SEQUENCE LISTING

<110> Government Of The United States of America, Represented By The Secretary, Department Of Health And Human Services

<120> SMOOTHENED POLYPEPTIDES AND METHODS OF USE

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<151> 2006-10-31

<160> 94

<170> PatentIn version 3.3

<210> 1
<211> 787
<212> PRT
<213> Homo sapiens

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<223> Genbank NP_005622

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Met Ala Ala Ala Arg Pro Ala Arg Gly Pro Glu Leu Pro Leu Leu Gly
1 5 10 15

Leu Leu Leu Leu Leu Leu Leu Gly Asp Pro Gly Arg Gly Ala Ala Ser
20 25 30

Ser Gly Asn Ala Thr Gly Pro Gly Pro Arg Ser Ala Gly Gly Ser Ala
35 40 45

Arg Arg Ser Ala Ala Val Thr Gly Pro Pro Pro Pro Leu Ser His Cys
50 55 60

Gly Arg Ala Ala Pro Cys Glu Pro Leu Arg Tyr Asn Val Cys Leu Gly
65 70 75 80

Ser Val Leu Pro Tyr Gly Ala Thr Ser Thr Leu Leu Ala Gly Asp Ser
85 90 95

Asp Ser Gln Glu Glu Ala His Gly Lys Leu Val Leu Trp Ser Gly Leu
100 105 110

Arg Asn Ala Pro Arg Cys Trp Ala Val Ile Gln Pro Leu Leu Cys Ala
115 120 125

Val Tyr Met Pro Lys Cys Glu Asn Asp Arg Val Glu Leu Pro Ser Arg
130 135 140

Thr Leu Cys Gln Ala Thr Arg Gly Pro Cys Ala Ile Val Glu Arg Glu
145 150 155 160

Arg Gly Trp Pro Asp Phe Leu Arg Cys Thr Pro Asp Arg Phe Pro Glu
165 170 175

Gly Cys Thr Asn Glu Val Gln Asn Ile Lys Phe Asn Ser Ser Gly Gln
180 185 190

Cys Glu Val Pro Leu Val Arg Thr Asp Asn Pro Lys Ser Trp Tyr Glu
195 200 205

Asp Val Glu Gly Cys Gly Ile Gln Cys Gln Asn Pro Leu Phe Thr Glu
210 215 220

Ala Glu His Gln Asp Met His Ser Tyr Ile Ala Ala Phe Gly Ala Val
225 230 235 240

Thr Gly Leu Cys Thr Leu Phe Thr Leu Ala Thr Phe Val Ala Asp Trp
245 250 255

Arg Asn Ser Asn Arg Tyr Pro Ala Val Ile Leu Phe Tyr Val Asn Ala
260 265 270

Cys Phe Phe Val Gly Ser Ile Gly Trp Leu Ala Gln Phe Met Asp Gly
275 280 285

Ala Arg Arg Glu Ile Val Cys Arg Ala Asp Gly Thr Met Arg Leu Gly
290 295 300

Glu Pro Thr Ser Asn Glu Thr Leu Ser Cys Val Ile Ile Phe Val Ile
305 310 315 320

Val Tyr Tyr Ala Leu Met Ala Gly Val Val Trp Phe Val Val Leu Thr
325 330 335

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
340 345 350

Leu Ser Gly Lys Thr Ser Tyr Phe His Leu Leu Thr Trp Ser Leu Pro
355 360 365

Phe Val Leu Thr Val Ala Ile Leu Ala Val Ala Gln Val Asp Gly Asp
370 375 380

Ser Val Ser Gly Ile Cys Phe Val Gly Tyr Lys Asn Tyr Arg Tyr Arg
385 390 395 400

Ala Gly Phe Val Leu Ala Pro Ile Gly Leu Val Leu Ile Val Gly Gly
405 410 415

Tyr Phe Leu Ile Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn
420 425 430

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His Pro Gly Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr
        435                 440                 445

Met Leu Arg Leu Gly Ile Phe Gly Phe Leu Ala Phe Gly Phe Val Leu
    450                 455                 460

Ile Thr Phe Ser Cys His Phe Tyr Asp Phe Phe Asn Gln Ala Glu Trp
465                 470                 475                 480

Glu Arg Ser Phe Arg Asp Tyr Val Leu Cys Gln Ala Asn Val Thr Ile
                485                 490                 495

Gly Leu Pro Thr Lys Gln Pro Ile Pro Asp Cys Glu Ile Lys Asn Arg
            500                 505                 510

Pro Ser Leu Leu Val Glu Lys Ile Asn Leu Phe Ala Met Phe Gly Thr
        515                 520                 525

Gly Ile Ala Met Ser Thr Trp Val Trp Thr Lys Ala Thr Leu Leu Ile
    530                 535                 540

Trp Arg Arg Thr Trp Cys Arg Leu Thr Gly Gln Ser Asp Asp Glu Pro
545                 550                 555                 560

Lys Arg Ile Lys Lys Ser Lys Met Ile Ala Lys Ala Phe Ser Lys Arg
                565                 570                 575

His Glu Leu Leu Gln Asn Pro Gly Gln Glu Leu Ser Phe Ser Met His
            580                 585                 590

Thr Val Ser His Asp Gly Pro Val Ala Gly Leu Ala Phe Asp Leu Asn
        595                 600                 605

Glu Pro Ser Ala Asp Val Ser Ser Ala Trp Ala Gln His Val Thr Lys
    610                 615                 620

Met Val Ala Arg Arg Gly Ala Ile Leu Pro Gln Asp Ile Ser Val Thr
625                 630                 635                 640

Pro Val Ala Thr Pro Val Pro Pro Glu Glu Gln Ala Asn Leu Trp Leu
                645                 650                 655

Val Glu Ala Glu Ile Ser Pro Glu Leu Gln Lys Arg Leu Gly Arg Lys
            660                 665                 670

Lys Lys Arg Arg Lys Arg Lys Lys Glu Val Cys Pro Leu Ala Pro Pro
        675                 680                 685

Pro Glu Leu His Pro Pro Ala Pro Ala Pro Ser Thr Ile Pro Arg Leu
    690                 695                 700
```

Pro Gln Leu Pro Arg Gln Lys Cys Leu Val Ala Ala Gly Ala Trp Gly
705 710 715 720

Ala Gly Asp Ser Cys Arg Gln Gly Ala Trp Thr Leu Val Ser Asn Pro
725 730 735

Phe Cys Pro Glu Pro Ser Pro Pro Gln Asp Pro Phe Leu Pro Ser Ala
740 745 750

Pro Ala Pro Val Ala Trp Ala His Gly Arg Arg Gln Gly Leu Gly Pro
755 760 765

Ile His Ser Arg Thr Asn Leu Met Asp Thr Glu Leu Met Asp Ala Asp
770 775 780

Ser Asp Phe
785

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<223> SMOi1-1

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<223> wherein THR at position 1 optionally is palmitoylated

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Thr Phe Val Ala Asp Trp Arg Asn Ser Asn Arg Tyr Pro
1 5 10

<210> 3
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<223> SMOi2-1

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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 3

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Tyr Ser Tyr
20 25

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<223> SMOi3-1

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<222> (1)..(1)
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 4

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25 30

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<223> C-term of i3

<400> 5

Leu Leu Ser Glu Lys Ala
1 5

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<400> 6

Leu Phe Ser Ile Lys Ser Asn His
1 5

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<223> C-term of i2

<400> 7

Gly Thr Thr Tyr Gln Pro
1 5

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<223> N-term of i2

<400> 8

Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5

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<223> SMO-i3-2

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<400> 9

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala
20

<210> 10
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<223> SMOi3-4

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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 10

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25

<210> 11
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<400> 11

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25 30

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<223> SMO-i3-6-K

<400> 12

Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10 15

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<223> SMOi3-7-K

<400> 13

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25

<210> 14
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<223> SMO-i3-8

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<222> (1)..(1)
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 14

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser

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<223> SMO-i3-10

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<400> 15

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His
1 5 10

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<400> 16

Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10

<210> 17
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<220>
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<223> SMO i2-2

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<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 17

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 18
<211> 21
<212> PRT
<213> Artificial

<220>

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<223> SMO i2-3

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 18

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly
20

<210> 19
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<220>
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<223> SMOi2-4-K

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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<400> 19

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 20
<211> 23
<212> PRT
<213> Artificial

<220>
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<223> SMO i2-5-K

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<222> (1)..(1)
<223> wherein the Y at position 1 optionally is acetylated

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<222> (1)..(1)
<223> wherein the TYR at position 1 optionally is acetylated

<400> 20

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
1 5 10 15

Leu Ser Gly Lys Thr Ser Tyr
20

<210> 21
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<223> SMO i2-6

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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 21

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro

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<223> SMO i2-7-K

<400> 22

Gly Thr Thr Tyr Gln Pro Leu Ser Gly Lys Thr Ser Tyr
1 5 10

<210> 23
<211> 12
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<223> Synthetic

<220>
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<223> SMO i2-8

<220>
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<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 23

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

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<223> SMO i2-9

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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 24

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 25
<211> 11
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<223> SMO i2-10

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<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<400> 25

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 26
<211> 11

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<223> SMO i2-11

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 26

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 27
<211> 10
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<223> Synthetic

<220>
<221> misc_feature
<223> SMO i2-12

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<400> 27

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys
1 5 10

<210> 28
<211> 10
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<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMO i2-13

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is acetylated

<400> 28

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 29
<211> 25
<212> PRT
<213> Artificial

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<223> Synthetic

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<223> SMOi2-23-K (i2-2 doubly palmitylated)

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<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 29

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 30
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<213> Artificial

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<220>
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<223> SMOi2-24

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<223> wherein each amino acid is the D isomer

<220>
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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 30

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 31
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<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>

<221> misc_feature
<223> SMOi2-25

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<223> wherein each amino acid is the D isomer

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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 31

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 32
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-26

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally comprises myristate

<400> 32

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

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<223> Forward seq of i2-20

<400> 33

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys
1 5 10

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<223> SMO i2-16-K

retroinverso of SMOi2-8

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<223> wherein each of the amino acids is the D isomer

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Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

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<213> Artificial

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<223> Synthetic

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<223> SMO i2-17-K retroinverso of SMOi2-11

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<223> wherein each of the amino acids is the D isomer

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<222> (1)..(1)
<223> wherein the ALA at position 1 optionally is acetylated

<400> 35

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 36
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<223> wherein each of the amino acids is the D isomer

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<222> (1)..(1)
<223> wherein the K at position 1 optionally is acetylated

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<222> (1)..(1)
<223> wherein the LYS at position 1 optionally is acetylated

<400> 36

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

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<221> misc_feature
<223> SMOi2-22

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<223> wherein each of the amino acids is the D isomer

<400> 37

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 38
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<223> SMOi2-1

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<222> (1)..(1)
<223> wherein THR at position 1 optionally is palmitoylated

<220>
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<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or benzoylphenalanine (BPA)

<400> 38

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

Pro Leu Ser Gly Lys Thr Ser
20

<210> 39
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<223> Generic SMOi2-2

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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

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<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 39

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 40
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<220>
<221> misc_feature
<223> Generic SMOi2-3

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<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

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<222> (5)..(5)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 40

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

Gln Pro Leu Ser Gly
20

<210> 41
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<220>
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<223> Generic SMOi2-4

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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally comprises an acetyl residue

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<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 41

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 42
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<223> Generic SMOi2-5

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<222> (1)..(1)
<223> wherein the Y at position 1 optionally is acetylated

<220>
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<222> (1)..(1)
<223> wherein the TYR at position 1 optionally is acetylated

<220>
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<222> (3)..(3)
<223> wherein X at position 3 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 42

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

Leu Ser Gly Lys Thr Ser Tyr
20

<210> 43
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<222> (1)..(1)
<223> wherein the LEU at position 1 is palmitoylated

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<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 43

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

Gln Pro

<210> 44
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<222> (1)..(1)
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<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 44

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 45
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<221> misc_feature
<222> (1)..(1)
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<220>
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<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 45

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 46
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<221> misc_feature
<222> (1)..(1)
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<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 46

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 47
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>

<221> misc_feature
<223> Generic SMOi2-12

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<220>
<221> misc_feature
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 47

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 48
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-13

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 48

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 49
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-16

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (8)..(8)

<223> wherein X at position 8 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 49

Leu Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 50
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-17

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the ALA at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 50

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 51
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-20

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the K at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LYS at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (6)..(6)
<223> wherein X at position 6 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 51

Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 52
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-22

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 52

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 53
<211> 25
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-23

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 53

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 54
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-18

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is BPA

<400> 54

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 55
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-14

<400> 55

Val Trp Phe Val Val Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 56
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-15

<400> 56

Trp Phe Val Val Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu

1 5 10 15

<210> 57
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-24

<220>
<221> misc_feature
<223> wherein each amino acid is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 57

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 58
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-25

<220>
<221> misc_feature
<223> wherein each of the aminio acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 58

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 59
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-26

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is myristoylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 59

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 60
<211> 32
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi3-5

<220>
<221> misc_feature
<222> (32)..(32)
<223> wherein X at position 32 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropaneic acid (DPA)

<220>
<221> misc_feature
<222> (32)..(32)
<223> wherein X at position 32 is optionally palmitoylated

<400> 60

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
20 25 30

<210> 61
<211> 17
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi3-6

<220>
<221> misc_feature
<222> (17)..(17)
<223> wherein X at position 17 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (17)..(17)
<223> wherein X at position 17 optionally is palmitoylated

<400> 61

Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10 15

Xaa

<210> 62
<211> 27
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi3-7

<220>
<221> misc_feature
<222> (27)..(27)
<223> wherein X at position 27 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (27)..(27)
<223> wherein X at position 27 optionally is palmitoylated

<400> 62

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
20 25

<210> 63
<211> 15
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi3-12 -

<220>
<221> misc_feature
<222> (15)..(15)
<223> wherein X at position 15 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA), wherein X at position 15 optionally is palmitoylated

<400> 63

Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
1 5 10 15

<210> 64
<211> 26
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-4

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 comprises acetate

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 64

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 65
<211> 24
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-5

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein Y at position 1 comprises acetate

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein TYR at position 1 comprises acetate

<220>
<221> misc_feature
<222> (24)..(24)
<223> wherein X at position 24 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (24)..(24)
<223> wherein X at position 24 optionally is palmitoylated

<400> 65

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
1 5 10 15

Leu Ser Gly Lys Thr Ser Tyr Xaa
20

<210> 66
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-7

<220>
<221> misc_feature
<222> (14)..(14)
<223> wherein X at position 14 is K, C, homoCys, Orn, or diaminobutyric acid (DBA), or diaminopropanoic acid (DPA); wherein X at position 14 optionally is palmitoylated

<400> 66

Gly Thr Thr Tyr Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
1 5 10

<210> 67
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-16

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein X at position 13 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein X at position 13 optionally is palmitoylated

<400> 67

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 68
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-17

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the ARG at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein X at position 12 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein X at position 12 optionally is palmitoylated

<400> 68

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 69
<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-20 -

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein K at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LYS at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (11)..(11)
<223> wherein X at position 11 optionally is palmitoylated

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein X at position 12 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<400> 69

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 70
<211> 26
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-23

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein each of L at position 1 and X at position 26 optionally is palimitoylated

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein each of L at position 1 and X at position 26 optionally is palimitoylated

<400> 70

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 71
<211> 26
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-4

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 71

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 72
<211> 24

<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-5

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein Y at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein TYR at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (3)..(3)
<223> wherein X at position 3 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (24)..(24)
<223> wherein X at position 24 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (24)..(24)
<223> wherein X at position 24 optionally is palmitoylated

<400> 72

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

Leu Ser Gly Lys Thr Ser Tyr Xaa
20

<210> 73
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-16

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (8)..(8)
<223> wherein X at position 8 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein X at position 13 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein X at position 13 optionally is palmitoylated

<400> 73

Leu Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 74
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-17

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein ARG at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein X at position 12 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein X at position 12 optionally is palmitoylated

<400> 74

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 75

<211> 11
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-20

<220>
<221> misc_feature
<223> wherein each of the amino acids is the D isomer

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein K at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LYS at position 1 optionally is acetylated

<220>
<221> misc_feature
<222> (6)..(6)
<223> wherein X at position 6 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (11)..(11)
<223> wherein X at position 11 is K, C, homoCys,Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (11)..(11)
<223> wherein X at osition 11 optionally is palmitoylated

<400> 75

Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 76
<211> 26
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Generic SMOi2-23

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated.

<220>
<221> misc_feature

<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> misc_feature
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 76

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 77
<211> 19
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMO-i3-9

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein ALA at position 1 optionally comprises homoCys-palmitate

<400> 77

Ala Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly
1 5 10 15

Leu Leu Ser

<210> 78
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Penetratin

<400> 78

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys

1 5 10 15

<210> 79
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> Tat (48-60)

<400> 79

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
1 5 10

<210> 80
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> N-term of i2 with X

<220>
<221> misc_feature
<222> (3)..(3)
<223> wherein X at position 3 is W, Y, F, or 4-benzoylphenalalanine (BPA)

<400> 80

Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5

<210> 81
<211> 12
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-21

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<220>
<221> misc_feature
<222> (5)..(5)
<223> wherein the X at position 5 is BPA

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein the LEU at position 12 optionally comprises homocysteine-biotin

<400> 81

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 82
<211> 28
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-29

<220>
<221> misc_feature
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is actylated

<220>
<221> misc_feature
<222> (24)..(24)
<223> wherein the X at position 24 is norleucine

<400> 82

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Arg Gln Ile Lys
1 5 10 15

Ile Trp Phe Pro Asn Arg Arg Xaa Lys Trp Lys Lys
20 25

<210> 83
<211> 28
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-30

<220>
<221> misc_feature
<222> (12)..(12)
<223> wherein the X at position 12 is norleucine

<400> 83

Arg Gln Ile Lys Ile Trp Phe Pro Asn Arg Arg Xaa Lys Trp Lys Lys
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 84
<211> 14
<212> PRT
<213> Artificial

<220>
<223> Synthetic

<220>
<221> misc_feature
<223> SMOi2-56

<220>
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<222> (12)..(12)
<223> wherein the X at position 12 is beta-Ala

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein the K at position 13 comprises AKFSTHWAYTL-beta-Ala attached to its gamma amino group

<220>
<221> misc_feature
<222> (1)..(14)
<223> wherein the X at position 14 is K, C, homoCys or DBA and optionally is palmitoylated

<400> 84

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa Lys Xaa
1 5 10

<210> 85
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<220>
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<223> Sequence X of Dimer 1

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally ia acetylated

<220>
<221> misc_feature
<223> wherein each amino acid is the D isomer

<400> 85

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 86
<211> 11
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<220>
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<223> Sequence X of Dimer 2

<220>
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<222> (1)..(1)
<223> wherein the ALA at position 1 optionally ia acetylated

<220>
<221> misc_feature
<223> wherein each amino acid is the D isomer

<400> 86

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 87
<211> 10
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<220>
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<220>
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<223> Sequence X of Dimer 3

<220>
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<222> (1)..(1)
<223> wherein the LYS at position 1 optionally ia acetylated

<220>
<221> misc_feature
<223> wherein each amino acid is the D isomer

<400> 87

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 88
<211> 25
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<220>
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<220>
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<223> SMOi2-1

<220>
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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 88

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 89
<211> 10
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<220>
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<223> SMO i2-12

<220>
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<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<400> 89

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 90
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<220>
<221> misc_feature
<223> SMOi2-14

<400> 90

Val Trp Phe Val Val Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 91
<211> 15
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<220>
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<220>
<221> misc_feature
<223> SMOi2-15

<400> 91

Trp Phe Val Val Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 92
<211> 29
<212> PRT
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<221> misc_feature
<223> SMOi2-57

<220>
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<222> (1-12)..(1-12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the epsilon carbon and optionally is the D isomer

<400> 92

Asp Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Pro Ala
1 5 10 15

Leu Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 93
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<221> misc_feature
<223> SMOi2-58

<220>
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<222> (1-12)..(1-12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the epsilon carbon and optionally is the D isomer

<400> 93

Asp Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Pro Ala Leu
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 94
<211> 27
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<220>
<223> Synthetic

<221> misc_feature
<223> SMOi2-59

<220>
<221> misc_feature
<222> (1-12)..(1-12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> misc_feature
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the epsilon carbon and optionally is the D isomer

<400> 94

Asp Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Pro Ala Leu
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala

SEQUENCE LISTING

<110> THE UNITED STATES OF AMERICA, AS REPRESENTED BY THE SECRETARY, DEPARTMENT OF HEALTH AND HUMAN SERVICES

<120> SMOOTHENED POLYPEPTIDES AND METHODS OF USE

<130> 707897

<140> SG 201108044-7
<141> 2011-10-31

<150> US 60/855,422
<151> 2006-10-31

<150> PCT/US2007/083027
<151> 2007-10-30

<150> SG 200903030-5
<151> 2007-10-30

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            20                  25                  30

Ser Gly Asn Ala Thr Gly Pro Gly Pro Arg Ser Ala Gly Gly Ser Ala
        35                  40                  45

Arg Arg Ser Ala Ala Val Thr Gly Pro Pro Pro Pro Leu Ser His Cys
    50                  55                  60

Gly Arg Ala Ala Pro Cys Glu Pro Leu Arg Tyr Asn Val Cys Leu Gly
65                  70                  75                  80
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Ser Val Leu Pro Tyr Gly Ala Thr Ser Thr Leu Leu Ala Gly Asp Ser
85 90 95

Asp Ser Gln Glu Glu Ala His Gly Lys Leu Val Leu Trp Ser Gly Leu
100 105 110

Arg Asn Ala Pro Arg Cys Trp Ala Val Ile Gln Pro Leu Leu Cys Ala
115 120 125

Val Tyr Met Pro Lys Cys Glu Asn Asp Arg Val Glu Leu Pro Ser Arg
130 135 140

Thr Leu Cys Gln Ala Thr Arg Gly Pro Cys Ala Ile Val Glu Arg Glu
145 150 155 160

Arg Gly Trp Pro Asp Phe Leu Arg Cys Thr Pro Asp Arg Phe Pro Glu
165 170 175

Gly Cys Thr Asn Glu Val Gln Asn Ile Lys Phe Asn Ser Ser Gly Gln
180 185 190

Cys Glu Val Pro Leu Val Arg Thr Asp Asn Pro Lys Ser Trp Tyr Glu
195 200 205

Asp Val Glu Gly Cys Gly Ile Gln Cys Gln Asn Pro Leu Phe Thr Glu
210 215 220

Ala Glu His Gln Asp Met His Ser Tyr Ile Ala Ala Phe Gly Ala Val
225 230 235 240

Thr Gly Leu Cys Thr Leu Phe Thr Leu Ala Thr Phe Val Ala Asp Trp
245 250 255

Arg Asn Ser Asn Arg Tyr Pro Ala Val Ile Leu Phe Tyr Val Asn Ala
260 265 270

Cys Phe Phe Val Gly Ser Ile Gly Trp Leu Ala Gln Phe Met Asp Gly
275 280 285

Ala Arg Arg Glu Ile Val Cys Arg Ala Asp Gly Thr Met Arg Leu Gly
290 295 300

Glu Pro Thr Ser Asn Glu Thr Leu Ser Cys Val Ile Ile Phe Val Ile

305 310 315 320

Val Tyr Tyr Ala Leu Met Ala Gly Val Val Trp Phe Val Val Leu Thr
325 330 335

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
340 345 350

Leu Ser Gly Lys Thr Ser Tyr Phe His Leu Leu Thr Trp Ser Leu Pro
355 360 365

Phe Val Leu Thr Val Ala Ile Leu Ala Val Ala Gln Val Asp Gly Asp
370 375 380

Ser Val Ser Gly Ile Cys Phe Val Gly Tyr Lys Asn Tyr Arg Tyr Arg
385 390 395 400

Ala Gly Phe Val Leu Ala Pro Ile Gly Leu Val Leu Ile Val Gly Gly
405 410 415

Tyr Phe Leu Ile Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn
420 425 430

His Pro Gly Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr
435 440 445

Met Leu Arg Leu Gly Ile Phe Gly Phe Leu Ala Phe Gly Phe Val Leu
450 455 460

Ile Thr Phe Ser Cys His Phe Tyr Asp Phe Phe Asn Gln Ala Glu Trp
465 470 475 480

Glu Arg Ser Phe Arg Asp Tyr Val Leu Cys Gln Ala Asn Val Thr Ile
485 490 495

Gly Leu Pro Thr Lys Gln Pro Ile Pro Asp Cys Glu Ile Lys Asn Arg
500 505 510

Pro Ser Leu Leu Val Glu Lys Ile Asn Leu Phe Ala Met Phe Gly Thr
515 520 525

Gly Ile Ala Met Ser Thr Trp Val Trp Thr Lys Ala Thr Leu Leu Ile
530 535 540

```
Trp Arg Arg Thr Trp Cys Arg Leu Thr Gly Gln Ser Asp Asp Glu Pro
545                 550                 555                 560

Lys Arg Ile Lys Lys Ser Lys Met Ile Ala Lys Ala Phe Ser Lys Arg
                565                 570                 575

His Glu Leu Leu Gln Asn Pro Gly Gln Glu Leu Ser Phe Ser Met His
            580                 585                 590

Thr Val Ser His Asp Gly Pro Val Ala Gly Leu Ala Phe Asp Leu Asn
        595                 600                 605

Glu Pro Ser Ala Asp Val Ser Ser Ala Trp Ala Gln His Val Thr Lys
    610                 615                 620

Met Val Ala Arg Arg Gly Ala Ile Leu Pro Gln Asp Ile Ser Val Thr
625                 630                 635                 640

Pro Val Ala Thr Pro Val Pro Pro Glu Glu Gln Ala Asn Leu Trp Leu
                645                 650                 655

Val Glu Ala Glu Ile Ser Pro Glu Leu Gln Lys Arg Leu Gly Arg Lys
            660                 665                 670

Lys Lys Arg Arg Lys Arg Lys Lys Glu Val Cys Pro Leu Ala Pro Pro
        675                 680                 685

Pro Glu Leu His Pro Pro Ala Pro Ala Pro Ser Thr Ile Pro Arg Leu
    690                 695                 700

Pro Gln Leu Pro Arg Gln Lys Cys Leu Val Ala Ala Gly Ala Trp Gly
705                 710                 715                 720

Ala Gly Asp Ser Cys Arg Gln Gly Ala Trp Thr Leu Val Ser Asn Pro
                725                 730                 735

Phe Cys Pro Glu Pro Ser Pro Pro Gln Asp Pro Phe Leu Pro Ser Ala
            740                 745                 750

Pro Ala Pro Val Ala Trp Ala His Gly Arg Arg Gln Gly Leu Gly Pro
        755                 760                 765
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Ile His Ser Arg Thr Asn Leu Met Asp Thr Glu Leu Met Asp Ala Asp
770 775 780

Ser Asp Phe
785

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<220>
<221> MISC_FEATURE
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<220>
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<222> (1)..(1)
<223> wherein THR at position 1 optionally is palmitoylated

<400> 2

Thr Phe Val Ala Asp Trp Arg Asn Ser Asn Arg Tyr Pro
1 5 10

<210> 3
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<223> Synthetic Polypeptide

<220>
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<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 3

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Tyr Ser Tyr
20 25

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<211> 31
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<213> Artificial Sequence

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<220>
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<223> SMOi3-1

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 4

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25 30

<210> 5
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> C-term of i3

<400> 5

Leu Leu Ser Glu Lys Ala
1 5

<210> 6
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
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<400> 6

Leu Phe Ser Ile Lys Ser Asn His
1 5

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

<220>
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<220>
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<223> C-term of i2

<400> 7

Gly Thr Thr Tyr Gln Pro
1 5

<210> 8
<211> 9
<212> PRT
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<220>
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<220>
<221> MISC_FEATURE
<223> N-term of i2

<400> 8

Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5

<210> 9
<211> 21
<212> PRT
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<220>

<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMO-i3-2

<220>
<221> MISC_FEATURE
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 9

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala
20

<210> 10
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi3-4

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 10

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25

<210> 11
<211> 31
<212> PRT
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<220>
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<223> SMOi3-5-K

<400> 11

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25 30

<210> 12
<211> 16
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<220>
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<223> SMO-i3-6-K

<400> 12

Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10 15

<210> 13
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<220>
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<220>
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<223> SMOi3-7-K

<400> 13

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
20 25

<210> 14
<211> 18
<212> PRT
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<220>
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<223> SMO-i3-8

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 14

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser

<210> 15
<211> 13
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<223> SMO-i3-10

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein ARG at position 1 optionally is palmitoylated

<400> 15

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His
1 5 10

<210> 16
<211> 14
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<400> 16

Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10

<210> 17
<211> 25
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<220>
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<220>
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<220>
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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 17

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 18
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
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<220>
<221> MISC_FEATURE
<223> SMO i2-3

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 18

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly
20

<210> 19
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
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<220>
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<223> SMOi2-4-K

<220>
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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<400> 19

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 20
<211> 23
<212> PRT
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<220>
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<223> SMO i2-5-K

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

<223> wherein the TYR at position 1 optionally is acetylated

<400> 20

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
1 5 10 15

Leu Ser Gly Lys Thr Ser Tyr
20

<210> 21
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<223> SMO i2-6

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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

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Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro

<210> 22
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<220>
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<220>
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<223> SMO i2-7-K

<400> 22

Gly Thr Thr Tyr Gln Pro Leu Ser Gly Lys Thr Ser Tyr
1 5 10

<210> 23
<211> 12
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<220>
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<220>
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<223> SMO i2-8

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 23

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 24
<211> 12
<212> PRT
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<223> SMO i2-9

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 24

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 25
<211> 11
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<223> SMO i2-10

<220>
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<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<400> 25

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 26
<211> 11
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<220>
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<223> SMO i2-11

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 26

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 27
<211> 10
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<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
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<223> SMO i2-12

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<222> (1)..(1)

<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 27

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys
1 5 10

<210> 28
<211> 10
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<400> 28

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 29
<211> 25
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<400> 29

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr

20 25

<210> 30
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<220>
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<223> wherein each amino acid is the D isomer

<220>
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<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 30

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 31
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<220>
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<223> wherein each amino acid is the D isomer

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 31

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 32
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally comprises myristate

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Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 33
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Leu Thr Tyr Ala Trp His Thr Ser Phe Lys
1 5 10

<210> 34
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<220>
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<223> wherein each of the amino acids is the D isomer

<220>
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<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 34

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 35
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<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the ALA at position 1 optionally is acetylated

<400> 35

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 36
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-20-K

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LYS at position 1 optionally is acetylated

<400> 36

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 37
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-22

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<400> 37

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 38
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-1

<220>
<221> MISC_FEATURE

<222> (1)..(1)
<223> wherein THR at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or benzoylphenalanine (BPA

<400> 38

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

Pro Leu Ser Gly Lys Thr Ser
20

<210> 39
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-2

<220>
<221> MISC_FEATURE
<223> wherein LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 39

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 40
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-3

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 40

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

Gln Pro Leu Ser Gly
20

<210> 41
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-4

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally comprises an acetyl residue

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine

<400> 41

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr

20 25

<210> 42
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-5

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the TYR at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> wherein X at position 3 is Y, F, or 4-benzoylphenalalanine

<400> 42

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

Leu Ser Gly Lys Thr Ser Tyr
20

<210> 43
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-6

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)

<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine

<400> 43

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

Gln Pro

<210> 44
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-8

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine

<400> 44

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 45
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-10

<220>
<221> MISC_FEATURE
<222> (1)..(1)

<223> wherein the T at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine

<400> 45

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 46
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-11

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine

<400> 46

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 47
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-12

<220>
<221> MISC_FEATURE

<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine

<400> 47

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 48
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-13

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (4)..(4)
<223> wherein X at position 4 is Y, F, or 4-benzoylphenalalanine

<400> 48

Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5 10

<210> 49
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-16

<220>

<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> wherein X at position 8 is Y, F, or 4-benzoylphenalalanine

<400> 49

Leu Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 50
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-17

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the ALA at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 50

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 51
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE
<223> Generic SMOi2-20

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LYS at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> wherein X at position 6 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 51

Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 52
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-22

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 52

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu
1 5 10

<210> 53
<211> 25
<212> PRT
<213> Artificial Sequence

<220>

<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-23

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 53

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 54
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-18

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is BPA

<400> 54

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 55

<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-14

<400> 55

Val Trp Phe Val Val Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10 15

Leu

<210> 56
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-15

<400> 56

Trp Phe Val Val Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 57
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-24

<220>
<221> MISC_FEATURE
<223> wherein each amino acid is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 57

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 58
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-25

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 58

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 59
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-26

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is myristoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<400> 59

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 60
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi3-5

<220>
<221> MISC_FEATURE
<222> (32)..(32)
<223> wherein X at position 32 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropaneic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (32)..(32)
<223> wherein X at position 32 is optionally palmitoylated

<400> 60

Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu
1 5 10 15

Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
20 25 30

<210> 61

<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi3-6

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> wherein X at position 17 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> wherein X at position 17 optionally is palmitoylated

<400> 61

Leu Leu Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg
1 5 10 15

Xaa

<210> 62
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi3-7

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> wherein X at position 27 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (27)..(27)
<223> wherein X at position 27 optionally is palmitoylated

<400> 62

Leu Phe Ser Ile Lys Ser Asn His Pro Gly Leu Leu Ser Glu Lys Ala
1 5 10 15

Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
20 25

<210> 63
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi3-12

<220>
<221> MISC_FEATURE
<222> (15)..(15)
<223> wherein X at position 15 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA), wherein X at position 15 optionally is palmitoylated

<400> 63

Ser Glu Lys Ala Ala Ser Lys Ile Asn Glu Thr Met Leu Arg Xaa
1 5 10 15

<210> 64
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-4

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 comprises acetate

<220>
<221> MISC_FEATURE

<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 64

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 65
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-5

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein TYR at position 1 comprises acetate

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> wherein X at position 24 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> wherein X at position 24 optionally is palmitoylated

<400> 65

Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr Gln Pro
1 5 10 15

Leu Ser Gly Lys Thr Ser Tyr Xaa
20

<210> 66
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-7

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> wherein X at position 14 is K, C, homoCys, Orn, or diaminobutyric
acid (DBA), or diaminopropanoic acid (DPA); wherein X at position
14 optionally is palmitoylated

<400> 66

Gly Thr Thr Tyr Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
1 5 10

<210> 67
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-16

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein X at position 13 is K, C, homoCys, Orn, diaminobutyric
acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein X at position 13 optionally is palmitoylated

<400> 67

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 68
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-17

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the ALA at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein X at position 12 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein X at position 12 optionally is palmitoylated

<400> 68

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 69
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-20

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LYS at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> wherein X at position 11 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> wherein X at position 11 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<400> 69

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa
1 5 10

<210> 70
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-23

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein each of L at position 1 and X at position 26 optionally is palimitoylated

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein each of L at position 1 and X at position 26 optionally is palimitoylated

<400> 70

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 71
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-4

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 71

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa

20 25

<210> 72
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-5

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein TYR at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> wherein X at position 3 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> wherein X at position 24 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> wherein X at position 24 optionally is palmitoylated

<400> 72

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

Leu Ser Gly Lys Thr Ser Tyr Xaa
20

<210> 73
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE
<223> Generic SMOi2-16

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> wherein X at position 8 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein X at position 13 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein X at position 13 optionally is palmitoylated

<400> 73

Leu Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 74
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-17

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein ALA at position 1 optionally is acetylated

<220>

<221> MISC_FEATURE
<222> (7)..(7)
<223> wherein X at position 7 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein X at position 12 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein X at position 12 optionally is palmitoylated

<400> 74

Ala Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 75
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-20

<220>
<221> MISC_FEATURE
<223> wherein each of the amino acids is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LYS at position 1 optionally is acetylated

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> wherein X at position 6 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (11)..(11)
<223> wherein X at position 11 is K, C, homoCys,Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (11)..(11)

<223> wherein X at position 11 optionally is palmitoylated

<400> 75

Lys Phe Ser Thr His Xaa Ala Tyr Thr Leu Xaa
1 5 10

<210> 76
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Generic SMOi2-23

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is palmitoylated.

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein X at position 5 is Y, F, or 4-benzoylphenalalanine (BPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 is K, C, homoCys, Orn, diaminobutyric acid (DBA), or diaminopropanoic acid (DPA)

<220>
<221> MISC_FEATURE
<222> (26)..(26)
<223> wherein X at position 26 optionally is palmitoylated

<400> 76

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

Gln Pro Leu Ser Gly Lys Thr Ser Tyr Xaa
20 25

<210> 77
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMO-i3-9

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein ALA at position 1 optionally comprises homoCys-palmitate

<400> 77

Ala Arg Gly Val Met Thr Leu Phe Ser Ile Lys Ser Asn His Pro Gly
1 5 10 15

Leu Leu Ser

<210> 78
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Penetratin

<400> 78

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 79
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Tat (48-60)

<400> 79

Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Pro Pro Gln
1 5 10

<210> 80
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> N-term of i2 with X

<220>
<221> MISC_FEATURE
<222> (3)..(3)
<223> wherein X at position 3 is W, Y, F, or 4-benzoylphenalalanine (BPA)

<400> 80

Tyr Ala Xaa His Thr Ser Phe Lys Ala
1 5

<210> 81
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-21

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<220>
<221> MISC_FEATURE
<222> (5)..(5)
<223> wherein the X at position 5 is BPA

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein the LEU at position 12 optionally comprises homocysteine-biotin

<400> 81

Leu Thr Tyr Ala Xaa His Thr Ser Phe Lys Ala Leu
1 5 10

<210> 82
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-29

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is actylated

<220>
<221> MISC_FEATURE
<222> (24)..(24)
<223> wherein the X at position 24 is norleucine

<400> 82

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Arg Gln Ile Lys
1 5 10 15

Ile Trp Phe Pro Asn Arg Arg Xaa Lys Trp Lys Lys
20 25

<210> 83
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-30

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein the X at position 12 is norleucine

<400> 83

Arg Gln Ile Lys Ile Trp Phe Pro Asn Arg Arg Xaa Lys Trp Lys Lys
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 84
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-56

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> wherein the X at position 12 is beta-Ala

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein the K at position 13 comprises AKFSTHWAYTL-beta-Ala attached to its gamma amino group

<220>
<221> MISC_FEATURE
<222> (14)..(14)
<223> wherein the X at position 14 is K, C, homoCys or DBA and optionally is palmitoylated

<400> 84

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Xaa Lys Xaa
1 5 10

<210> 85
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>

<221> MISC_FEATURE
<223> Sequence X of Dimer 1

<220>
<221> MISC_FEATURE
<223> wherein each amino acid is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LEU at position 1 optionally is acetylated

<400> 85

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 86
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> Sequence X of Dimer 2

<220>
<221> MISC_FEATURE
<223> wherein each amino acid is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the ALA at position 1 optionally ia acetylated

<400> 86

Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 87
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE

<223> Sequence X of Dimer 3

<220>
<221> MISC_FEATURE
<223> wherein each amino acid is the D isomer

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the LYS at position 1 optionally ia acetylated

<400> 87

Lys Phe Ser Thr His Trp Ala Tyr Thr Leu
1 5 10

<210> 88
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-1

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein LEU at position 1 optionally is palmitoylated

<400> 88

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu Gly Thr Thr Tyr
1 5 10 15

Gln Pro Leu Ser Gly Lys Thr Ser Tyr
20 25

<210> 89
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMO i2-12

<220>
<221> MISC_FEATURE
<222> (1)..(1)
<223> wherein the THR at position 1 optionally is palmitoylated

<400> 89

Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
1 5 10

<210> 90
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-14

<400> 90

Val Trp Phe Val Val Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 91
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-15

<400> 91

Trp Phe Val Val Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
1 5 10 15

<210> 92
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-57

<220>
<221> MISC_FEATURE
<222> (1)..(12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the
epsilon carbon and optionally is the D isomer

<400> 92

Leu Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Leu Thr Tyr
1 5 10 15

Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 93
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-58

<220>
<221> MISC_FEATURE
<222> (1)..(12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the
epsilon carbon and optionally is the D isomer

<400> 93

Asp Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Pro Ala Leu
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala Leu
20 25

<210> 94
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Polypeptide

<220>
<221> MISC_FEATURE
<223> SMOi2-59

<220>
<221> MISC_FEATURE
<222> (1)..(12)
<223> wherein each of the amino acids at positions 1-12 is the D isomer

<220>
<221> MISC_FEATURE
<222> (13)..(13)
<223> wherein the LYS at position 13 optionally is palmitoylated on the
epsilon carbon and optionally is the D isomer

<400> 94

Asp Ala Lys Phe Ser Thr His Trp Ala Tyr Thr Leu Lys Pro Ala Leu
1 5 10 15

Leu Thr Tyr Ala Trp His Thr Ser Phe Lys Ala
20 25