

X21061SequencesJune72017_ST25
SEQUENCE LISTING

<110> Eli Lilly and Company

<120> NOVEL FATTY ACID MODIFIED UROCORTIN-2 ANALOGS FOR THE TREATMENT
OF DIABETES AND CHRONIC KIDNEY DISEASE

<130> X21061

<150> 62/362711
<151> 2016-07-15

<150> 62/491385
<151> 2017-04-28

<150> 62/431682
<151> 2016-12-08

<160> 68

<170> PatentIn version 3.5

<210> 1
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<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
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<222> (1)..(1)
<223> ACETYLATION

<220>
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<222> (29)..(29)
<223> Lys at position 29 is chemically modified through conjugation to
the epsilon-amino group of the K side-chain with
([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-Glu)2-CO-(CH2)16-COO
H

<220>
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<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

X21061SequencesJune72017_ST25

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Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

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<220>

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<222> (1)..(1)

<223> ACETYLTATION

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is Lys which is chemically modified through conjugation to the epsilon-amino group of the Lys side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)18-CO2H

<220>

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

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

Gln Ile Leu Ala Gln Val
 35

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 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)16-COO
 H

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<400> 3

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Gln Ile Leu Ala Gln Val
 35

X21061SequencesJune72017_ST25

<210> 4
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<400> 4

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Gln Ile Leu Ala Gln Val
 35

<210> 5
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<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
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 H

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<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 5

Ile	Val	Thr	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Glu	Ile	Leu	Ala	Gln	Val
					35

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<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)18-COO
H

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 6

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Glu	Ile	Leu	Ala	Gln	Val
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<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)18-COO

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H

<220>

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 7

Ile	Val	Thr	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Ile
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Glu	Ile	Leu	Ala	Gln	Val
					35

<210> 8

<211> 38

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<223> Synthetic Construct

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<222> (1)..(1)

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<221> MOD_RES

<222> (1)..(1)

<223> METHYLATION

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa at position 3 is Leu or Thr

<220>

<221> MISC_FEATURE

<222> (16)..(16)

<223> Xaa at position 16 is Leu or Ile

<220>

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<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH₂)_x-CO₂H where x is 16 or 18

<220>

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<222> (33)..(33)

<223> Xaa at position 33 is Gln or Glu

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<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 8

Ile	Val	Xaa	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Xaa
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Xaa	Ile	Leu	Ala	Gln	Val
				35	

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<222> (1)..(1)

<223> Methylation

X21061SequencesJune72017_ST25

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 <223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)18-COOH

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 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 9

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
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<220>
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 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 10

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
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 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 11

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Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

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<220>
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<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 12

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
20 25 30

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Gln Ile Leu Ala Gln Val
35

<210> 13
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<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 13

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

<210> 14
<211> 38

X21061SequencesJune72017_ST25

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<223> Methylation

<220>
<221> MOD_RES
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<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 14

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
					35

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<213> Artificial Sequence

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X21061SequencesJune72017_ST25

<220>
 <221> MOD_RES
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 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 15

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Ala	Arg	Ala	Arg	Ala	Ala	Arg	Glu	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Arg	Ile	Leu	Ala	Arg	Val
					35

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 <223> ACETYLTATION

<220>
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 <222> (1)..(1)
 <223> METHYLATION

<220>
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 <222> (3)..(3)
 <223> Xaa at position 3 is Leu or Thr

<220>
 <221> MISC_FEATURE
 <222> (16)..(16)
 <223> Xaa at position 16 is Leu or Ile

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<220>
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 <222> (29)..(29)
 <223> Lys at 29 is modified at the epsilon-amine with -X5-X6, where X5 is 1 to 4 amino acids and/or 1 to 4 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl) moieties; X6 is C14-C24 fatty acid.

<220>
 <221> MISC_FEATURE
 <222> (33)..(33)
 <223> Xaa at position 33 is Gln or Glu

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 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 16

Ile	Val	Xaa	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Xaa
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Xaa	Ile	Leu	Ala	Gln	Val
					35

<210> 17
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<220>
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<220>
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 <223> ACETYLTATION

<220>
 <221> MOD_RES

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<222> (29)..(29)
 <223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)x-COOH, where x is 16 or 18

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 17

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
					35

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<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> ACETYLATION

<220>
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 <222> (3)..(3)
 <223> Xaa at position 3 is Leu or Thr

X21061SequencesJune72017_ST25

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<221> MISC_FEATURE

<222> (16)..(16)

<223> Xaa at position 16 is Leu or Ile

<220>

<221> MISC_FEATURE

<222> (33)..(33)

<223> Xaa at position 33 is Gln or Glu

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 18

Ile	Val	Xaa	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Xaa
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Xaa	Ile	Leu	Ala	Gln	Val
					35

<210> 19

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<220>

<223> Synthetic Construct

<400> 19

Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln
1				5			

<210> 20

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<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 20

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 21

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

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<222> (14)..(14)

<223> Lys at position 14 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)CO-(CH2)14-CH3

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 21

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Lys Leu Leu

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1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 22
<211> 38
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<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Lys at position 15 is chemically modified through conjugation to
the epsilon-amino group of the K side-chain with
(gamma-glu)-CO-(CH2)14-CH3

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 22

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Lys Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 23
<211> 38

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (17)..(17)
 <223> Lys at position 17 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 23

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Lys	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

Arg	Ile	Leu	Ala	Arg	Val
					35

<210> 24
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 <222> (19)..(19)
 <223> Lys at position 19 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

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<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 24

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Lys	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Arg	Ile	Leu	Ala	Arg	Val
					35

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<220>
 <221> MOD_RES
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 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 25

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

20

25

30

Arg Ile Leu Ala Arg Val
35

<210> 26
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<223> Lys at position 21 is chemically modified through conjugation to
the epsilon-amino group of the K side-chain with
(gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 26

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Lys Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 27
<211> 38
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (22)..(22)

<223> Lys at position 22 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 27

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Lys	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Arg	Ile	Leu	Ala	Arg	Val
					35

<210> 28

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (23)..(23)

<223> Lys at position 23 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 28

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 29

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (24)..(24)

<223> Lys at position 24 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 29

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Lys Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val

35

<210> 30
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 30

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
 20 25 30

Arg Ile Leu Ala Arg Val
 35

<210> 31
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>

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<221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)- CO-(CH2)14-CH3

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 31

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Arg	Ile	Leu	Ala	Arg	Val
					35

<210> 32
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)- CO-(CH2)14-CH3

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 32

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Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 33
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (26)..(26)
<223> Lys at position 26 is chemically modified through conjugation to
the epsilon-amino group of the K side-chain with
(gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 33

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Lys Gln Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 34

X21061SequencesJune72017_ST25

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

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Lys at position 26 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)- CO-(CH₂)₁₄-CH₃

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 34

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Lys Gln Ala Thr Thr Asn Ala
 20 25 30

Arg Ile Leu Ala Arg Val
 35

<210> 35
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (27)..(27)
 <223> Lys at position 27 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with

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(gamma-glu)-CO-(CH2)14-CH3

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 35

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Lys Ala Thr Thr Asn Ala
20 25 30

Arg Ile Leu Ala Arg Val
35

<210> 36
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (28)..(28)
<223> Lys at position 28 is chemically modified through conjugation to
the epsilon-amino group of the K side-chain with
(gamma-glu)-CO-(CH2)14-CH3

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 36

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

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Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Lys Thr Thr Asn Ala
 20 25 30

Arg Ile Leu Ala Arg Val
 35

<210> 37
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (29)..(29)
 <223> Lys at position 29 is chemically modified through conjugation to
 the epsilon-amino group of the K side-chain with
 (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 37

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Arg Ile Leu Ala Arg Val
 35

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

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<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 38

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Arg	Ile	Leu	Ala	Arg	Val
					35

<210> 39

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (30)..(30)

<223> Lys at position 30 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-CO-(CH₂)₁₄-CH₃

<220>

<221> MOD_RES

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 39

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Lys	Asn	Ala
			20					25						30	

Arg	Ile	Leu	Ala	Arg	Val
					35

<210> 40

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Lys at position 14 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 40

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Lys	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

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Gln Ile Leu Ala His Val
35

<210> 41
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (15)..(15)
<223> Lys at position 15 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 41

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Lys Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Gln Ile Leu Ala His Val
35

<210> 42
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (16)..(16)
 <223> Lys at position 16 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 42

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Lys
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	His	Val
				35	

<210> 43
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (17)..(17)
 <223> Lys at position 17 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 43

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Lys	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

Gln	Ile	Leu	Ala	His	Val
				35	

<210> 44

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (18)..(18)

<223> Lys at position 18 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 44

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Lys	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

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Gln Ile Leu Ala His Val
35

<210> 45
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (21)..(21)
<223> Lys at position 21 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 45

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Lys Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Gln Ile Leu Ala His Val
35

<210> 46
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 46

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	His	Val
				35	

<210> 47
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Lys at position 26 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 47

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Lys	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

Gln	Ile	Leu	Ala	His	Val
				35	

<210> 48

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 48

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25						30	

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Gln Ile Leu Ala His Val
35

<210> 49
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (10)..(10)
<223> Lys at position 10 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 49

Ile Val Leu Ser Leu Asp Val Pro Ile Lys Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Thr Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

<210> 50
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (17)..(17)
 <223> Lys at position 17 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 50

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Lys	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
					35

<210> 51
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Lys at position 26 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 51

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Lys	Gln	Ala	Thr	Thr	Asn	Ala
			20					25						30	

Gln	Ile	Leu	Ala	Gln	Val
				35	

<210> 52

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 52

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

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Gln Ile Leu Ala Gln Val
35

<210> 53
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (17)..(17)
<223> Lys at position 17 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 53

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Lys Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Thr Glu Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

<210> 54
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Lys at position 26 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 54

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Lys	Gln	Ala	Thr	Glu	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
					35

<210> 55
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (29)..(29)
 <223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>
 <221> MOD_RES

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<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 55

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Glu	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
				35	

<210> 56

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with
 ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)16-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 56

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Glu	Asn	Ala
			20					25					30		

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Gln Ile Leu Ala Gln Val
35

<210> 57
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Methylation

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with ([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)-(gamma-glu)-CO-(CH2)18-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 57

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Glu Asn Ala
20 25 30

Glu Ile Leu Ala Gln Val
35

<210> 58
<211> 38

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<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Methylation

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 58

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Glu Asn Ala
20 25 30

Glu Ile Leu Ala Gln Val
35

<210> 59
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>

X21061SequencesJune72017_ST25

<221> MOD_RES
<222> (1)..(1)
<223> Methylation

<220>
<221> MOD_RES
<222> (29)..(29)
<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>
<221> MOD_RES
<222> (38)..(38)
<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 59

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Glu	Asn	Ala
			20					25					30		

Glu	Ile	Leu	Ala	Gln	Val
					35

<210> 60
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<220>
<221> MOD_RES
<222> (1)..(1)
<223> Methylation

<220>
<221> MOD_RES
<222> (29)..(29)

X21061SequencesJune72017_ST25

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)2-CO-(CH2)18-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 60

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
				35	

<210> 61

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Methylation

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-gu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)-(gamma-glu)-CO-(CH2)18-COOH

<220>

<221> MOD_RES

X21061SequencesJune72017_ST25

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 61

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Gln	Ile	Leu	Ala	Gln	Val
				35	

<210> 62

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Methylation

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)18-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 62

Ile	Val	Leu	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

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Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Gln Ile Leu Ala Gln Val
 35

<210> 63
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> Methylation

<220>
 <221> MOD_RES
 <222> (29)..(29)
 <223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)-(gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 63

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Gln Ile Leu Ala Gln Val

35

<210> 64
 <211> 38
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> Methylation

<220>
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 <222> (29)..(29)
 <223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-(gamma-glu)-(gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>
 <221> MOD_RES
 <222> (38)..(38)
 <223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 64

Ile Val Leu Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
 1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
 20 25 30

Gln Ile Leu Ala Gln Val
 35

<210> 65
 <211> 38
 <212> PRT
 <213> Artificial Sequence

X21061SequencesJune72017_ST25

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Methylation

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH2)18-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 65

Ile Val Thr Ser Leu Asp Val Pro Ile Gly Leu Leu Gln Ile Leu Leu
1 5 10 15

Glu Gln Glu Lys Gln Glu Lys Glu Lys Gln Gln Ala Lys Thr Asn Ala
20 25 30

Gln Ile Leu Ala Gln Val
35

<210> 66

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> Methylation

<220>

<221> MOD_RES

<222> (29)..(29)

<223> Lys at position 29 is chemically modified through conjugation to the epsilon-amino group of the K side-chain with (gamma-glu)-([2-(2-Amino-ethoxy)-ethoxy]-acetyl)2-(gamma-glu)-(gamma-glu)-CO-(CH₂)₁₈-COOH

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 66

Ile	Val	Thr	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Leu
1				5					10				15		

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Lys	Thr	Asn	Ala
			20					25					30		

Glu	Ile	Leu	Ala	Gln	Val
					35

<210> 67

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> METHYLATION

<220>

<221> MOD_RES

<222> (1)..(1)

<223> UNMODIFIED

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<220>
 <221> MOD_RES
 <222> (1)..(1)
 <223> ACETYLTATION

 <220>
 <221> MISC_FEATURE
 <222> (3)..(3)
 <223> Xaa at postiion 3 is Leu or Thr

 <220>
 <221> MISC_FEATURE
 <222> (16)..(16)
 <223> Xaa at postiion 16 is Leu or Ile

 <220>
 <221> MOD_RES
 <222> (20)..(20)
 <223> Lys at position 20 may be modified as described herein.

 <220>
 <221> MOD_RES
 <222> (23)..(23)
 <223> Lys at position 23 may be modified as described herein.

 <220>
 <221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 may be modified as described herein.

 <220>
 <221> MISC_FEATURE
 <222> (30)..(30)
 <223> Xaa at postiion 30 is Thr or Glu

 <220>
 <221> MISC_FEATURE
 <222> (33)..(33)
 <223> Xaa at postiion 33 is Gln, Arg, or Glu

 <220>
 <221> MISC_FEATURE
 <222> (37)..(37)
 <223> Xaa at postiion 37 is Gln, His, or Arg

 <220>
 <221> MOD_RES
 <222> (38)..(38)

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<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 67

Ile	Val	Xaa	Ser	Leu	Asp	Val	Pro	Ile	Gly	Leu	Leu	Gln	Ile	Leu	Xaa
1				5					10					15	

Glu	Gln	Glu	Lys	Gln	Glu	Lys	Glu	Lys	Gln	Gln	Ala	Thr	Xaa	Asn	Ala
			20					25					30		

Xaa	Ile	Leu	Ala	Xaa	Val
					35

<210> 68

<211> 38

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<220>

<221> MOD_RES

<222> (1)..(1)

<223> UNMODIFIED

<220>

<221> MOD_RES

<222> (1)..(1)

<223> METHYLATION

<220>

<221> MOD_RES

<222> (1)..(1)

<223> ACETYLATION

<220>

<221> MISC_FEATURE

<222> (3)..(3)

<223> Xaa at position 3 is Leu or Thr

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> Xaa at position 10 is Gly or Lys

<220>

<221> MOD_RES

<222> (10)..(10)

<223> Lys at position 10 may be modified as described herein.

<220>

<221> MOD_RES

<222> (14)..(14)

<223> Lys at position 14 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (14)..(14)

<223> Xaa at position 14 is Ile or Lys

<220>

<221> MOD_RES

<222> (15)..(15)

<223> Lys at position 15 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (15)..(15)

<223> Xaa at position 15 is Leu or Lys

<220>

<221> MOD_RES

<222> (16)..(16)

<223> Lys at position 16 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (16)..(16)

<223> Xaa at position 16 is Leu, Ile, or Lys

<220>

<221> MOD_RES

<222> (17)..(17)

<223> Lys at position 17 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (17)..(17)

<223> Xaa at position 17 is Glu or Lys

<220>

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<221> MOD_RES
 <222> (18)..(18)
 <223> Lys at position 18 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (18)..(18)
 <223> Xaa at position 18 is Gln or Lys

<220>
 <221> MOD_RES
 <222> (19)..(19)
 <223> Lys at position 19 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (19)..(19)
 <223> Xaa at position 19 is Glu or Lys

<220>
 <221> MOD_RES
 <222> (20)..(20)
 <223> Lys at position 20 may be modified as described herein.

<220>
 <221> MOD_RES
 <222> (21)..(21)
 <223> Lys at position 21 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (21)..(21)
 <223> Xaa at position 21 is Gln or Lys

<220>
 <221> MOD_RES
 <222> (22)..(22)
 <223> Lys at position 22 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (22)..(22)
 <223> Xaa at position 22 is Glu or Lys

<220>
 <221> MOD_RES
 <222> (23)..(23)
 <223> Lys at position 23 may be modified as described herein.

<220>
 <221> MOD_RES
 <222> (24)..(24)
 <223> Lys at position 24 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (24)..(24)
 <223> Xaa at position 24 is Glu or Lys

<220>
 <221> MOD_RES
 <222> (25)..(25)
 <223> Lys at position 25 may be modified as described herein.

<220>
 <221> MOD_RES
 <222> (26)..(26)
 <223> Lys at position 26 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (26)..(26)
 <223> Xaa at position 26 is Gln or Lys

<220>
 <221> MOD_RES
 <222> (27)..(27)
 <223> Lys at position 27 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (27)..(27)
 <223> Xaa at position 27 is Gln or Lys

<220>
 <221> MOD_RES
 <222> (28)..(28)
 <223> Lys at position 28 may be modified as described herein.

<220>
 <221> MISC_FEATURE
 <222> (28)..(28)
 <223> Xaa at position 28 is Ala or Lys

<220>
 <221> MOD_RES

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<222> (29)..(29)

<223> Lys at position 29 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (29)..(29)

<223> Xaa at position 29 is Thr or Lys

<220>

<221> MOD_RES

<222> (30)..(30)

<223> Lys at position 30 may be modified as described herein.

<220>

<221> MISC_FEATURE

<222> (30)..(30)

<223> Xaa at position 30 is Thr, Glu, or Lys

<220>

<221> MISC_FEATURE

<222> (33)..(33)

<223> Xaa at position 33 is Gln, Arg, or Glu

<220>

<221> MISC_FEATURE

<222> (37)..(37)

<223> Xaa at position 37 is Gln, His, or Arg

<220>

<221> MOD_RES

<222> (38)..(38)

<223> Val at position 38 is amidated at the C-terminal carboxyl

<400> 68

Ile	Val	Xaa	Ser	Leu	Asp	Val	Pro	Ile	Xaa	Leu	Leu	Gln	Xaa	Xaa	Xaa
1				5					10				15		

Xaa	Xaa	Xaa	Lys	Xaa	Xaa	Lys	Xaa	Lys	Xaa	Xaa	Xaa	Xaa	Xaa	Asn	Ala
			20					25					30		

Xaa	Ile	Leu	Ala	Xaa	Val
					35