

<110> DONG-A ST CO., LTD.

<120> Long-acting dual agonists of GLP-1/glucagon receptors

<130> WR20003DAP

<160> 14

<170> KoPatentIn 3.0

<210> 1

<211> 37

<212> PRT

<213> Homo sapiens

<400> 1

His Ser Gln Gly Thr Phe Thr Ser Asp Lys Ser Lys Tyr Leu Asp Ser

1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn

20 25 30

Arg Asn Asn Ile Ala

35

<210> 2

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> oxyntomodulin analogue

<220>

<221> MOD_RES

<222> (2)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (10)
<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
adecanoyl])

<220>
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<222> (16)
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<222> (34)
<223> Xaa=modified Lys; Lys (13-carboxy-1-oxotridecyl)

<400> 2
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15
Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30
Glu Xaa Glu Tyr Glu
35

<210> 3
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<212> PRT
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Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma-glutamyl]-[octadecanoyl])

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<222> (34)
<223> Xaa=modified Lys; Lys (15-carboxy-1-oxopentadecyl)

<400> 3
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30

Glu Xaa Glu Tyr Glu
35

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<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gammaglutamyl]-[oct
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<222> (16)
<223> Xaa=aminoisobutyric acid

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<221> MOD_RES
<222> (34)
<223> Xaa=modified Lys; Lys (17-carboxy-1-oxoheptadecyl)

<400> 4
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15
Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30
Glu Xaa Glu Tyr Glu
35

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<222> (34)

<223> Xaa=modified Lys; Lys ([lysyl]-[17-carboxy-1-oxoheptadecyl])

<400> 5

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa

1

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10

15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr

20

25

30

Glu Xaa Glu Tyr Glu

35

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<223> Xaa=aminoisobutyric acid

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<221> MOD_RES

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<223> Xaa=modified Lys;

Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[octadecanoyl])

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<222> (16)

<223> Xaa=aminoisobutyric acid

<220>

<221> MOD_RES

<222> (34)

<223> Xaa=modified Lys;

Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)3]-[gammaglutamyl]-[17-carboxy-1-oxoheptadecyl])

<400> 6

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa

1

5

10

15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr

20

25

30

Glu Xaa Glu Tyr Glu

35

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<223> Xaa=aminoisobutyric acid

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<222> (10)
<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
adecanoyl])

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<223> Xaa=aminoisobutyric acid

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<222> (34)
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Lys ([lysyl]-[(2-(2-(2-aminoethoxy)ethoxy)acetoyl)3]-[gammaglutam
yl]-[17-carboxy-1-oxoheptadecyl])

<400> 7

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30

Glu Xaa Glu Tyr Glu
35

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<220>
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<222> (2)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (10)
<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
adecanoyl])

<220>
<221> MOD_RES
<222> (16)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (34)
<223> Xaa=modified Lys; Lys (17-aminocarboxy-1-oxoheptadecyl)

<400> 8
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30

Glu Xaa Glu Tyr Glu
35

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<223> Xaa=aminoisobutyric acid

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<221> MOD_RES
<222> (10)

<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma-glutamyl]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)

<223> Xaa=aminoisobutyric acid

<400> 9

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa

1

5

10

15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys

20

25

30

<210> 10

<211> 37

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<213> Artificial Sequence

<220>

<223> oxyntomodulin analogue

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<221> MOD_RES

<222> (2)

<223> Xaa=aminoisobutyric acid

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<221> MOD_RES

<222> (10)

<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[octadecanoyl])

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<223> Xaa=aminoisobutyric acid

<220>

<221> MOD_RES

<222> (34)

<223> Xaa=modified Lys; Lys (hexadecanoyl)

<400> 10

His	Xaa	Gln	Gly	Thr	Phe	Thr	Ser	Asp	Xaa	Ser	Lys	Tyr	Leu	Asp	Xaa
1				5					10					15	

Arg	Arg	Ala	Gln	Asp	Phe	Val	Gln	Trp	Leu	Met	Asn	Thr	Lys	Glu	Tyr
			20					25					30		

Glu	Xaa	Glu	Tyr	Glu
				35

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<222> (2)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (10)
<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
adecanoyl])

<220>
<221> MOD_RES
<222> (16)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (34)
<223> Xaa=modified Lys; Lys (13-aminocarboxy-1-oxotridecyl)

<400> 11
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr
20 25 30

Glu Xaa Glu Tyr Glu
35

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<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (10)
<223> Xaa=modified Lys;
Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
adecanoyl])

<220>
<221> MOD_RES
<222> (16)
<223> Xaa=aminoisobutyric acid

<220>
<221> MOD_RES
<222> (34)
<223> Xaa=modified Lys; Lys (15-aminocarboxy-1-oxopentadecyl)

<400> 12
His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa

1	5	10	15
Arg	Arg	Ala	Gln
Asp	Phe	Val	Gln
Trp	Leu	Met	Asn
Thr	Lys	Glu	Tyr
20	25	30	
Glu	Xaa	Glu	Tyr
Glu			
35			

<210> 13
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<220>
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<220>
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 <222> (2)
 <223> Xaa=aminoisobutyric acid

<220>
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 <222> (10)
 <223> Xaa=modified Lys;
 Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)2]-[gammaglutamyl]-[oct
 adecanoyl])

<220>
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 <222> (16)
 <223> Xaa=aminoisobutyric acid

<220>

<221> MOD_RES

<222> (34)

<223> Xaa=modified Lys;

Lys ([(2-(2-(2-aminoethoxy)ethoxy)acetoyl)3]-[hexadecanoyl])

<400> 13

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa

1

5

10

15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Glu Tyr

20

25

30

Glu Xaa Glu Tyr Glu

35

<210> 14

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<212> PRT

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<220>

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<220>

<221> MOD_RES

<222> (2)

<223> Xaa=aminoisobutyric acid

<220>

<221> VARIANT

<222> (10)

<223> Xaa=modified Lys;
Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma-glutamyl]-[octa
decanoyl])

<220>

<221> MOD_RES

<222> (16)

<223> Xaa=aminoisobutyric acid

<220>

<221> VARIANT

<222> (34)

<223> Xaa=modified Lys

<400> 14

His	Xaa	Gln	Gly	Thr	Phe	Thr	Ser	Asp	Xaa	Ser	Lys	Tyr	Leu	Asp	Xaa
1				5					10					15	

Arg	Arg	Ala	Gln	Asp	Phe	Val	Gln	Trp	Leu	Met	Asn	Thr	Lys	Glu	Tyr
			20					25					30		

Glu	Xaa	Glu	Tyr	Glu
				35