-AMA

<400> 40
Met Leu Phe Lys Ser Leu Ser Lys Leu Ala Thr Ala Ala Ala Phe Phe
1 5 10 15
Ala Gly Val Ala Met Ala
20

<210> 41
<211> 22
<212> PRT
<213> Artificial Sequence

<220>

<223> GAS-AWA

<400> 41
Met Leu Phe Lys Ser Leu Ser Lys Leu Ala Thr Ala Ala Ala Phe Phe
 1   5   10   15
Ala Gly Val Ala Trp Ala
            20

<210> 42

<220>
<223> DOM7h-14-10R108C

<400> 42
 Asp Ile Gln Met 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 Trp Ile Gly Ser Gln
            20   25   30
Leu Ser Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        35   40   45
Met Trp Arg Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
    50   55   60
Ser Gly 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 Ala Gln Gly Leu Arg His Pro Lys
                85   90   95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Cys
            100   105

<210> 43
<211> 34
<212> PRT
<213> Artificial Sequence

<220>
<223> PYY 3-36 (with a lysine at position 10)

<400> 43
Ile Lys Pro Glu Ala Pro Gly Lys Asp Ala Ser Pro Glu Glu Leu Asn
 1   5   10   15
Arg Tyr Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr Arg Gln
            20   25   30
Arg Tyr

<210> 44
<211> 324
<212> DNA
<213> Artificial Sequence

<220>
<223> DOM 7h-14-10 R108C - nucleic acid sequence

<400> 44
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga ccgtgtcacc 60
atcacttgcc gggcaagtca gtggattggg tctcagttat cttggtacca gcagaaacca 120
gggaaagccc ctaagctcct gatcatgtgg cgttcctcgt tgcaaagtgg ggtcccatca 180
cgtttcagtg gcagtggatc tgggacagat ttcactctca ccatcagcag tctgcaacct 240
gaagattttg ctacgtacta ctgtgctcag ggtttgaggc atcctaagac gttcggccaa 300
gggaccaagg tggaaatcaa atgt   324

<210> 45
<211> 1389
<212> DNA
<213> Artificial Sequence

<220>
<223> Cynomolgus GLP-1 receptor cDNA sequence

<400> 45
atggccggca cccccggccc gctgcgcctc gcgctcctgc tgctcggggt ggtgggcagg 60
gccggccccc gcccccaggg tgccactgtg tccctctggg agacggtgca gaaatggcga 120
gaataccgac gccagtgcca gcgctccctg actgaggacc cacctcccgc cacagacttg 180
ttctgcaacc ggaccttcga tgaatatgcc tgctggccag atggggagcc aggctccttc 240
gtgaatgtca gctgcccctg gtacctgccc tgggccagca gtgtgccgca gggccacgtg 300
taccggttct gcacagctga aggcctctgg ctgcagaagg acaactccag cctgccctgg 360
agggacttgt cggagtgtga ggagtccaag cgaggggaga gaaattcccc ggaggagcag 420
ctcctgtccc tctacatcat ctacacggtg ggctacgcac tctccttctc tgctctggtt 480
atcgcctctg cgatcctcct tggcttcaga cacctgcact gcacccggaa ctacatccac 540
ctgaacctgt ttgcatcctt catcctgcga gcattgtccg tcttcatcaa ggacgcagcc 600
ctcaagtgga tgtacagcac ggccgcccag cagcaccagt gggatgggct cctctcctac 660
caggactctc tgggctgccg cgtggtgttt ctgctcatgc aatactgtgt ggcggccaat 720
tactactggc tcttggtgga gggcgtgtac ctgtacacac tgctggcctt ctcggtcttc 780
tctgagcaac gaatcttcag gctgtatgtg agcgtaggct ggggtgttcc cctgctgttt 840
gttgtcccct ggggcattgt caagtacctc tatgaggacg agggctgctg gaccaggaac 900
tccaacatga actactggct cattatccgg ctgcccattc tctttgccat tggggtgaac 960
ttcctcatct ttgttcgggt catctgcatc gtggtatcca aactgaaggc caatctcatg 1020
tgcaagacag acatcaaatg cagacttgcc aagtccacgc tgacactcat ccccctgctg 1080
gggactcatg aggtcatctt tgcctttgtg atggacgagc atgcccgggg caccctgcgc 1140
ttcatcaagc tgttcacgga gctctccttt acctccttcc aggggctgat ggtggccatc 1200
ttgtactgct ttgtcaacaa tgaggtccag ttggaatttc ggaagagctg ggagcgctgg 1260
cggcttgagc acttgcacat ccagagggac agcagcatga agcccctcaa gtgtcccacc 1320
agcagcctga gcagtggggc cacggcgggc agcagcatgt acacagccac ttgccaggcc 1380
tcctgcagc 1389

<210> 46
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Pel B

<400> 46
Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Leu Ala
 1   5   10   15
Ala Gln Pro Ala Met Ala
            20

<210> 47
<211> 115
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide 1

<400> 47
ggaattccat atgaaaatca aaaccggtgc tcgcatcctg gctctgtccg ctctgaccac 60
tatgatgttc tccgcttccg cgctggctca tggtgaagga acatttacca gtgac 115

<210> 48
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide 2

<400> 48
gttcagaatt cttattaccg tttgatttcc accttggtcc cttg 44

<210> 49
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Mal E signal sequence

<400> 49
Met Lys Ile Lys Thr Gly Ala Arg Ile Leu Ala Leu Ser Ala Leu Thr
 1   5   10   15
Thr Met Met Phe Ser Ala Ser Ala Leu Ala
            20   25

<210> 50
<211> 489
<212> DNA
<213> Artificial Sequence

<220>
<223> DMS 7139 nucleic acid sequence for E.coli
      expression

<400> 50
cacggtgaag gtacgttcac ctctgacctg agcaaacaga tggaggaaga agcggttcgt 60
ctgttcatcg agtggctgaa aaacggtggt ccgtcttctg gtgctccgcc gccgtctggt 120
ggtggtggtg gttctggtgg tggtggttct ggtggtggtg gcagcgatat ccagatgact 180
cagtccccgt cttctctctc cgcctctgtt ggcgaccgtg ttaccatcac ttgtcgtgcg 240
agccagtgga tcggttccca gctgagctgg tatcagcaga aaccgggcaa agcgccgaaa 300
ctgctgatca tgtggcgctc tagcctgcag tctggtgtac cgtctcgttt ctccggctct 360
ggttctggta cggacttcac cctcacgatc tcttccctgc agccggaaga ctttgccacc 420
tactactgcg cacagggtct gcgtcacccg aaaaccttcg gtcagggtac caaagtcgag 480
atcaaacgt   489