

# SEQUENCE LISTING

<110> Novo Nordisk A/S  
 <120> Peptides derivatized with A-B-C-D- and their therapeutic use  
 <130> 7694.204-WO  
 <160> 7  
 <170> PatentIn version 3.5  
 <210> 1  
 <211> 31  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> PEPTIDE  
 <222> (1)..(31)

<400> 1

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	Phe	Ile	Ala	Trp	Leu	Val	Lys	Gly	Arg	Gly
			20					25					30	

<210> 2  
 <211> 40  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Formula I (GLP-1 analogues)

<220>  
 <221> PEPTIDE  
 <222> (1)..(40)

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(1)  
 <223> Xaa7 is L-his, D-his, desamino-his, 2-amino-his, beta-hydroxy-his, homo-his, Nalpha-acetyl-his, alpha-fluoroethyl-his, alhpa-methyl-his, 2(3H-imidazol-4-yl)acetyl, 3-pyridyl-ala, 2-pyridyl-ala, or

<220>  
 <221> MISC\_FEATURE  
 <222> (2)..(2)

<223> Xaa8 is Ala,Gly,Val,Leu,Ile,Lys,Aib, (1-aminocyclopropyl-,  
-butyl-, -pentyl-, -hexyl-, -heptyl-, or -octyl)carboxylic acid,

<220>  
<221> MISC\_FEATURE  
<222> (10)..(10)  
<223> Xaa16 is Val, or Leu

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa18 is Ser, Lys, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (13)..(13)  
<223> Xaa19 is Tyr, or Gln

<220>  
<221> MISC\_FEATURE  
<222> (14)..(14)  
<223> Xaa20 is Leu, Met, or Lys

<220>  
<221> MISC\_FEATURE  
<222> (16)..(16)  
<223> Xaa22 is Gly, Glu, or Aib

<220>  
<221> MISC\_FEATURE  
<222> (17)..(17)  
<223> Xaa23 is Gln, Glu, Lys, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (19)..(19)  
<223> Xaa25 is Ala, or Val

<220>  
<221> MISC\_FEATURE  
<222> (20)..(20)  
<223> Xaa26 is Lys, Glu, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (21)..(21)  
<223> Xaa27 is Glu, or Leu

<220>  
<221> MISC\_FEATURE  
<222> (24)..(24)  
<223> Xaa30 is Ala, Glu, Lys, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa33 is Val, Thr(O-benzyl), or Lys

<220>  
<221> MISC\_FEATURE  
<222> (28)..(28)  
<223> Xaa34 is Lys, Glu, Gln, Asn, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (29)..(29)  
<223> Xaa35 is Gly, Aib, or absent

<220>  
<221> MISC\_FEATURE  
<222> (30)..(30)  
<223> Xaa36 is Arg, Gly, Lys, or absent

<220>  
<221> MISC\_FEATURE  
<222> (31)..(31)  
<223> Xaa37 is Gly, Ala, Glu, Pro, Lys, epsilon-amino-Lys, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (32)..(32)  
<223> Xaa38 is Lys, Ser, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (33)..(33)  
<223> Xaa39 is Lys, Ser, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (34)..(34)  
<223> Xaa40 is Gly, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (35)..(35)  
<223> Xaa41 is Ala, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (36)..(36)  
<223> Xaa42 is Pro, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (37)..(37)  
<223> Xaa43 is Pro, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (38)..(38)  
<223> Xaa44 is Pro, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (39)..(39)  
<223> Xaa45 is Ser, amide, or absent

<220>  
<221> MISC\_FEATURE  
<222> (40)..(40)  
<223> Xaa46 is amide, or absent

<400> 2

Xaa Xaa Glu Gly Thr Phe Thr Ser Asp Xaa Ser Xaa Xaa Xaa Glu Xaa  
1 5 10 15

Xaa Ala Xaa Xaa Xaa Phe Ile Xaa Trp Leu Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
35 40

<210> 3  
<211> 32  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Formula II (GLP-1 analogues)

<220>  
<221> PEPTIDE  
<222> (1)..(32)

<220>  
<221> MISC\_FEATURE  
<222> (1)..(1)  
<223> Xaa7 is L-his, D-hist, desamino-his, 2-amino-his,  
beta-hydroxy-his, homohis, Nalpha-acetyl-histidine,  
alphafluoromethyl-histidine, alpha-methyl-histidine,  
2(3H-imidazol-4-yl)acetyl, 3-pyridylalanine, 2-pyridylalanine or

<220>  
<221> MISC\_FEATURE  
<222> (2)..(2)  
<223> Xaa8 is Ala, Gly, Val, Leu, Ile, Lys, Aib, (1-aminocyclopropyl-,  
-butyl-, -pentyl-, -hexyl-, -heptyl-, or -octyl)carboxylic acid,

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa18 is Ser, Lys, or Arg

```

<220>
<221> MISC_FEATURE
<222> (16)..(16)
<223> Xaa22 is Gly, Glu, or Aib

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> Xaa23 is Gln, Glu, Lys, or Arg

<220>
<221> MISC_FEATURE
<222> (20)..(20)
<223> Xaa26 is Lys, Glu, or Arg

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> Xaa30 is Ala, Glu, Lys, or Arg

<220>
<221> MISC_FEATURE
<222> (28)..(28)
<223> Xaa34 is Lys, Glu, Gln, or Arg

<220>
<221> MISC_FEATURE
<222> (29)..(29)
<223> Xaa35 is Gly, Aib, or absent

<220>
<221> MISC_FEATURE
<222> (30)..(30)
<223> Xaa36 is Arg, Lys, or absent

<220>
<221> MISC_FEATURE
<222> (31)..(31)
<223> Xaa37 is Gly, Ala, Glu, Pro, Lys, or epsilon-amino-Lys

<220>
<221> MISC_FEATURE
<222> (32)..(32)
<223> Xaa38 is Lys, amide, or is absent

<400> 3

Xaa Xaa Glu Gly Thr Phe Thr Ser Asp Val Ser Xaa Tyr Leu Glu Xaa
1          5          10          15

Xaa Ala Ala Xaa Glu Phe Ile Xaa Trp Leu Val Xaa Xaa Xaa Xaa Xaa
          20          25          30

<210> 4
<211> 40

```

<212> PRT  
<213> Heloderma suspectum

<220>  
<221> PEPTIDE  
<222> (1)..(40)

<220>  
<221> MISC\_FEATURE  
<222> (40)..(40)  
<223> Xaa is NH2

<400> 4

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

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

Ser	Gly	Ala	Pro	Pro	Pro	Ser	Xaa
		35					40

<210> 5  
<211> 45  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Variant of Heloderma suspectum protein of SEQ ID NO: 4

<220>  
<221> PEPTIDE  
<222> (1)..(45)

<220>  
<221> MISC\_FEATURE  
<222> (45)..(45)  
<223> Xaa is amide

<400> 5

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

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

Ser	Gly	Ala	Pro	Pro	Ser	Lys	Lys	Lys	Lys	Lys	Lys	Xaa
		35					40					45

<210> 6  
 <211> 33  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Formula III (GLP-1 analogues)  
  
 <220>  
 <221> PEPTIDE  
 <222> (1)..(33)  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (1)..(33)  
 <223> Xaa39 is amide, or is absent  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (1)..(2)  
 <223> Xaa7-Xaa8 is 2(3H-imidazol-4-yl)acetyl-alanine, L-histidine-Aib,  
 desamino-histidine-alanine, or desamino-histidine-Aib  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (3)..(3)  
 <223> Xaa9 is Glu or a Glu derivative such as alpha, alpha dimethyl-Glu  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (10)..(10)  
 <223> Xaa16 is Val, or Leu  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (12)..(12)  
 <223> Xaa18 is Ser, Lys, or Arg  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (13)..(13)  
 <223> Xaa19 is Tyr, or Gln  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (17)..(17)  
 <223> Xaa23 is Gln, Glu, Lys, or Arg  
  
 <220>  
 <221> MISC\_FEATURE  
 <222> (19)..(19)  
 <223> Xaa25 is Ala, or Val  
  
 <220>

<221> MISC\_FEATURE  
<222> (21)..(21)  
<223> Xaa30 is Ala, Glu, Lys, Arg, or absent

<220>  
<221> MISC\_FEATURE  
<222> (24)..(24)  
<223> Xaa30 is Ala, Glu, Lys, Arg, or absent

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa33 is Val, Thr(O-benzyl), or Lys

<220>  
<221> MISC\_FEATURE  
<222> (28)..(28)  
<223> Xaa34 is Lys, Glu, Gln, Asn, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (29)..(29)  
<223> Xaa35 is Gly, Aib, or absent

<220>  
<221> MISC\_FEATURE  
<222> (30)..(30)  
<223> Xaa36 is Arg, Lys, or absent

<220>  
<221> MISC\_FEATURE  
<222> (31)..(31)  
<223> Xaa37 is Gly, Aib, Pro, epsilon-amino-Lys, or absent

<220>  
<221> MISC\_FEATURE  
<222> (32)..(32)  
<223> Xaa38 is Lys, Glu, or absent

<400> 6

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

Xaa Ala Xaa Arg Xaa Phe Ile Xaa Trp Leu Xaa Xaa Xaa Xaa Xaa Xaa  
20 25 30

Xaa

<210> 7  
<211> 33  
<212> PRT  
<213> Artificial Sequence



<220>  
<223> Formula IV (GLP-1 analogues)

<220>  
<221> PEPTIDE  
<222> (1)..(33)

<220>  
<221> MISC\_FEATURE  
<222> (1)..(1)  
<223> Xaa7 is L-his, D-hist, desamino-his, 2-amino-his, beta-hydroxy-his, homohis, Nalpha-acetyl-his, alpha-fluoromethyl-his, alpha-methyl-his, 2(3H-imidazol-4-yl)acetyl, 3-pyridylalanine, 2-pyridylalanine or

<220>  
<221> MISC\_FEATURE  
<222> (2)..(2)  
<223> Xaa8 is Ala, Gly, Val, Leu, Ile, Lys, Aib, (1-aminocyclopropyl-, -butyl-, -pentyl-, -hexyl-, -heptyl-, or -octyl)carboxylic acid

<220>  
<221> MISC\_FEATURE  
<222> (12)..(12)  
<223> Xaa18 is Ser, Lys or Arg

<220>  
<221> MISC\_FEATURE  
<222> (24)..(24)  
<223> Xaa30 is Ala, Glu, Lys or Arg

<220>  
<221> MISC\_FEATURE  
<222> (27)..(27)  
<223> Xaa33 is Val or Lys

<220>  
<221> MISC\_FEATURE  
<222> (28)..(28)  
<223> Xaa34 is Lys, Glu, Gln, or Arg

<220>  
<221> MISC\_FEATURE  
<222> (29)..(29)  
<223> Xaa35 is Gly, Aib, or absent

<220>  
<221> MISC\_FEATURE  
<222> (30)..(30)  
<223> Xaa37 is Gly, Aib, Pro, epsilon-amino-Lys, or absent

<220>  
<221> MISC\_FEATURE  
<222> (31)..(31)

<223> Xaa38 is Lys, or absent

<220>

<221> MISC\_FEATURE

<222> (32)..(32)

<223> Xaa39 is amide or is absent

<400> 7

Xaa	Xaa	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Val	Ser	Xaa	Tyr	Leu	Glu	Glu
1				5					10					15	

Gln	Ala	Ala	Arg	Glu	Phe	Ile	Xaa	Trp	Leu	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa
			20					25					30		

Xaa