SEQUENCE LISTING

<110> Sanofi

<120> Exendin-4 Derivatives as Dual GLP1/Glucagon Agonists

<130> DE2012/151WOPCT

<150> EP12306232
<151> 2012-10-09

<150> EP13305222
<151> 2013-02-27

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<170> PatentIn version 3.5

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Glu Ala Val Arg Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
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Ser Gly Ala Pro Pro Pro Ser
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His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1               5                   10                  15

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


Ser Gly Ala Pro Pro Pro Ser
        35
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1 5 10 15

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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1 5 10 15

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20 25 30

Ser Gly Ala Pro Pro Pro Ser Lys
35 40

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
        35
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Xaa Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
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Xaa Ala Ala Xaa Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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Xaa Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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Xaa Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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Glu Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

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1   5   10   15

Glu Ala Ala Lys Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

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Glu Ala Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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1 5 10 15

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser

35

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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20 25 30

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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<223> Xaa is a D-Ser

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 32

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 33
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 33

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30
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Ser Gly Ala Pro Pro Pro Ser
35

<210> 34
<211> 39
<212> PRT
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<220>
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<220>
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<220>
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<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 34

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 35
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 35

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 36
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 36

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 37
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<220>

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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 37

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

Gln Ala Ala Gln Glu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 38
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<223> Xaa is an Aib amino acid

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 38

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

Gln Ala Ala Gln Glu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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

<220>
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<223> Xaa is a D-Ser

<220>
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<222> (14)..(14)
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 39

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 40
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 40

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 41
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 41

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 42
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino acid chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 42

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 43
<211> 39
<212> PRT
<213> Artificial Sequence

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<223> Xaa is an Aib amino acid

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino acid chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 43

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 44
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
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Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 44

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 45
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 45

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 46
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 46

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

Arg Ala Ala Xaa Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 47
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys
((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 47

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

1 5 10 15

Arg Ala Ala Gln Glu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 48
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 48

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 49
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as

Lys((S)-4-carboxy-4-((S)-4-carboxy-4-hexadecanoylamino-butyrylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 49

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 50
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 50

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 51
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 51

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 52
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-((S)-4-carboxy-4-octadecanoylamino-butyrylami
no)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 52

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 53
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 53

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 54
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(3-(3-octadecanoylamino-propionylamino)-propionyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 54

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 55
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-((Z)-octadec-9-enoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 55

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 56
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>

<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(4-((Z)-octadec-9-enoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 56

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 57
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-(3-[(R)-2,5,7,8-tetramethyl-2-((4R,8R)-4,8,12-trimethyl-tridecyl)-chroman-6-yloxycarbonyl]-propionylamino]-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 57

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 58
<211> 39
<212> PRT

<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys(4-(3-[(R)-2,5,7,8-tetramethyl-2-((4R,8R)-4,8,12-trimethyl-tri
decyl)-chroman-6-yloxycarbonyl]-propionylamino}-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 58

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 59
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 59

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His Xaa Gln Gly Thr Phe Thr Ser Asp Leu Ser Lys Gln Lys Glu Ser
1               5                   10                  15
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Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 60
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-docosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 60

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 61
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino acid side chain group as Lys((S)-4-carboxy-4-((Z)-nonadec-10-enoylamino)-butyryl)

<220>

<221> MOD_RES
<222> (39)..(39)
<223> Ser is modfied with an NH2 group

<400> 61

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 62
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-(4-decyloxy-benzoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 62

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 63
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-[(4'-octyloxy-biphenyl-4-carbonyl)-amino]-but
yryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 63

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 64
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-(12-phenyl-dodecanoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 64

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 65
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 65

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 66
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 66

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 67
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 67

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 68
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 68

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


Arg Arg Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 69
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 69

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


Arg Arg Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 70
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 70

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 71
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is an Orn amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Orn is functionalized at the amino side chain group as
Orn(S)-4-carboxy-4-hexadecanoylamino-butyryl

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 71

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

1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 72
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is an alpha,gamma-diaminobutyricacid (Dab) amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Dab is functionalized at the amino side chain group as Dab(S)-4-carboxy-4-hexadecanoylamino-butyryl

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 72

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 73
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 73

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 74
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 74

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 75
<211> 39
<212> PRT

<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 75

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 76
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES

<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 76

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 77
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 77

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 78
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)

<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (28)..(28)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 78

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Xaa Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 79
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (28)..(28)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 79

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Xaa Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 80
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 80

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asp Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 81
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(hexadecanoyl)

<220>

<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 81

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asp Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 82
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 82

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Glu Gly Gly Pro Ser
20 25 30

Ser Gly Arg Pro Pro Pro Ser
35

<210> 83
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES

<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(hexadecanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 83

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Glu Gly Gly Pro Ser
20 25 30

Ser Gly Arg Pro Pro Pro Ser
35

<210> 84
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 84

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Lys Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 85

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

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 85

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Lys Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 86
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 86

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Thr Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 87
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified withn an NH2 group

<400> 87

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

Arg Arg Ala Lys Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 88
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 88

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 89
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-(3-[(R)-2,5,7,8-tetramethyl-2-((4R,8R)-4,8,12-trimethyl-tridecyl)-chroman-6-yloxycarbonyl]-propionylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 89

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 90
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-tetradecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 90

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 91
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-(11-benzyloxycarbonyl-undecanoylamino)-4-carboxy-butyry
l)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 91

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser

35

<210> 92
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 92

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Thr Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 93
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 93

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Ala Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 94
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<220>
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<220>
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<220>
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       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 94

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1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Xaa Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 95
<211> 39
<212> PRT
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<220>
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<223> Lys is functionalized at the amino side chain group as
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<220>
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<223> Ser is modified with an NH2 group

<400> 95

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Ala Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 96
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<220>
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<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 96

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Thr Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 97

<211> 39
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<220>
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<223> Ser is modified with an NH2 group

<400> 97

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 98
<211> 39
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<220>
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<223> Ser is modified with an NH-pyrrolidin group

<400> 98

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 99
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH-benzyl group

<400> 99

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

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<220>
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<223> Ser is modified with an NH-tert.butyl group

<400> 100

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 101
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an N-diethyl group

<400> 101

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 102
<211> 39
<212> PRT
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an N-morpholin group

<400> 102

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 103
<211> 39
<212> PRT
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<220>
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<222> (39)..(39)
<223> Ser is modified with an NH-CH2-CF3 group

<400> 103

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 104
<211> 39
<212> PRT
<213> Artificial Sequence

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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH-(CH2-CH2-O)4-CH2-CH2-COOH group

<400> 104

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 105
<211> 39
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<400> 105

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 106
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<220>
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<222> (39)..(39)
<223> Ser is modified with an NH-(CH2)15-CH3 group

<400> 106

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1   5   10   15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 107
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<220>
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<223> Ser is modified with an NH-(CH2)12-OH group

<400> 107

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

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<400> 108

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<400> 109

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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<210> 110
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<400> 110

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1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
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<220>
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<400> 111

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser Lys
35 40

<210> 112
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<220>
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<400> 112

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

1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser Lys
35 40

<210> 113
<211> 39
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<220>
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<223> Ser is modified with an NH2 group

<400> 113

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Lys
35

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Lys(hexadecanoyl)

<220>
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<223> Ser is modified with an NH2 group

<400> 114

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Lys
35

<210> 115
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<220>
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<400> 115

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 116
<211> 39
<212> PRT
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<222> (39)..(39)
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<400> 116

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1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 117
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<400> 117

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 118
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<220>
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<220>
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<223> Ser is modified with an NH2 group

<400> 118

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 119
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<220>
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<222> (20)..(20)
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<220>
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<223> Ser is modified with an NH2 group

<400> 119

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1 5 10 15

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 120
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<220>
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<223> Ser is modified with an NH2 group

<400> 120

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 121
<211> 39

<212> PRT
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<223> Ser is modified with an NH2 group

<400> 121

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

Arg Ala Ala Xaa Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 122
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<220>
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<223> Ser is modified with an NH2 group

<400> 122

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

Arg Ala Ala Xaa Leu Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<220>
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<223> Ser is modified with an NH2 group

<400> 123

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1 5 10 15

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 124
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Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
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<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 124

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Ala Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 125
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
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<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 125

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 126

<211> 39
<212> PRT
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<220>
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<220>
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<220>
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<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 126

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 127
<211> 39
<212> PRT
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<220>
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<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 127

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 128
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<212> PRT
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<220>
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<220>
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<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 128

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 129
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<212> PRT
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<220>
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<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 129

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 130
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<220>
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<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 130

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

Xaa Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 131
<211> 39
<212> PRT
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<220>
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<223> Lys is functionalized at the amino side chain group as Lys(4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (17)..(17)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 131

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

Xaa Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 132
<211> 39
<212> PRT
<213> Artificial Sequence

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<220>
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<223> Xaa is an Aib amino acid

<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 132

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

Xaa Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 133
<211> 39
<212> PRT
<213> Artificial Sequence

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<220>
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Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
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<222> (29)..(29)
<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 133

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

Lys Ala Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 134
<211> 39
<212> PRT
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 134

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 135
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<220>
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<222> (14)..(14)
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       Lys((S)-4-carboxy-4-(15-carboxy-pentadecanoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 135

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

Lys Ala Ala Gln Glu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 136
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<212> PRT
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<220>
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Lys((S)-4-carboxy-4-(15-carboxy-pentadecanoylamino)-butyryl)

<220>
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<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 136

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

Lys Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 137
<211> 39
<212> PRT
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<223> Xaa is a D-Ser

<220>
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Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)

<223> Ser is modified with an NH2 group

<400> 137

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 138
<211> 39
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<220>
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<220>
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<223> Xaa is a D-Ser

<220>
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       Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
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<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 138

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

Lys Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 139
<211> 39
<212> PRT
<213> Artificial Sequence

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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 139

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 140
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-((S)-4-carboxy-4-hexadecanoylamino-butyrylami
no)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 140

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser

35

<210> 141
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys(6-[(4,4-diphenyl-cyclohexyloxy)-hydroxy-phosphoryloxy]-hexanoyl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 141

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 142
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-icosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 142

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 143
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
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<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 143

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 144
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>

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<223> Xaa is a D-Ser

<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 144

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

Lys Ala Xaa Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 145
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 145

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

Lys Ala Ser Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 146
<211> 39
<212> PRT
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<220>
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<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 146

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

Lys Ala Leu Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 147
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<212> PRT
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 147

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Lys Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 148
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
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<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
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<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 148

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

Lys Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 149
<211> 39
<212> PRT
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<220>
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<220>
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<220>
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<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 149

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

Lys Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 150
<211> 39
<212> PRT
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<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 150

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

Leu Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 151
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<220>
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<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 151

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

Gln Ala Ala Lys Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 152
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)

<223> Ser is modified with an NH2 group

<400> 152

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

Gln Arg Ala Lys Glu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 153
<211> 39
<212> PRT
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<220>
<223> Exendin-4-analogue

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<220>
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<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 153

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

Gln Ala Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 154
<211> 39
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<220>
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<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 154

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 155
<211> 39
<212> PRT
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<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 155

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 156
<211> 39
<212> PRT
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<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
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<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 156

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 157
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 157

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 158
<211> 39
<212> PRT
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<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 158

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

Gln Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 159
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<222> (2)..(2)

<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 159

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

Gln Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 160
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-((9Z,12Z)-octadeca-9,12-dienoylamino)-butyryl
)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 160

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 161
<211> 39
<212> PRT
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
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<222> (29)..(29)
<223> Xaa is a D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 161

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 162
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 162

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 163
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 163

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 164
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>

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<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
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<222> (28)..(28)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 164

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Xaa Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 165
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 165

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Glu Gly Gly Pro Ser
20 25 30

Ser Gly Lys Pro Pro Pro Ser
35

<210> 166
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 166

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Thr Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 167
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-(3-[3-((2S,3R,4S,5R)-5-carboxy-2,3,4,5-tetrahydroxy-pentanoylamino-)-propionylamino]-propionylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)

<223> Ser is modified with an NH2 group

<400> 167

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 168
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-((9Z,12Z)-octadeca-9,12-dienoylamino)-butyryl
)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 168

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 169
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)

<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-[6-((2S,3R,4S,5R)-5-carboxy-2,3,4,5-tetrahydr
oxy-pentanoylamino)-hexanoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 169

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 170
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-((2S,3R,4S,5R)-5-carboxy-2,3,4,5-tetrahydroxy
-pentanoylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 170

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 171
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-[11-((2S,3R,4R,5R)-2,3,4,5,6-pentahydroxy-hex
ylcarbamoyl)-undecanoylamino]-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 171

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 172
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 172

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

1 5 10 15

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Gly Gly Pro Ser
20 25 30

Ser Gly Glu Pro Pro Pro Ser
35

<210> 173
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 173

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 174
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as

Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 174

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

Gln Arg Ala Lys Glu Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 175
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 175

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

Gln Arg Ala Lys Asp Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 176
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
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<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 176

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

Gln Arg Ala Lys Glu Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 177
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH-(CH2-CH2-O)24-CH2-CH2-COOH group

<400> 177

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 178
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH-(CH2-CH2-O)4-CH2-CH2-COOH group

<400> 178

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 179
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Gln is an alpha-N-MeGln

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 179

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 180
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (3)..(3)
<223> Gln is an alpha-N-MeGln

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 180

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20 25 30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 181
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (14)..(14)

<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 181

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 182
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 182

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 183
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 183

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Asn Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 184
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 184

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 185
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>

<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 185

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Arg Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 186
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 186

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Lys Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 187
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (28)..(28)

<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 187

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Xaa Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 188
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MOD_RES
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 188

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 189
<211> 39
<212> PRT
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<220>
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<220>
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<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 189

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

Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 190
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Xaa is an Aib amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 190

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

Arg Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 191
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES

<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is an Nle amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 191

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


Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
        35
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<210> 192
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is a Nle amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 192

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


Lys Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30


Ser Gly Ala Pro Pro Pro Ser
        35
```

<210> 193
<211> 39
<212> PRT

<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Xaa is an Nle amino acid

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 193

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

Gln Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
```

<210> 194
<211> 39
<212> PRT
<213> Artificial Sequence

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is a D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is an alpha-N-AcLys

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 194

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30
```

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 195
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Liraglutide

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (30)..(30)
<223> Gly is modified with an OH group

<400> 195

His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
1   5   10   15

Gln Ala Ala Lys Glu Ile Ala Trp Leu Val Arg Gly Arg Gly
            20   25   30

<210> 196
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is D-Ser

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (20)..(20)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 196

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

1 5 10 15

Lys Arg Ala Xaa Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 197
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 197

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

Gln Arg Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 198
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as

Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 198

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

Arg Arg Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 199
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 199

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

Gln Arg Ala Lys Asp Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 200
<211> 39
<212> PRT

<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 200

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

Gln Arg Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 201
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES

<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 201

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

Gln Ala Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 202
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 202

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

Arg Ala Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 203
<211> 39
<212> PRT
<213> Artificial

<220>
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<220>
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<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 203

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 204
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
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<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 204

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser

35

<210> 205
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 205

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

Arg Arg Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 206
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
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<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>

<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 206

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

Gln Lys Ala Lys Leu Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 207
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-((S)-4-carboxy-4-hexadecanoylamino-butyrylamino)-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 207

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

Gln Arg Ala Lys Glu Phe Ile Glu Trp Leu Lys Ser Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 208
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>

<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-hexadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 208

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
```

<210> 209
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 209

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

Arg Arg Ala Gln Asp Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
```

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

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 210

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

Arg Arg Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 211

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
Lys((S)-4-carboxy-4-henicosanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Xaa is D-Ala

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 212

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

Arg Ala Ala Gln Leu Phe Ile Glu Trp Leu Lys Ala Xaa Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 213

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

Glu Ala Ala Lys Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 214
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as
       Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 214

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 215
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)
<223> Ser is modified with an NH2 group

<400> 215

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

<210> 216
<211> 39
<212> PRT
<213> Artificial

<220>
<223> Exendin-4-analogue

<220>
<221> MOD_RES
<222> (2)..(2)
<223> Xaa is Aib

<220>
<221> MOD_RES
<222> (14)..(14)
<223> Lys is functionalized at the amino side chain group as Lys((S)-4-carboxy-4-octadecanoylamino-butyryl)

<220>
<221> MOD_RES
<222> (39)..(39)

<223> Ser is modified with an NH2 group

<400> 216

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

<210> 217
<211> 39
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<223> Ser is modified with an NH2 group

<400> 217

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
        35

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<400> 218

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<400> 221

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1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser

20 25 30

Ser Gly Ala Pro Pro Pro Ser
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20 25 30

Ser Gly Ala Pro Pro Pro Ser
35

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<400> 223

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
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<400> 224

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Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20   25   30

Ser Gly Ala Pro Pro Pro Ser
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<400> 225

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1 5 10 15

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20 25 30

Ser Gly Ala Pro Pro Pro Ser
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no)-butyryl)

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<400> 226

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Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
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no)-butyryl)

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<223> Ser is modified with an NH2 group

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1 5 10 15

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

Ser Gly Ala Pro Pro Pro Ser
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no)-butyryl)

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Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
20 25 30

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

Glu Ala Ala Arg Leu Phe Ile Glu Trp Leu Lys Ala Gly Gly Pro Ser
            20                  25                  30

Ser Gly Ala Pro Pro Pro Ser
        35
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