

<110> DONG-A ST CO., LTD

<120> Acylated oxyntomodulin analogues

<130> WR-18010-DAP

<150> KR 10-2017-0103798

<151> 2017-08-16

<150> KR 10-2018-0095717

<151> 2018-08-16

<160> 53

<170> KoPatentIn 3.0

<210> 1

<211> 37

<212> PRT

<213> Homo sapiens

<400> 1

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr 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
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<213> Artificial Sequence

<220>

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<221> MOD_RES

<222> (10)

<223> Xaa=modified Lys;

Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
glutamicacid]-[octadecanoyl])

<400> 2

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

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

<210> 3
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<220>
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<220>
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 <223> Xaa=aminoisobutyric acid

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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

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

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
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 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
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<220>
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 <222> (16)
 <223> Xaa=aminoisobutyric acid

<400> 4
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Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

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<220>
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 glutamicacid]-[octadecanoyl])

<220>
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 <222> (30)
 <223> AMIDATION, C-terminal amidation

<400> 5
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 1 5 10 15

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

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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<400> 6
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 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
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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
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 <222> (16)
 <223> Xaa=aminoisobutyric acid

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 <222> (30)
 <223> AMIDATION, C-terminal amidation

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<400> 8
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Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
 20 25 30

Arg Asn Asn Ile Ala
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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[icosanoyl])

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<400> 9
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Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
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 <222> (10)
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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[(gamma
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<220>
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<400> 10
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 1 5 10 15

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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)3]-[gamma
 glutamicacid]-[octadecanoyl])

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<221> MOD_RES

<222> (16)

<223> Xaa=aminoisobutyric acid

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 1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
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<210> 12

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> oxyntomodulin analogue

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<221> MOD_RES

<222> (2)

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<221> MOD_RES

<222> (10)

<223> Xaa=modified Lys; Lys([Gly-Gly-Ser-Gly-Ser-Gly]-[gamma glutamic acid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)

<223> Xaa=aminoisobutyric acid

<400> 12

His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
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Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
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 glutamicacid]-[octadecanoyl])

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 <223> Xaa=aminoisobutyric acid

 <400> 13
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 1 5 10 15
 Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Leu Arg Ala Lys
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<222> (10)
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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[17-aminocarbonylheptadecanoyl])

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<400> 14
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Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys
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 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> Lactam bridge bewteen the side chains at positions 16 and 20

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

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

<210> 16
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 <213> Artificial Sequence

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 <223> Xaa=aminoisobutyric acid

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

<400> 16
 His Xaa Gln Gly Thr Phe Thr Ser Asp Tyr 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

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

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 1 5 10 15

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

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<220>
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 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)]-[gamma glutamic
 acid]-[octadecanoyl])

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

<400> 18
 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> 19
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<220>
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 <223> Xaa=aminoisobutyric acid

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 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)4]-[gamma
 glutamicacid]-[octadecanoyl])

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

<400>	19
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> 20
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>

<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)acetyl)2]-[gamma
glutamicacid]-[octadecanoyl])

<220>

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<222> (16)..(20)

<223> Lactam bridge bewteen the side chains at positions 16 and 20

<220>

<221> MOD_RES

<222> (30)

<223> AMIDATION, C-terminal amidation

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

<210> 21

<211> 30

<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)acetyl)3]-[gamma
 glutamicacid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)..(20)

<223> Lactam bridge bewteen the side chains at positions 16 and 20

<400> 21

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

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

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<211> 30

<212> PRT

<213> Artificial Sequence

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<223> oxyntomodulin analogue

<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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)..(20)

<223> Lactam bridge bewteen the side chains at positions 16 and 20

<400> 22

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

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

<210> 23
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
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<220>
 <221> MOD_RES
 <222> (10)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 1,3-phenylenedimethyl cross linking between 16 and 20

<400> 23
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Cys
 1 5 10 15

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

<210> 24
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<220>
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<220>
 <221> MOD_RES
 <222> (10)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 1,4-piperazinyl cross linking between 16 and 20

<400> 24
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Glu
 1 5 10 15
 Arg Arg Ala Glu Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 25
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 <212> PRT
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<220>
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<220>
 <221> MOD_RES
 <222> (10)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)4]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)

<223> Lactam bridge bewteen the side chains at positions 16 and 20

<220>

<221> MOD_RES

<222> (30)

<223> AMIDATION, C-terminal amidation

<400> 25

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

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

<210> 26

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> oxyntomodulin analogue

<220>

<221> MOD_RES

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<223> Xaa=modified Lys;
Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)4]-[gamma
glutamicacid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)..(20)

<223> Lactam bridge bewteen the side chains at positions 16 and 20

<400> 26

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

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

<210> 27
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 <212> PRT
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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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
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 <222> (16)..(20)
 <223> Lactam bridge bewteen the side chains at positions 16 and 20

<400> 27
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Asp
 1 5 10 15

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

<210> 28
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> Lactam bridge bewteen the side chains at positions 16 and 20

<400> 28
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Lys
 1 5 10 15
 Arg Arg Ala Asp Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 29
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> MOD_RES
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 <223> Xaa=aminoisobutyric acid

<220>
 <221> MOD_RES
 <222> (10)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> di-sulfide bridge bewteen the side chains at positions 16 and 20

<400> 29
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Cys
 1 5 10 15

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

<210> 30
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> MOD_RES
 <222> (2)
 <223> Xaa=aminoisobutyric acid

<220>
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 <222> (10)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
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 <223> 1,4-phenylenediamino cross linking between 16 and 20

<400> 30
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Glu
 1 5 10 15

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

<210> 31
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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)acetyl)2]-[gamma
glutamicacid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)..(20)

<223> 1,2-ethylenediamino cross linking between 16 and 20

<400> 31

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

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

<210> 32

<211> 30

<212> PRT

<213> Artificial Sequence

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<222> (10)

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

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 1,4-phenylenebiscarbonyl cross linking between 16 and 20

<400> 32
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Lys
 1 5 10 15
 Arg Arg Ala Lys Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 33
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<220>
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 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 4-carboxylpiperidin-1-yl cross linking between 16 and 20

<400> 33
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Lys
 1 5 10 15
 Arg Arg Ala Glu Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 34
 <211> 30
 <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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 1-aminocyclohexan-4-carbonyl cross linking between 16 and 20

<400> 34
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Glu
 1 5 10 15
 Arg Arg Ala Lys Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 35
 <211> 30
 <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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> 4-aminobenzoyl cross linking between 16 and 20

<400> 35
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Glu
 1 5 10 15

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

<210> 36
 <211> 30
 <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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> glycine cross linking between 16 and 20

<400> 36

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

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

<210> 37

<211> 30

<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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>

<221> MOD_RES

<222> (16)..(20)

<223> leucine cross linking between 16 and 20

<400> 37

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

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

<210> 38

<211> 30

<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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> glycine cross linking between 16 and 20

<400> 38
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Asp
 1 5 10 15

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

<210> 39
 <211> 30
 <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)acetyl)2]-[gamma
 glutamicacid]-[octadecanoyl])

<220>
 <221> MOD_RES
 <222> (16)..(20)
 <223> leucine cross linking between 16 and 20

<400> 39
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Asp
 1 5 10 15
 Arg Arg Ala Lys Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30

<210> 40
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> MOD_RES
 <222> (2)
 <223> Xaa=aminoisobutyric acid

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

<400> 40
 His Xaa Gln Gly Thr Phe Thr Ser Asp Lys 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> 41
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> MOD_RES
 <222> (2)
 <223> Xaa=aminoisobutyric acid

<220>
 <221> MOD_RES
 <222> (9)
 <223> aa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gammaglutamicacid]-[octadecanoyl])

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

<400> 41
 His Xaa Gln Gly Thr Phe Thr Ser Xaa Tyr 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> 42
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> MOD_RES
 <222> (30)
 <223> Xaa=modified Lys;
 Lys([(2-(2-(2-aminoethoxy)ethoxy)acetyl)2]-[gammaglutamicacid]-[octadecanoyl])

<400> 42
 His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
 1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Xaa
 20 25 30

<210> 43
 <211> 30
 <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)acetyl)2]-[gamma-glutamic acid]-[15-carboxypentadecanoyl])

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

<400> 43
 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> 44
 <211> 30
 <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)acetyl)2]-[gammaglutamicacid]-[17-carboxyheptadecanoyl])

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

<400> 44
 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> 45
 <211> 30
 <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)acetyl)2]-[gammaglutamicacid]-[19-carboxynonadecanoyl])

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

<400> 45
 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> 46
 <211> 30
 <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)acetyl)2]-[gamma-glutamic acid]-[
 15-(N-(carboxymethyl)amino)carbonylpentadecanoyl])

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

<400> 46
 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> 47
 <211> 30
 <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)acetyl)2]-[gamma-glutamic acid]-[15-(N-(1S)-(1-carboxy-2-methylpropyl)amino)carbonylpentadecanoyl])

<220>

<221> MOD_RES

<222> (16)

<223> Xaa=aminoisobutyric acid

<400> 47

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> 48

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> oxyntomodulin analogue

<220>

<221> MOD_RES

<222> (2)

<223> Xaa=aminoisobutyric acid

<220>

<221> MOD_RES

<222> (16)..(20)

<223> Lactam bridge between the side chains at positions 16 and 20

<400> 48
 His Xaa Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Glu
 1 5 10 15

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

<210> 49
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa=Ser or aminoisobutyric acid

<220>
 <221> VARIANT
 <222> (9)
 <223> Xaa=Asp or modified Lys

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa=Tyr or modified Lys

<220>
 <221> VARIANT
 <222> (11)
 <223> Xaa=Ser or modified Lys

<220>
 <221> VARIANT
 <222> (12)
 <223> Xaa=Lys or modified Lys

<220>
 <221> VARIANT

<222> (13)
<223> Xaa=Tyr or modified Lys

<220>
<221> VARIANT
<222> (14)
<223> Xaa=Leu or modified Lys

<220>
<221> VARIANT
<222> (15)
<223> Xaa=Asp or modified Lys

<220>
<221> VARIANT
<222> (16)
<223> Xaa=Ser, aminoisobutyric acid or modified Lys

<220>
<221> VARIANT
<222> (20)
<223> Xaa=Gln or modified Lys

<220>
<221> VARIANT
<222> (27)
<223> Xaa=Met or Leu

<220>
<221> VARIANT
<222> (28)
<223> Xaa=Asn or Arg

<220>
<221> VARIANT
<222> (29)
<223> Xaa=Thr or Ala

<220>
<221> VARIANT
<222> (30)
<223> Xaa=Lys or modified Lys

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa=optional, but when present is RNRNNIA(ArgAsnArgAsnAsnIleAla)

<220>
 <221> VARIANT
 <222> (32)
 <223> Xaa=optional, when 31 is RNRNNIA(ArgAsnArgAsnAsnIleAla), Xaa is doesn't exist or is modified Lys

<400> 49
 His Xaa Gln Gly Thr Phe Thr Ser Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 1 5 10 15
 Arg Arg Ala Xaa Asp Phe Val Gln Trp Leu Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30

<210> 50
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa=Ser or aminoisobutyric acid

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa=Tyr or modified Lys

<220>
 <221> VARIANT
 <222> (16)
 <223> Xaa=Ser, aminoisobutyric acid or modified Lys

<220>
 <221> VARIANT

<222> (20)
 <223> Xaa=Gln or modified Lys

<220>
 <221> VARIANT
 <222> (27)
 <223> Xaa=Met or Leu

<220>
 <221> VARIANT
 <222> (28)
 <223> Xaa=Asn or Arg

<220>
 <221> VARIANT
 <222> (29)
 <223> Xaa=Thr or Ala

<220>
 <221> VARIANT
 <222> (30)
 <223> Xaa=Lys or modified Lys

<220>
 <221> VARIANT
 <222> (31)
 <223> Xaa=optional, but when present is RNRNNIA(ArgAsnArgAsnAsnIleAla)

<220>
 <221> VARIANT
 <222> (32)
 <223> Xaa=optional, when 31 is RNRNNIA(ArgAsnArgAsnAsnIleAla), Xaa is
 doesn't exist or is modified Lys

<400> 50
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
 1 5 10 15
 Arg Arg Ala Xaa Asp Phe Val Gln Trp Leu Xaa Xaa Xaa Xaa Xaa Xaa
 20 25 30

<210> 51

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

<220>
 <223> oxyntomodulin peptide

<400> 51
 Arg Asn Arg Asn Asn Ile Ala
 1 5

<210> 52
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> artificial sequence

<400> 52
 Gly Gly Ser Gly Ser Gly
 1 5

<210> 53
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> oxyntomodulin analogue

<220>
 <221> VARIANT
 <222> (2)
 <223> Xaa=Ser or aminoisobutyric acid

<220>
 <221> VARIANT
 <222> (10)
 <223> Xaa=modified Lys

<220>
 <221> VARIANT
 <222> (16)
 <223> Xaa=Asp, Glu, Cys, Hcy (Homocysteine), Lys or Orn (Ornithine)

<220>
 <221> VARIANT
 <222> (20)
 <223> Xaa=Asp, Glu, Cys, Hcy (Homocysteine), Lys or Orn (Ornithine)

<400> 53
 His Xaa Gln Gly Thr Phe Thr Ser Asp Xaa Ser Lys Tyr Leu Asp Xaa
 1 5 10 15
 Arg Arg Ala Xaa Asp Phe Val Gln Trp Leu Met Asn Thr Lys
 20 25 30