DRAWINGS:

Figure 1: Amino acid sequences of :

(a) 2xGLP-1 A8G DOM7h-14 fusion (**DAT0114**)

HGEGTFTSDVSSYLEGQAAKEFIAWLVKGRHGEGTFTSDVSSYLEGQAAKE
FIAWLVKGRDIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGK
APKLLIMWRSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGAALP
RTFGQGTKVEIKR

(SEQ ID NO 1)

(b) Exendin 4, (G4S)3 linker, DOM7h-14 fusion (**DAT0115**)

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPSGGGGGSGGGGSG
GGGSDIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLI
MWRSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGAALPRTFGQ
GTKVEIKR

(SEQ ID NO 2)

(c) Exendin 4 DOM7h-14 fusion (**DAT0116**)

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPSGDIQMTQSPSSLSA
SVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSGVPSRFSGS
GSGTDFTLTISSLQPEDFATYYCAQGAALPRTFGQGTKVEIKR

(SEQ ID NO 3)

(d) Exendin 4, helical linker, DOM7h-14 fusion (**DAT0117**)

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPSGKEAAAKEAAAK
EAAAKELAAKEAAAKEAAAKEAAAKELAADIQMTQSPSSLSASVGDRVTIT
CRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSGVPSRFSGSGSGTDFTLT
ISSLQPEDFATYYCAQGAALPRTFGQGTKVEIKR

(SEQ ID NO 4)

Figure 1 continued:

(e) GLP-1 A8G, (G4S)3, linker DOM7h-14 fusion **(DAT0118)**

HGEGTFTSDVSSYLEGQAAKEFIAWLVKGRGGGGSGGGGSGGGGSDIQMT
QSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSG
VPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGAALPRTFGQGTKVEIKR

(SEQ ID NO 5)

(f) GLP-1 A8G, PSS linker, DOM7h-14 fusion **(DAT0119)**

HGEGTFTSDVSSYLEGQAAKEFIAWLVKGRGPSSDIQMTQSPSSLSASVGDR
VTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRSSLQSGVPSRFSGSGSGTD
FTLTISSLQPEDFATYYCAQGAALPRTFGQGTKVEIKR

(SEQ ID NO 6)

(g) GLP-1 A8G, helical linker, DOM7h-14 fusion **(DAT0120)**

HGEGTFTSDVSSYLEGQAAKEFIAWLVKGRGKEAAAKEAAAKEAAAKELA
AKEAAAKEAAAKEAAAKELAADIQMTQSPSSLSASVGDRVTITCRASQWIG
SQLSWYQQKPGKAPKLLIMWRSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDF
ATYYCAQGAALPRTFGQGTKVEIKR

(SEQ ID NO 7)

(h) DOM7h-14:

DIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRS
SLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGAALPRTFGQGTKVE
IKR

(SEQ ID NO 8)

(i) GLP-1 (7-37) A8G:

HGEGTFTSDVSSYLEGQAAKEFIAWLVKGRG

(SEQ ID NO 9)

(j) exendin-4:

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPS

(SEQ ID NO 10)

Figure 1 continued:

(k) helical linker:

KEAAAKEAAAKEAAAKELAAKEAAAKEAAAKEAAAKELAA

(SEQ ID NO 11)

(l) Gly-ser linker:

GGGGGSGGGGSGGGGS

(SEQ ID NO 12)

(m) Exendin 4, (G4S)3, linker DOM7h-14-10 fusion **(DMS7139)**

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPSGGGGGSGGGGSG
GGGSDIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLI
MWRSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGLRHPKTFGQ
GTKVEIKR

(SEQ ID NO 24)

(n) Exendin 4, (G4S)3, linker DOM7h-11-15 fusion **(DMS7143)**

HGEGTFTSDLSKQMEEEAVRLFIEWLKNGGPSSGAPPPSGGGGGSGGGGSG
GGGSDIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLI
LAFSRLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQAGTHPTTFGQG
TKVEIKR

(SEQ ID NO 25)

(o) DOM7h-14-10

DIQMTQSPSSLSASVGDRVTITCRASQWIGSQLSWYQQKPGKAPKLLIMWRS
SLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQGLRHPKTFGQGTKVE
IKR

(SEQ ID NO 26)

(p) DOM7h-11-15
DIQMTQSPSSLSASVGDRVTITCRASRPIGTMLSWYQQKPGKAPKLLILAFSR
LQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCAQAGTHPTTFGQGTKVEI
KR

(SEQ ID NO 27)

(q) OmpT AWA signal peptide (leader)

MRAKLLGIVLTTPIAISAWA

(SEQ ID NO 28)

(r) DOM7h-14-10R108C

diqmtqspsslsasvgdrvtitcrasqwigsqlswyqqkpgkapkllimwrsslqsgvps
rfsgsgsgtdftltisslqpedfatyycaqglrhpktfgqgtkveikc

(SEQ ID NO 42)

(s) PYY 3-36 (with a lysine at position 10)
IKPEAPGKDASPEELNRYYASLRHYLNLVTRQRY

(SEQ ID NO 43)

Figure 2: Nucleic acid sequences

(a) DAT0114 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGGACCTTTACCAGTGATGTAAGTTCTTATTTGGAAGGCCA
AGCTGCCAAGGAATTCATTGCTTGGCTGGTGAAAGGCCGACATGGTGAA
GGGACCTTTACCAGTGATGTAAGTTCTTATTTGGAAGGCCAAGCTGCCAA
GGAATTCATTGCTTGGCTGGTGAAAGGCCGAGACATCCAGATGACCCAG
TCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTG
CCGGGCAAGTCAGTGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAA
CCAGGGAAAGCCCCTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAA
GTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACT
CTCACCATCAGCAGTCTGCAACCTGAAGATTTTGCTACGTACTACTGTGC
TCAGGGTGCGGCGTTGCCTAGGACGTTCGGCCAAGGGACCAAGGTGGAA
ATCAAACGG

(SEQ ID NO 13)

(b) DAT0115 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGAACATTTACCAGTGACTTGTCAAAACAGATGGAAGAGG
AGGCAGTGCGGTTATTTATTGAGTGGCTTAAGAACGGAGGACCAAGTAG
CGGGGCACCTCCGCCATCGGGTGGTGGAGGCGGTTCAGGCGGAGGTGGC
AGCGGCGGTGGCGGGTCGGACATCCAGATGACCCAGTCTCCATCCTCCC
TGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTGCCGGGCAAGTCAG
TGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCC
CTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAG
TCTGCAACCTGAAGATTTTGCTACGTACTACTGTGCTCAGGGTGCGGCGT
TGCCTAGGACGTTCGGCCAAGGGACCAAGGTGGAAATCAAACGG

(SEQ ID NO 14)

Figure 2 continued:

(c) DAT0115 – nucleic acid sequence (from E.coli construct):

CACGGTGAAGGTACCTTCACCTCTGACCTGAGCAAACAGATGGAGGAAG
AAGCGGTTCGTCTGTTCATCGAGTGGCTGAAAAACGGTGGTCCGTCTTCT
GGTGCTCCGCCACCGTCTGGTGGTGGTGGTGGTTCTGGTGGTGGTGGTTC
TGGTGGTGGCGGTAGCGACATCCAGATGACTCAGTCCCCAAGCTCTCTGT
CTGCCTCCGTTGGCGATCGTGTTACGATCACGTGCCGTGCTTCTCAGTGG
ATCGGTTCCCAGCTGTCCTGGTATCAGCAGAAACCGGGCAAAGCCCCGA
AACTCCTGATCATGTGGCGTAGCTCTCTGCAGTCTGGTGTACCGAGCCGC
TTCTCTGGTTCTGGTTCTGGTACCGACTTCACCCTGACCATTTCCTCTCTG
CAGCCGGAAGATTTCGCGACCTACTACTGTGCTCAGGGTGCGGCACTGC
CACGTACTTTTGGCCAGGGTACGAAAGTCGAGATTAAACGTTAATGA
(SEQ ID NO 15)

(d) DAT0116 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGAACATTTACCAGTGACTTGTCAAAACAGATGGAAGAGG
AGGCAGTGCGGTTATTTATTGAGTGGCTTAAGAACGGAGGACCAAGTAG
CGGGGCACCTCCGCCATCGGGTGACATCCAGATGACCCAGTCTCCATCCT
CCCTGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTGCCGGGCAAGT
CAGTGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACCAGGGAAAG
CCCCTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCA
TCACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAG
CAGTCTGCAACCTGAAGATTTTGCTACGTACTACTGTGCTCAGGGTGCGG
CGTTGCCTAGGACGTTCGGCCAAGGGACCAAGGTGGAAATCAAACGG
(SEQ ID NO 16)

Figure 2 continued:

(e) DAT0116 – nucleic acid sequence (from E.coli construct):

CACGGTGAAGGTACCTTCACCTCTGACCTGAGCAAACAGATGGAGGAAG
AAGCGGTTCGTCTGTTCATCGAGTGGCTGAAAAACGGTGGTCCGTCTTCT
GGTGCTCCGCCACCGTCTGACATCCAGATGACTCAGTCCCCAAGCTCTCT
GTCTGCCTCCGTTGGCGATCGTGTTACGATCACGTGCCGTGCTTCTCAGT
GGATCGGTTCCCAGCTGTCCTGGTATCAGCAGAAACCGGGCAAAGCCCC
GAAACTCCTGATCATGTGGCGTAGCTCTCTGCAGTCTGGTGTACCGAGCC
GCTTCTCTGGTTCTGGTTCTGGTACCGACTTCACCCTGACCATTTCCTCTC
TGCAGCCGGAAGA
TTTCGCGACCTACTACTGTGCTCAGGGTGCGGCACTGCCACGTACTTTTG
GCCAGGGTACGAAAGTCGAGATTAAACGTTAATGA
(SEQ ID NO 17)

(f) DAT0117 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGAACATTTACCAGTGACTTGTCAAAACAGATGGAAGAGG
AGGCAGTGCGGTTATTTATTGAGTGGCTTAAGAACGGAGGACCAAGTAG
CGGGGCACCTCCGCCATCGGGTAAAGAAGCGGCGGCGAAAGAAGCGGC
GGCGAAAGAAGCGGCGGCGAAAGAATTGGCCGCAAAAGAAGCGGCGGC
GAAAGAAGCGGCGGCGAAAGAAGCGGCGGCGAAAGAATTGGCCGCAGA
CATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACC
GTGTCACCATCACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTATCT
TGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCATGTGGC
GTTCCTCGTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCT
GGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAAGATTTTGC
TACGTACTACTGTGCTCAGGGTGCGGCGTTGCCTAGGACGTTCGGCCAA
GGGACCAAGGTGGAAATCAAACGG
(SEQ ID NO 18)

Figure 2 continued:

(g) DAT0117 – nucleic acid sequence (from E.coli construct):

CACGGTGAAGGTACCTTCACCTCTGACCTGAGCAAACAGATGGAGGAAG
AAGCGGTTCGTCTGTTCATCGAGTGGCTGAAAAACGGTGGTCCGTCTTCT
GGTGCTCCGCCACCGTCTAAAGAAGCGGCGGCGAAAGAAGCGGCGGCG
AAAGAAGCGGCGGCGAAAGAATTGGCCGCAAAAGAAGCGGCGGCGAAA
GAAGCGGCGGCGAAAGAAGCGGCGGCGAAAGAATTGGCCGCAGACATC
CAGATGACTCAGTCCCCAAGCTCTCTGTCTGCCTCCGTTGGCGATCGTGT
TACGATCACGTGCCGTGCTTCTCAGTGGATCGGTTCCCAGCTGTCCTGGT
ATCAGCAGAAACCGGGCAAAGCCCCGAAACTCCTGATCATGTGGCGTAG
CTCTCTGCAGTCTGGTGTACCGAGCCGCTTCTCTGGTTCTGGTTCTGGTAC
CGACTTCACCCTGACCATTTCCTCTCTGCAGCCGGAAGATTTCGCGACCT
ACTACTGTGCTCAGGGTGCGGCACTGCCACGTACTTTTGGCCAGGGTACG
AAAGTCGAGATTAAACGTTAATGA

(SEQ ID NO 19)

(h) DAT0118 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGGACCTTTACCAGTGATGTAAGTTCTTATTTGGAAGGCCA
AGCTGCCAAGGAATTCATTGCTTGGCTGGTGAAAGGCCGAGGTGGAGGC
GGTTCAGGCGGAGGTGGCAGCGGCGGTGGCGGGTCGGACATCCAGATG
ACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGACCGTGTCACCAT
CACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTATCTTGGTACCAGC
AGAAACCAGGGAAAGCCCCTAAGCTCCTGATCATGTGGCGTTCCTCGTT
GCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGATCTGGGACAGAT
TTCACTCTCACCATCAGCAGTCTGCAACCTGAAGATTTTGCTACGTACTA
CTGTGCTCAGGGTGCGGCGTTGCCTAGGACGTTCGGCCAAGGGACCAAG
GTGGAAATCAAACGG

(SEQ ID NO 20)

Figure 2 continued:

(i) DAT0119 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGGACCTTTACCAGTGATGTAAGTTCTTATTTGGAAGGCCA
AGCTGCCAAGGAATTCATTGCTTGGCTGGTGAAAGGCCGAGGACCAAGC
TCGGACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGG
AGACCGTGTCACCATCACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAG
TTATCTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCA
TGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGT
GGATCTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAAG
ATTTTGCTACGTACTACTGTGCTCAGGGTGCGGCGTTGCCTAGGACGTTC
GGCCAAGGGACCAAGGTGGAAATCAAACGG

(SEQ ID NO 21)

(j) DAT0120 – nucleic acid sequence (from mammalian construct):

CATGGTGAAGGGACCTTTACCAGTGATGTAAGTTCTTATTTGGAAGGCCA
AGCTGCCAAGGAATTCATTGCTTGGCTGGTGAAAGGCCGAGGAAAAGAA
GCGGCGGCGAAAGAAGCGGCGGCGAAAGAAGCGGCGGCGAAAGAATTG
GCCGCAAAAGAAGCGGCGGCGAAAGAAGCGGCGGCGAAAGAAGCGGC
GGCGAAAGAATTGGCCGCAGACATCCAGATGACCCAGTCTCCATCCTCC
CTGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTGCCGGGCAAGTCA
GTGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCC
CCTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCATC
ACGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCA
GTCTGCAACCTGAAGATTTTGCTACGTACTACTGTGCTCAGGGTGCGGCG
TTGCCTAGGACGTTCGGCCAAGGGACCAAGGTGGAAATCAAACGG

(SEQ ID NO 22)

Figure 2 continued:

(k) Dom7h-14 – nucleic acid sequence

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGA
CCGTGTCACCATCACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTAT
CTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCATGTG
GCGTTCCTCGTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGAT
CTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAAGATTTT
GCTACGTACTACTGTGCTCAGGGTGCGGCGTTGCCTAGGACGTTCGGCCA
AGGGACCAAGGTGGAAATCAAACGG

(SEQ ID NO 23)

(l) **Exendin 4, (G4S)3, linker DOM7h-14-10 fusion (DMS7139)**

CATGGTGAAGGAACATTTACCAGTGACTTGTCAAAACAGATGGAAGAGG
AGGCAGTGCGGTTATTTATTGAGTGGCTTAAGAACGGAGGACCAAGTAG
CGGGGCACCTCCGCCATCGGGTGGTGGAGGCGGTTCAGGCGGAGGTGGC
AGCGGCGGTGGCGGGTCGGACATCCAGATGACCCAGTCTCCATCCTCCC
TGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTGCCGGGCAAGTCAG
TGGATTGGGTCTCAGTTATCTTGGTACCAGCAGAAACCAGGGAAAGCCC
CTAAGCTCCTGATCATGTGGCGTTCCTCGTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAG
TCTGCAACCTGAAGATTTTGCTACGTACTACTGTGCTCAGGGTTTGAGGC
ATCCTAAGACGTTCGGCCAAGGGACCAAGGTGGAAATCAAACGG

(SEQ ID NO 29)

(m) Exendin 4, (G4S)3, linker DOM7h-11-115 fusion **(DMS7143)**

CATGGTGAAGGAACATTTACCAGTGACTTGTCAAAACAGATGGAAGAGG
AGGCAGTGCGGTTATTTATTGAGTGGCTTAAGAACGGAGGACCAAGTAG
CGGGGCACCTCCGCCATCGGGTGGTGGAGGCGGTTCAGGCGGAGGTGGC

AGCGGCGGTGGCGGGTCGGACATCCAGATGACCCAGTCTCCATCCTCCC
TGTCTGCATCTGTAGGAGACCGTGTCACCATCACTTGCCGGGCAAGTCGT
CCGATTGGGACGATGTTAAGTTGGTACCAGCAGAAACCAGGGAAAGCCC
CTAAGCTCCTGATCCTTGCTTTTTCCCGTTTGCAAAGTGGGGTCCCATCA
CGTTTCAGTGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAG
TCTGCAACCTGAAGATTTTGCTACGTACTACTGCGCGCAGGCTGGGACGC
ATCCTACGACGTTCGGCCAAGGGACCAAGGTGGAAATCAAACGG
(SEQ ID NO 30)

(n) Dom7h-14-10 – nucleic acid

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGA
CCGTGTCACCATCACTTGCCGGGCAAGTCAGTGGATTGGGTCTCAGTTAT
CTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCATGTG
GCGTTCCTCGTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGAT
CTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAAGATTTT
GCTACGTACTACTGTGCTCAGGGTTTGAGGCATCCTAAGACGTTCGGCCA
A GGGACCAAGGTGGAAATCAAACGG
(SEQ ID NO 31)

(o) Dom7h-11-15 – nucleic acid

GACATCCAGATGACCCAGTCTCCATCCTCCCTGTCTGCATCTGTAGGAGA
CCGTGTCACCATCACTTGCCGGGCAAGTCGTCCGATTGGGACGATGTTAA
GTTGGTACCAGCAGAAACCAGGGAAAGCCCCTAAGCTCCTGATCCTTGC
TTTTTCCCGTTTGCAAAGTGGGGTCCCATCACGTTTCAGTGGCAGTGGAT
CTGGGACAGATTTCACTCTCACCATCAGCAGTCTGCAACCTGAAGATTTT
GCTACGTACTACTGCGCGCAGGCTGGGACGCATCCTACGACGTTCGGCC
AA GGGACCAAGGTGGAAATCAAACGG
(SEQ ID NO 32)

(p) OmpAWA signal peptide – nucleic acid sequence

atgcgggcgaaactcctaggaatagtcctgacaacccctatcgcgatcagcgcttgggcc

(SEQ ID NO 33)

(q) DOM 7h-14-10 R108C – nucleic acid sequence

gacatccagatgacccagtctccatcctccctgtctgcatctgtaggagaccgtgtcaccatcacttgccgggcaagtcag
tggattgggtctcagttatcttggtaccagcagaaaccagggaaagcccctaagctcctgatcatgtggcgttcctcgttgc
aaagtggggtcccatcacgtttcagtggcagtggatctgggacagatttcactctcaccatcagcagtctgcaacctgaag
attttgctacgtactactgtgctcagggtttgaggcatcctaagacgttcggccaagggaccaaggtggaaatcaaatgt

(SEQ ID NO 44)

(r) Cynomolgus GLP-1 receptor cDNA sequence

ATGGCCGGCACCCCCGGCCCGCTGCGCCTCGCGCTCCTGCTGCTCGGGGT
GGTGGGCAGGGCCGGCCCCCGCCCCCAGGGTGCCACTGTGTCCCTCTGG
GAGACGGTGCAGAAATGGCGAGAATACCGACGCCAGTGCCAGCGCTCCC
TGACTGAGGACCCACCTCCCGCCACAGACTTGTTCTGCAACCGGACCTTC
GATGAATATGCCTGCTGGCCAGATGGGGAGCCAGGCTCCTTCGTGAATG
TCAGCTGCCCCTGGTACCTGCCCTGGGCCAGCAGTGTGCCGCAGGGCCA
CGTGTACCGGTTCTGCACAGCTGAAGGCCTCTGGCTGCAGAAGGACAAC
TCCAGCCTGCCCTGGAGGGACTTGTCGGAGTGTGAGGAGTCCAAGCGAG
GGGAGAGAAATTCCCCGGAGGAGCAGCTCCTGTCCCTCTACATCATCTA
CACGGTGGGCTACGCACTCTCCTTCTCTGCTCTGGTTATCGCCTCTGCGA
TCCTCCTTGGCTTCAGACACCTGCACTGCACCCGGAACTACATCCACCTG
AACCTGTTTGCATCCTTCATCCTGCGAGCATTGTCCGTCTTCATCAAGGA
CGCAGCCCTCAAGTGGATGTACAGCACGGCCGCCCAGCAGCACCAGTGG
GATGGGCTCCTCTCCTACCAGGACTCTCTGGGCTGCCGCGTGGTGTTTCT
GCTCATGCAATACTGTGTGGCGGCCAATTACTACTGGCTCTTGGTGGAGG
GCGTGTACCTGTACACACTGCTGGCCTTCTCGGTCTTCTCTGAGCAACGA
ATCTTCAGGCTGTATGTGAGCGTAGGCTGGGGTGTTCCCCTGCTGTTTGT
TGTCCCCTGGGGCATTGTCAAGTACCTCTATGAGGACGAGGGCTGCTGG
ACCAGGAACTCCAACATGAACTACTGGCTCATTATCCGGCTGCCCATTCT
CTTTGCCATTGGGGTGAACTTCCTCATCTTTGTTCGGGTCATCTGCATCGT
GGTATCCA AACTGAAGGCCAATCTCATG TGCAAGACAGACATCAAATG

CAGACTTGCCAAGTCCACGCTGACACTCATCCCCCTGCTGGGGACTCATG
AGGTCATCTTTGCCTTTGTGATGGACGAGCATGCCCGGGGCACCCTGCGC
TTCATCAAGCTGTTCACGGAGCTCTCCTTTACCTCCTTCCAGGGGCTGAT
GGTGGCCATC TTGTACTGCTTTGTCAACAATGAGGTCCAGTTGGAATTTC
GGAAGAGCTGGGAGCGCTGGCGGCTTGAGCACTTGCACATCCAGAGGGA
CAGCAGCATGAAGCCCCTCAAGTGTCCCACCAGCAGCCTGAGCAGTGGG
GCCACGGCGGGCAGCAGCATGTACACAGCCACTTGCCAGGCCTCCTGCA
GC

(SEQ ID NO 45)

(s) Oligonucleotide 1

GGAATTCCATATGAAAATCAAAACCGGTGCTCGCATCCTGGCTCTGTCCG
CTCTGACCACTATGATGTTCTCCGCTTCCGCGCTGGCTCATGGTGAAGGA
ACATTTACCAGTGAC

(SEQ ID NO 47)

(t) Oligonucleotide 2

GTTCAGAATTCTTATTACCGTTTGATTTCCACCTTGGTCCCTTG

(SEQ ID NO 48)

(u) DMS 7139 nucleic acid sequence for E.coli expression

cacggtgaaggtacgttcacctctgacctgagcaaacagatggaggaagaagcggttcgtctgttcatcgagtggctga
aaaacggtggtccgtcttctggtgctccgccgccgtctggtggtggtggtggttctggtggtggtggttctggtggtggtg
gcagcgatatccagatgactcagtccccgtcttctctctccgcctctgttggcgaccgtgttaccatcacttgtcgtgcgag
ccagtggatcggttcccagctgagctggtatcagcagaaaccgggcaaagcgccgaaactgctgatcatgtggcgctct
agcctgcagtctggtgtaccgtctcgtttctccggctctggttctggtacggacttcaccctcacgatctcttccctgcagcc
ggaagactttgccacctactactgcgcacagggtctgcgtcacccgaaaaccttcggtcagggtaccaaagtcgagatc
aaacgt

(SEQ ID NO 50)

Figure 3a: shows dose dependent reduction in body weight in mouse model of obesity by administering DAT0115.

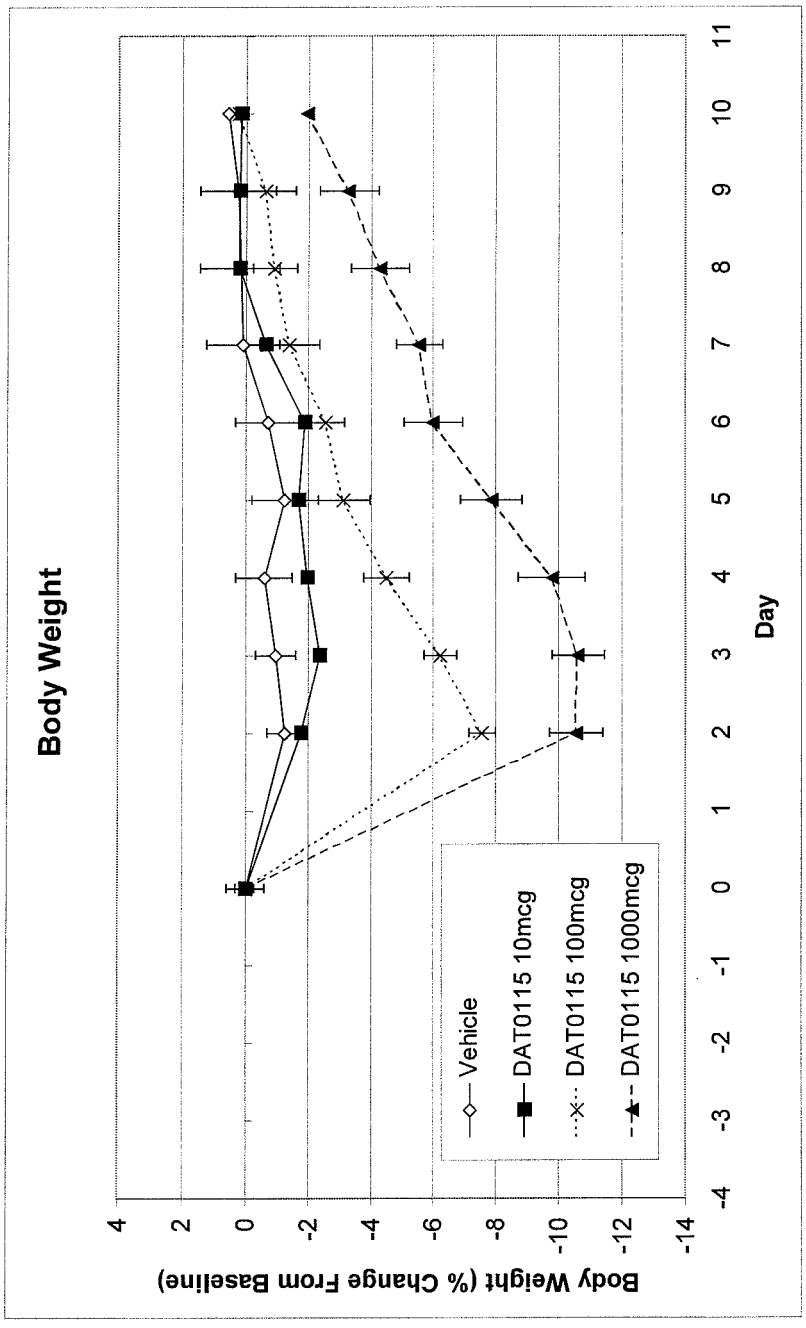


Figure 3b: shows daily food consumption in mouse model of obesity by administering DAT0115.

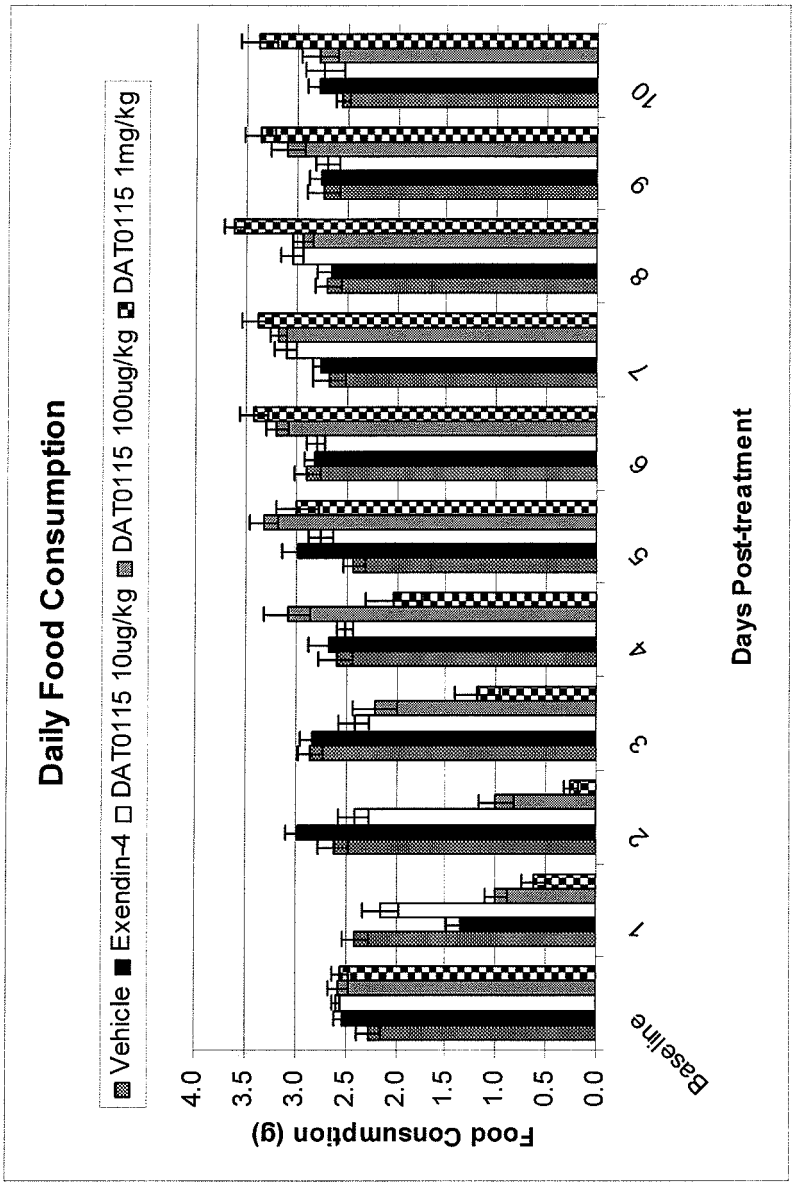


Figure 4: DSC of DAT0115: Solid line – DAT0115 trace, dotted line – fit to a non-2-state model.

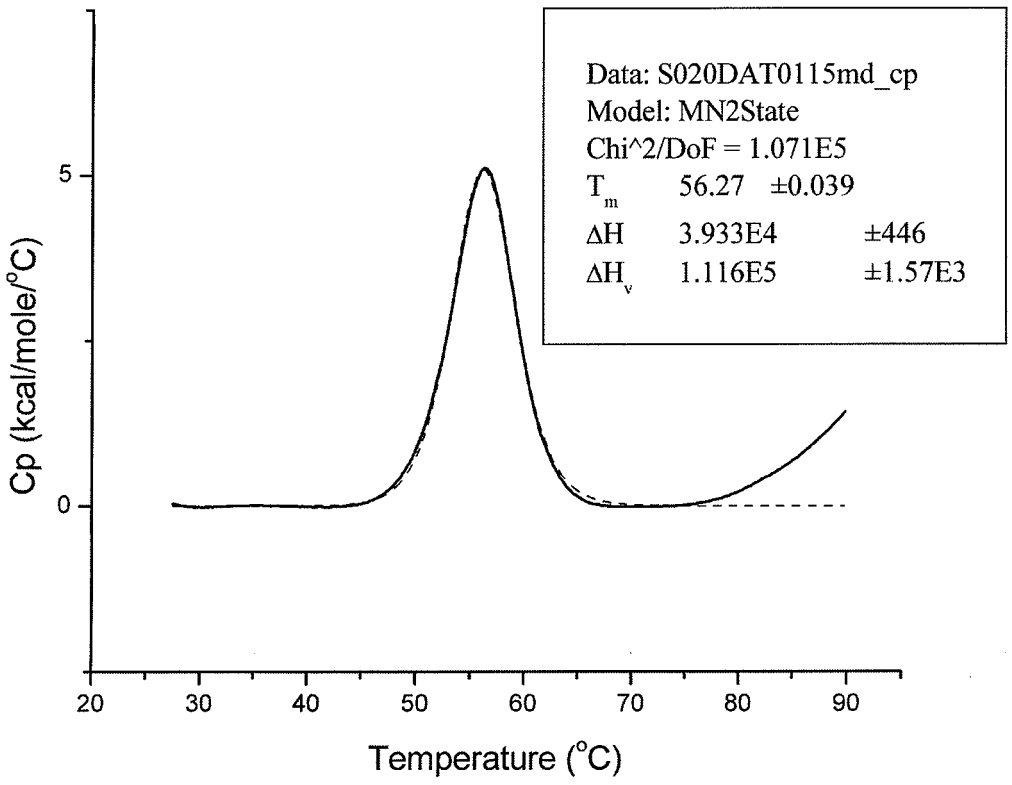


Figure 5: DSC of Lysozyme: Solid line – lysozyme trace, dotted line – fit to a non-2-state model (traces overlay so dotted trace cannot be seen)

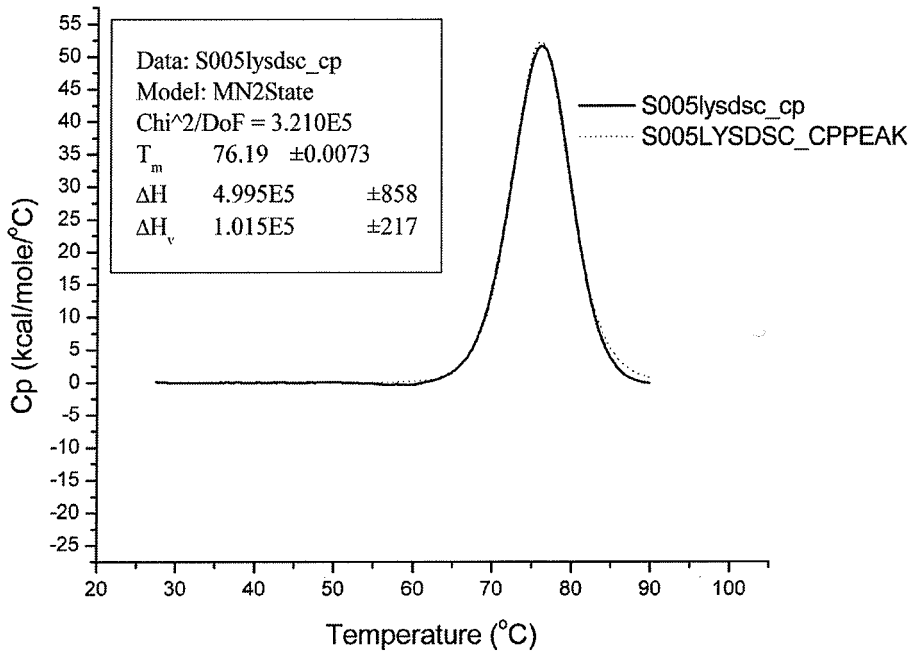
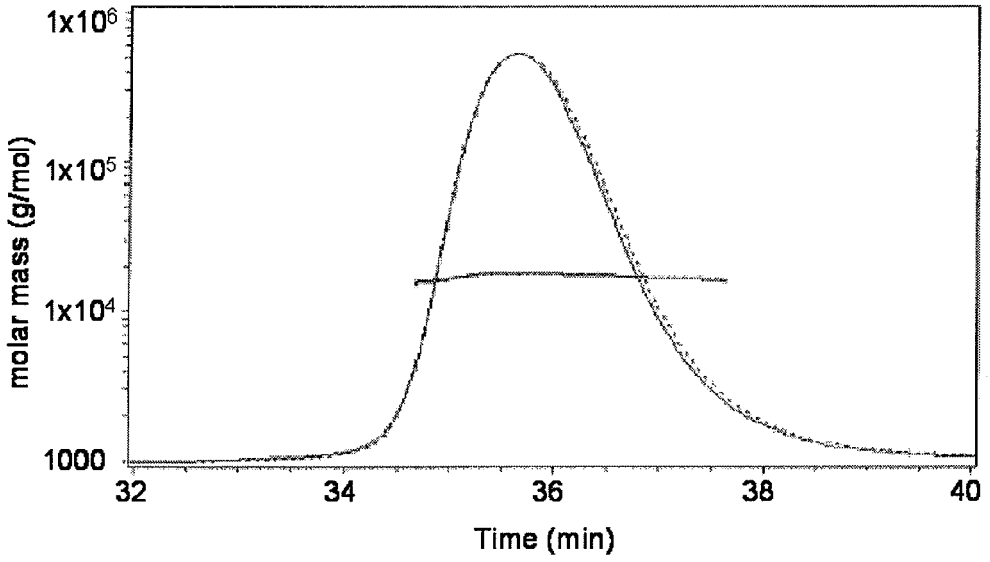
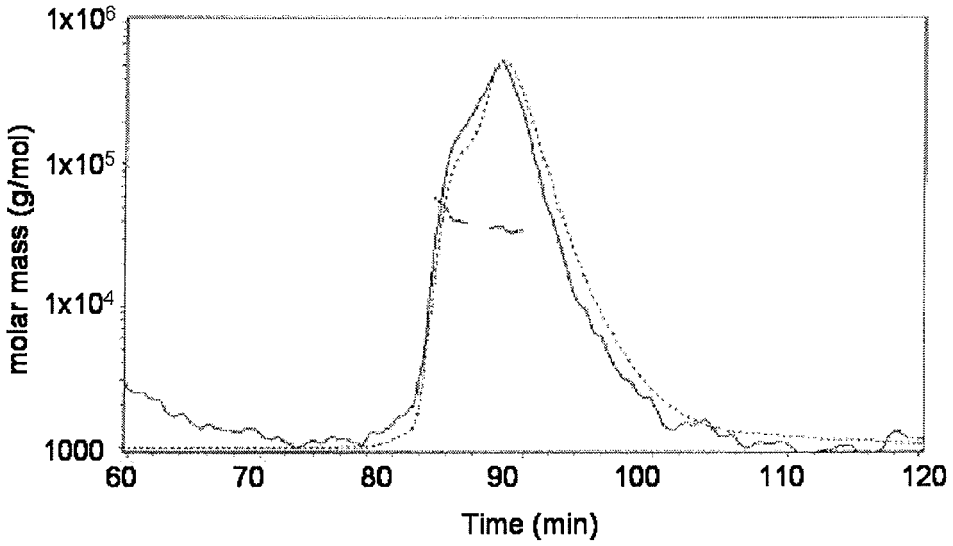


Figure 6: SEC MALLS of DAT0115



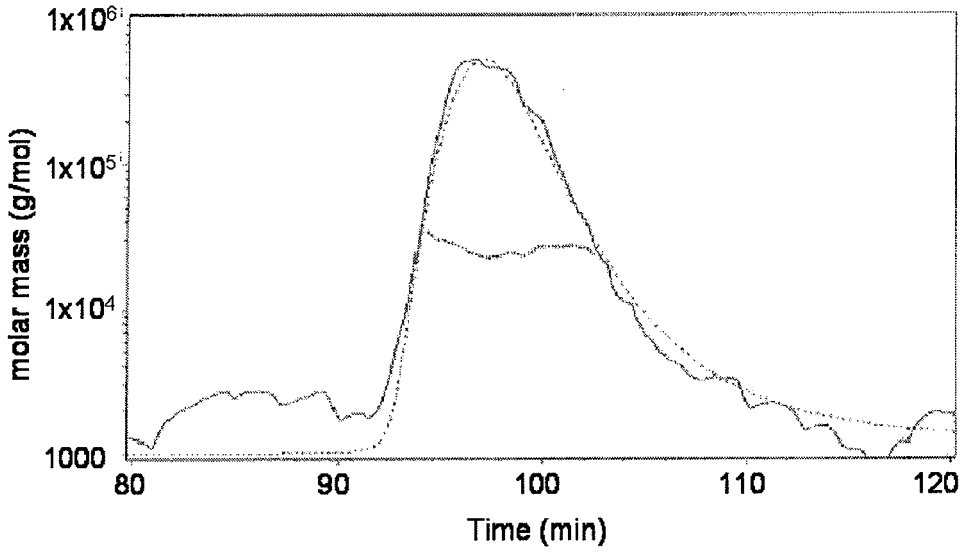
	Peak 1
Polydispersity	
Mw/Mn	**Mw/Mn**
Mz/Mn	**Mz/Mn**
Molar mass moments (g/mol)	
Mn	1.741e+4(1%)
Mw	1.743e+4(1%)
Mz	1.744e+4(3%)
Peak limits (min)	34.682 - 37.664
Injected mass (g)	1.0000e-4
Calc. mass (g)	9.9398e-5

Figure 7: SEC MALLS of DAT0117



	Peak 1	Peak 2
Polydispersity		
Mw/Mn	1.017(25%)	1.001(17%)
Mz/Mn	1.037(46%)	1.003(30%)
Molar mass moments (g/mol)		
Mn	4.378e+4(17%)	3.471e+4(12%)
Mw	4.454e+4(18%)	3.475e+4(12%)
Mz	4.538e+4(42%)	3.480e+4(27%)
Peak limits (min)	8.311 - 8.564	8.728 - 8.992
Injected mass (g)	2.0000e-4	
Calc. mass (g)	2.2014e-5	3.5001e-5

Figure 8: SEC MALLS of DAT0120



	Peak 1
Polydispersity	
Mw/Mn	1.009(16%)
Mz/Mn	1.019(29%)
Molar mass moments (g/mol)	
Mn	2.532e+4(11%)
Mw	2.555e+4(12%)
Mz	2.579e+4(26%)
Peak limits (min)	9.447-10.272
Injected mass (g)	1.5500e-4
Calc. mass (g)	6.3720e-5

Figure 9: amino acid sequences of leaders

(a) ompA (E. coli derived)

MKKTAIAIAVALAGFATVAQA

(SEQ ID NO 34)

(b) ompA-AMA (artificial sequence)

MKKTAIAIAVALAGFATVAMA (artificial sequence)

(SEQ ID NO 35)

(c) ompA-AWA (artificial sequence)

MKKTAIAIAVALAGFATVAWA (artificial sequence)

(SEQ ID NO 36)

(d) ompT (E. coli derived)

MRAKLLGIVLTTPIAISSFA (E. coli)

(SEQ ID NO 37)

(e) ompT-AMA (artificial sequence)

MRAKLLGIVLTTPIAISAMA (artificial sequence)

(SEQ ID NO 38)

(f) GAS (S. cerevisiae derived)

MLFKSLSKLATAAAFFAGVATA (S. cerevisiae)

(SEQ ID NO 39)

Figure 9 continued:

(g) GAS-AMA (artificial sequence)

MLFKSLSKLATAAAFFAGVAMA (artificial sequence)

(SEQ ID NO 40)

(h) GAS-AWA (artificial sequence)

MLFKSLSKLATAAAFFAGVAWA (artificial sequence)

(SEQ ID NO 41)

(i) Pel B (Erwinia carotovora)

MKYLLPTAAAGLLLLAAQPAMA
(SEQ ID NO 46)

(j) Mal E signal sequence

MKIKTGARILALSALTTMMFSASALA
(SEQ ID NO 49)

Figure 10: Purified DMS7139 analyzed by mass spectrometry

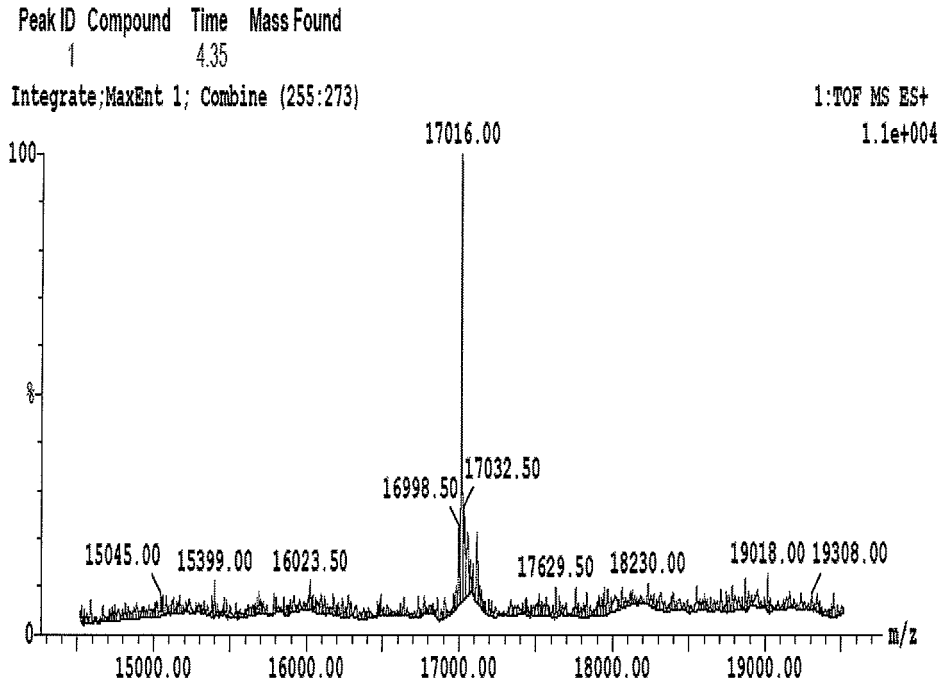


Figure 11 An illustration of the statistical significance of blood glucose lowering including comparisons between DAT0115 and control, DMS7139 and control and between DMS7139 and DAT0115 , **(a) shows study design and (b) graphical representation of glucose AUC.**

(a)

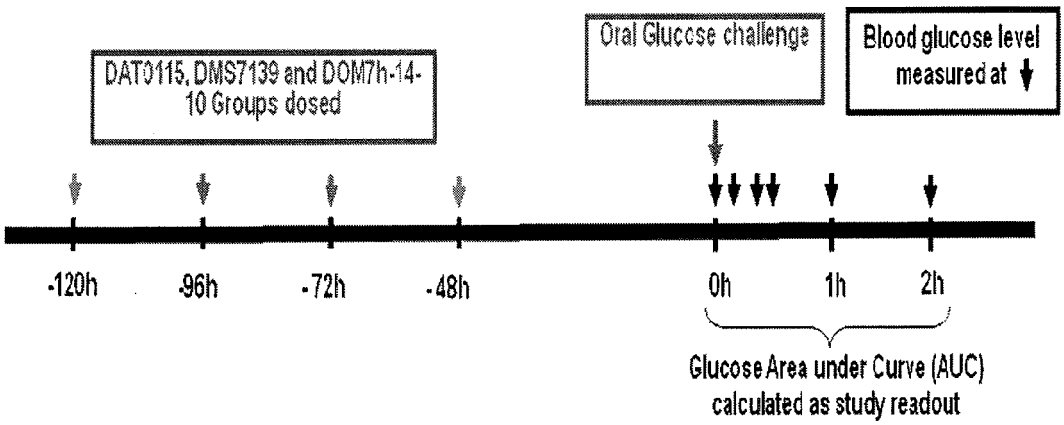


Figure 11b continued:

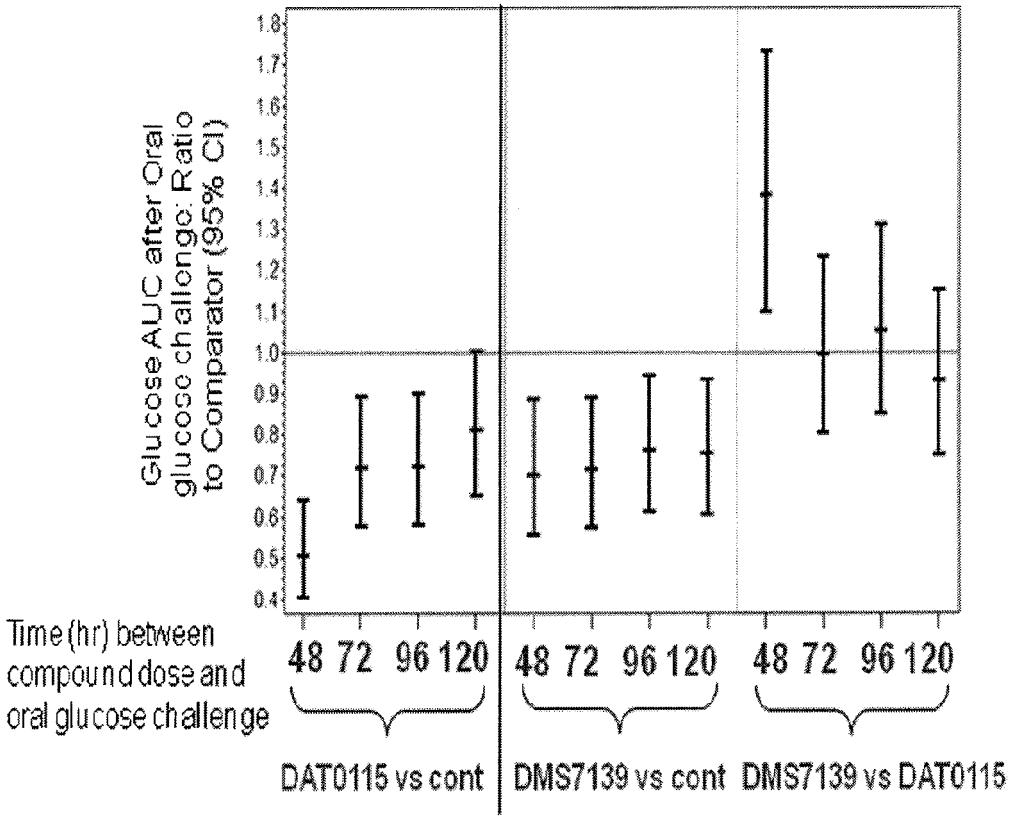
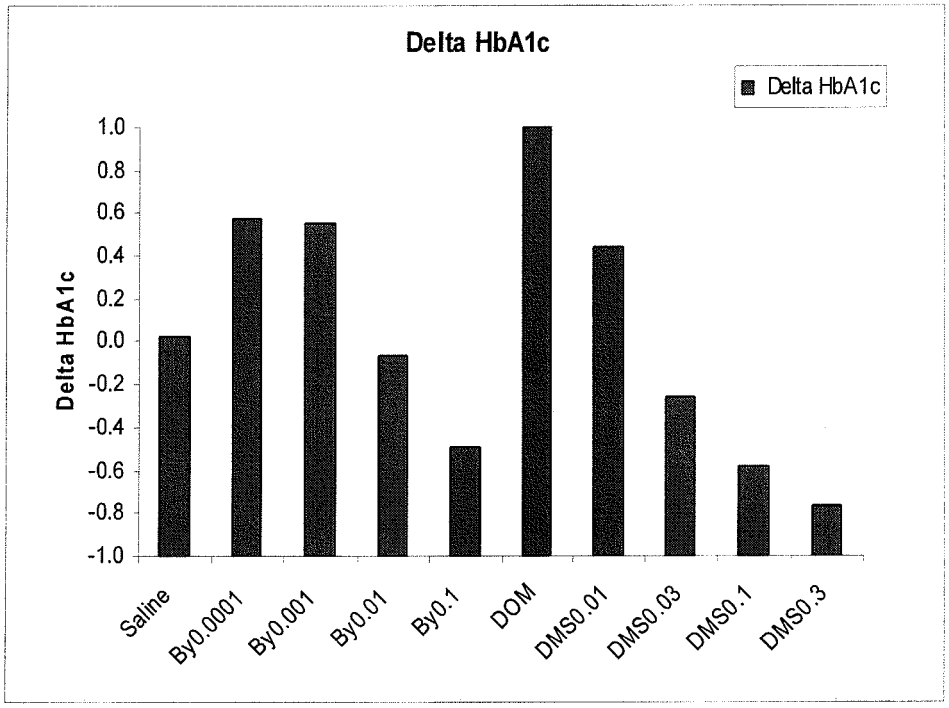


Figure 12: Repeat dose of DMS7139 shows dose-dependent lowering of HbA1c when compared to DOM7h-14 control



Key:	By: Byetta	DOM: DOM7h-14	DMS: DMS7139

Figure 13: DAT0115 and DMS7139 show dose dependent reduction in food consumption and body weight compared to the DOM7h-14 control in DIO mouse model of obesity.

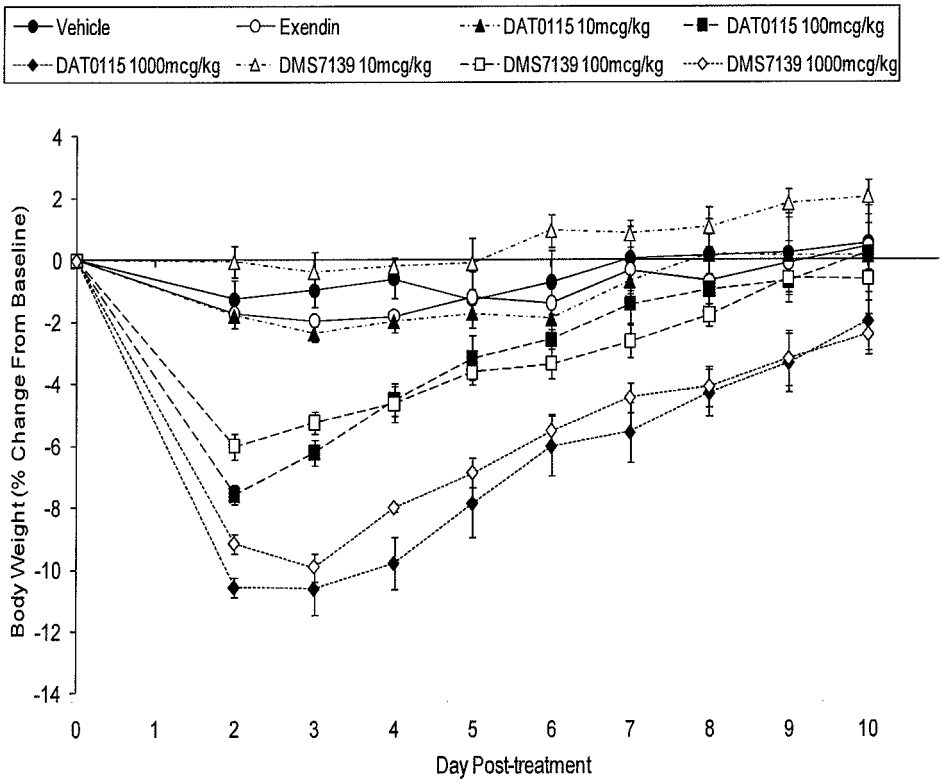


Figure 14:

A peptide conjugate which is:
a Dom7h-14-10 (R108C) albudab conjugated to a C-terminally amidated PYY3-36 via a lysine (introduced at position 10 of PYY) and a 4 repeat PEG linker. The line represents the linker which is covalently attached to the free C terminal cysteine of the Dom7h-14-10 (R108C) AlbudAb and the lysine at position 10 of the PYY sequence. The amino acid sequence and structure of this peptide conjugate is as follows.

diqmtqspsslsasvgdrvtitcrasqwigsqlswyqqkpgkapkllimwrsslqsgvps
rfsgsgsgtdftltisslqpedfatyycaqglrhpktfgqgtkveikc

IKPEAPGKDASPEELNRYYASLRHYLNLVTRQRY-NH2

(SEQ ID NO: 37)

Where the | denotes the chemical linker

The chemical linker has the following structure:

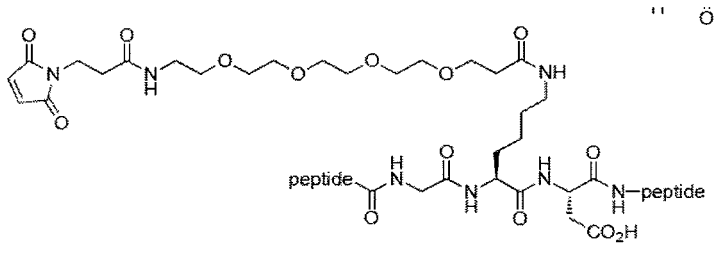


Figure 15: DMS7605 showed a dose dependent reduction in body weight compared to the vehicle control

