

CLAIMS

1. A compound comprising a peptide and a substituent; wherein the amino acid sequence of the peptide is

5 YX₂EGTX₆TSDYSX₁₂X₁₃LEX₁₆QAAX₂₀X₂₁FX₂₃X₂₄WLLX₂₈GX₃₀X₃₁X₃₂X₃₃X₃₄X₃₅X₃₆X₃₇X₃₈X₃₉ (SEQ ID NO.: 47)

with an optional amide modification of the C-terminus, wherein

X₂ is Aib or A

X₆ is F or V

10 X₁₂ is I or Y

X₁₃ is Y, A, L or I

X₁₆ is K or E

X₂₀ is Q, R, E, H

X₂₁ is A or E

15 X₂₃ is I or V

X₂₄ is E, Q or N

X₂₈ is A or R

X₃₀ is G or absent

X₃₁ is P or absent

20 X₃₂ is E, S or absent

X₃₃ is S, K or absent

X₃₄ is G or absent

X₃₅ is A or absent

X₃₆ is P or absent

25 X₃₇ is P or absent

X₃₈ is P or absent

X₃₉ is S or absent;

and wherein the substituent is attached to the peptide via Lysine (K) at position 16 or 33;

30 or a pharmaceutically acceptable salt hereof.

2. The compound according to claim 1, wherein X₃₂X₃₃X₃₄X₃₅ is selected from the group of: SSGA, ESGA and SKGA.

3. The compound according to claim 1, wherein the amino acid sequence of the peptide is

YX₂EGTX₆TSDYSX₁₂X₁₃LEX₁₆QAAAX₂₀X₂₁FX₂₃X₂₄WLLX₂₈GGPSSGAPPPS (SEQ ID NO.: 37)

5 wherein

X_2 is Aib or A

X_6 is F or V

X_{12} is I or Y

X_{13} is Y, A, L or I

10 X_{16} is K or E

X_{20} is Q, R, E, H

X_{21} is A or E

X_{23} is I or V

X_{24} is E, Q or N

15 X_{28} is A or R

4. The compound according to any of the previous claims, wherein

$X_{13}LEX_{16}QAAX_{20}X_{21}FX_{23}X_{24}$ is selected from the group consisting of:

LLEKQAAREFIN, LLEKQAAREFIE, LLEKQAAQEFIE and LLEEQAAREFIE.

20

5. The compound according to claim 1, wherein the amino acid sequence of the peptide is any one of SEQ ID NO.: 1-27 or 33-35.

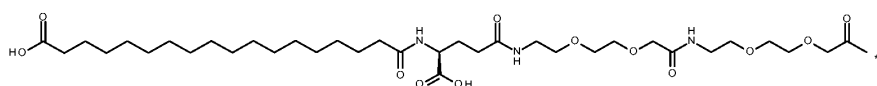
6. The compound according to claim 5 wherein the peptide has the amide modification of the C-terminus.

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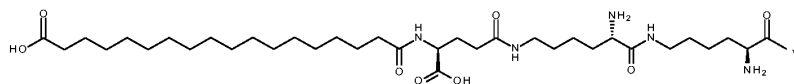
7. The compound according to any of the claims 1-6, wherein the substituent is selected from the group consisting of:

30

A:

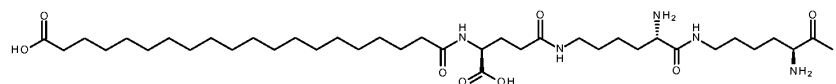


B:

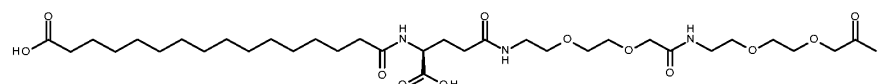


5

C:



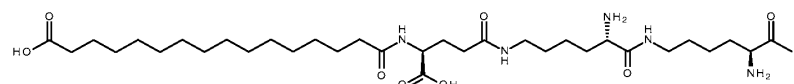
D:



and

10

E:



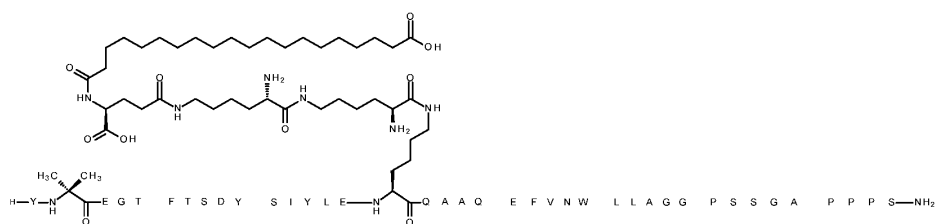
15

8. The compound according to claim 1, wherein the compound is selected from the group consisting of:

Compound No. 1

SEQ ID NO: 1

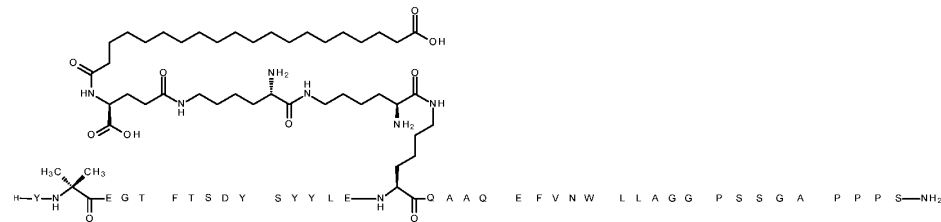
Substituent: C



Compound No. 2

SEQ ID NO: 2

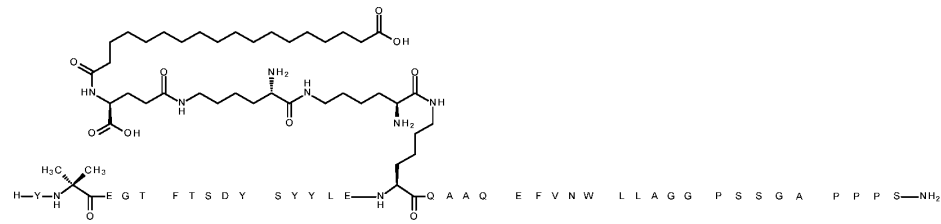
Substituent: C



Compound No. 3

SEQ ID NO: 2

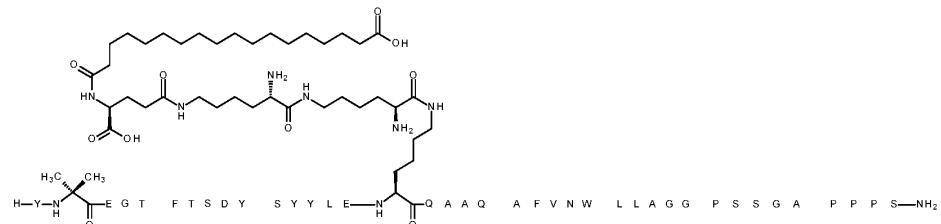
Substituent: B



Compound No. 4

SEQ ID NO: 3

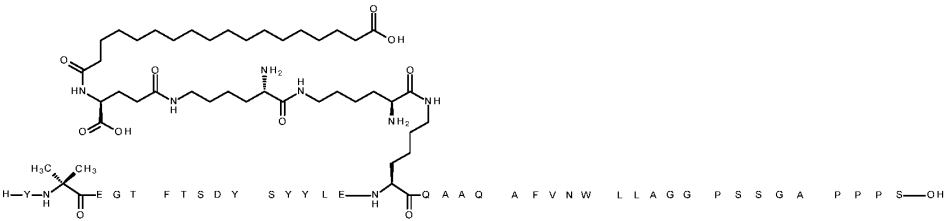
Substituent: B



Compound No. 5

SEQ ID NO: 3

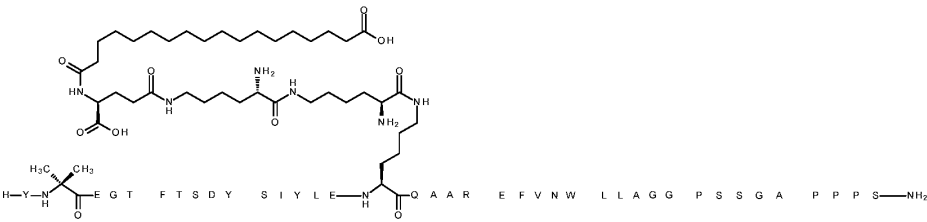
Substituent: B



Compound No. 6

SEQ ID NO: 4

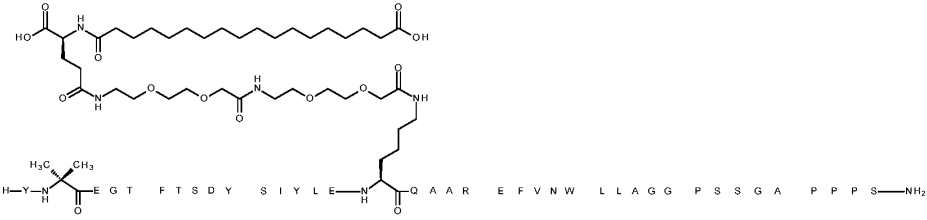
Substituent: B



Compound No. 7

SEQ ID NO: 4

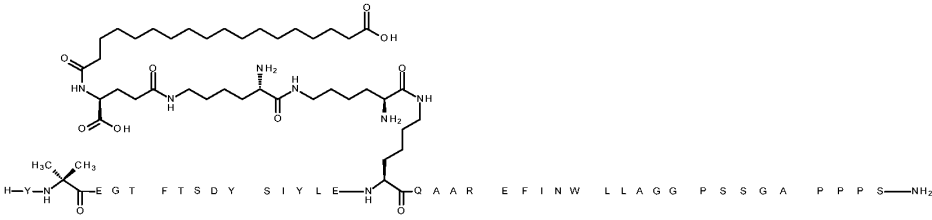
Substituent: A



Compound No. 8

SEQ ID NO: 5

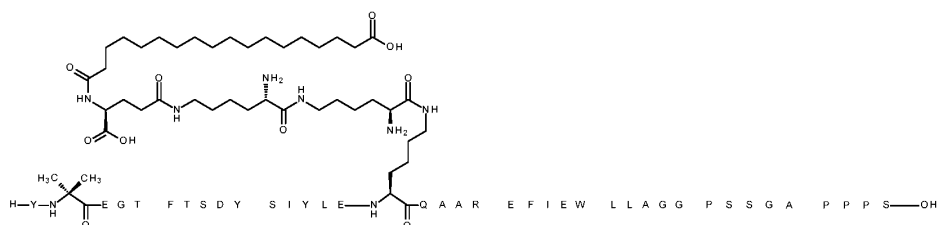
Substituent: B



Compound No. 9

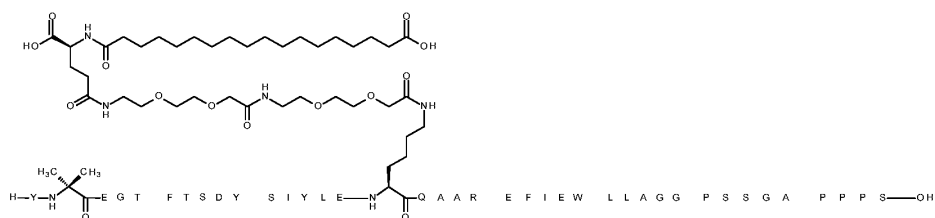
SEQ ID NO: 6

Substituent: B

**Compound No. 10**

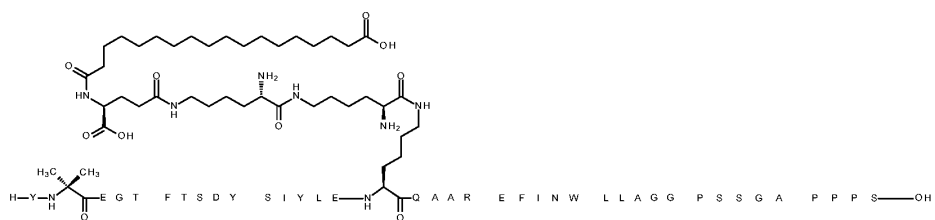
SEQ ID NO: 6

Substituent: A

**Compound No. 11**

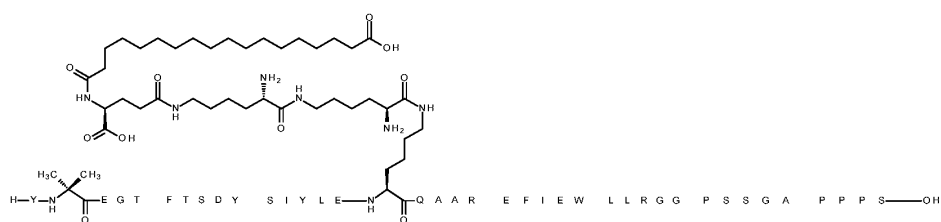
SEQ ID NO: 5

Substituent: B

**Compound No. 12**

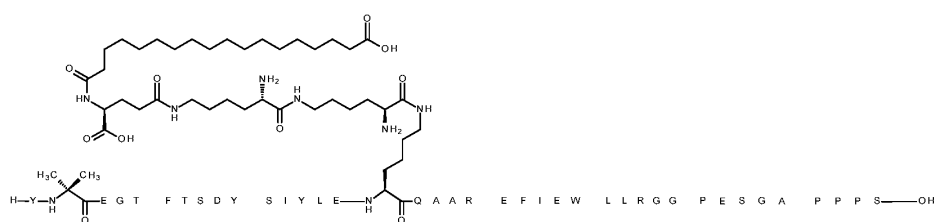
SEQ ID NO: 7

Substituent: B

**Compound No. 13**

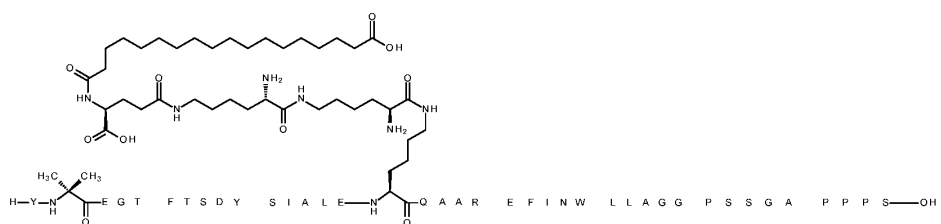
SEQ ID NO: 8

Substituent: B

**Compound No. 14**

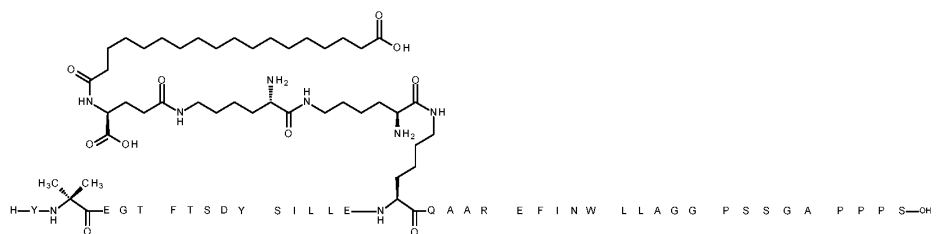
SEQ ID NO: 9

Substituent: B

**Compound No. 15**

SEQ ID NO: 10

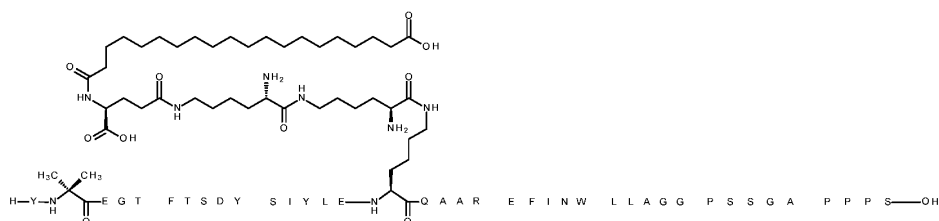
Substituent: B



Compound No. 16

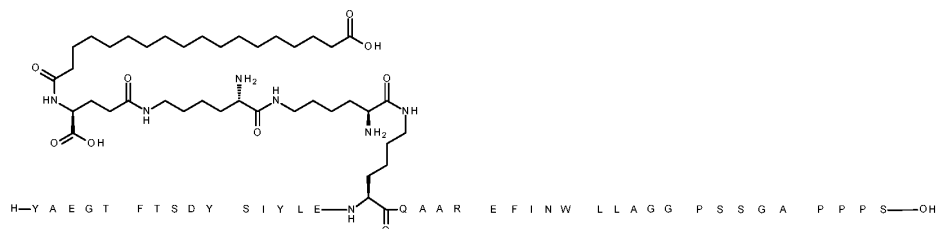
SEQ ID NO: 5

Substituent: C

**Compound No. 17**

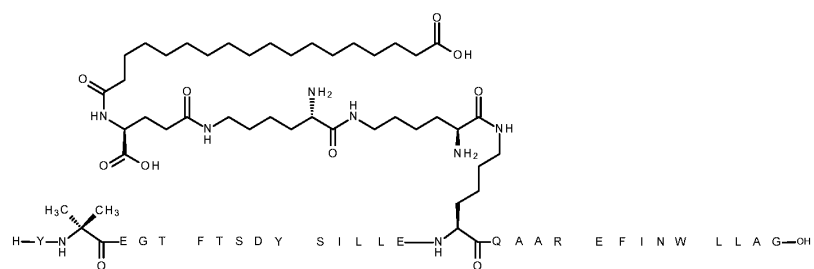
SEQ ID NO: 11

Substituent: B

**Compound No. 18**

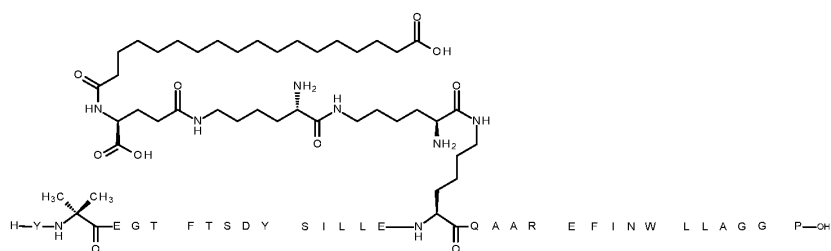
SEQ ID NO: 12

Substituent: B

**Compound No. 19**

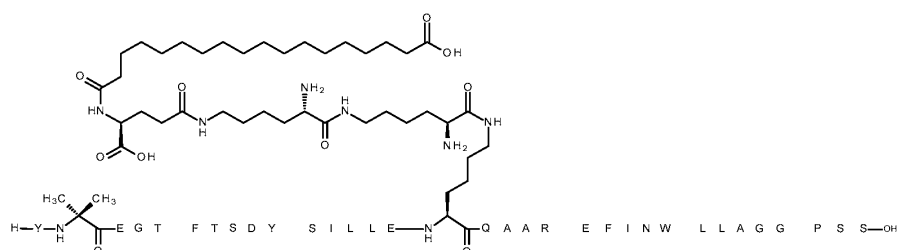
SEQ ID NO: 13

Substituent: B

**Compound No. 20**

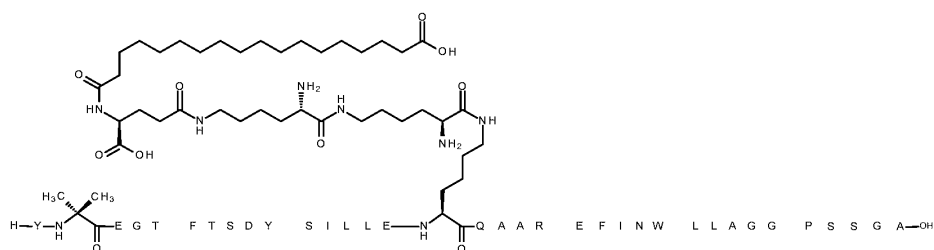
SEQ ID NO: 14

Substituent: B

**Compound No. 21**

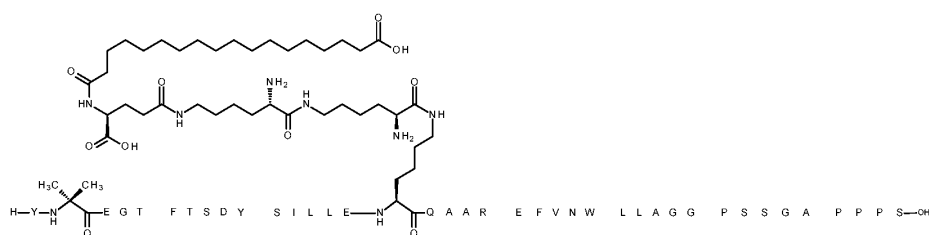
SEQ ID NO: 15

Substituent: B

**Compound No. 22**

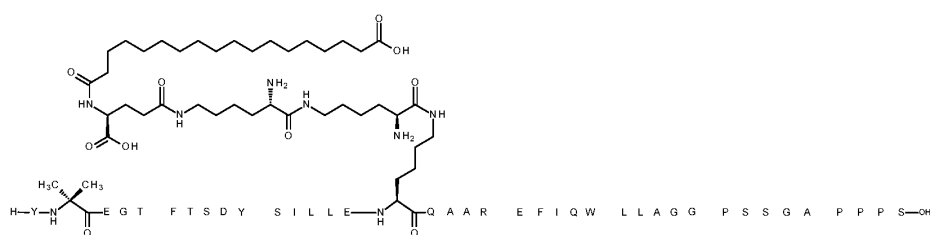
SEQ ID NO: 16

Substituent: B

**Compound No. 23**

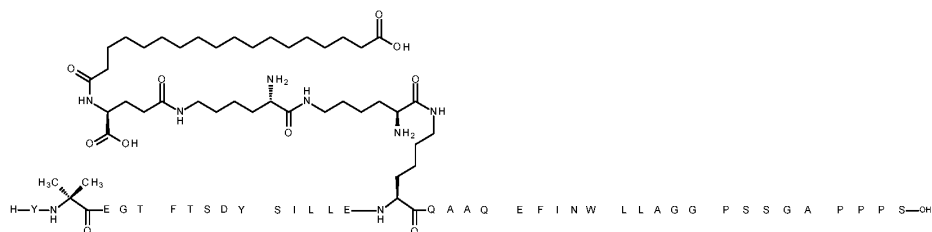
SEQ ID NO: 17

Substituent: B

**Compound No. 24**

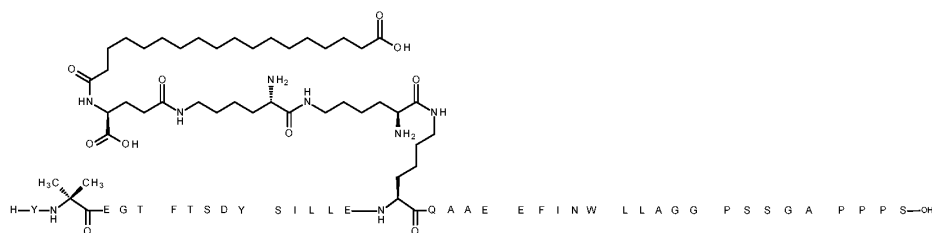
SEQ ID NO: 18

Substituent: B

**Compound No. 25**

SEQ ID NO: 19

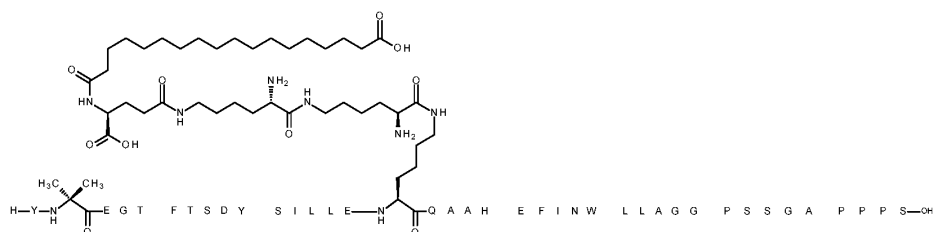
Substituent: B



Compound No. 26

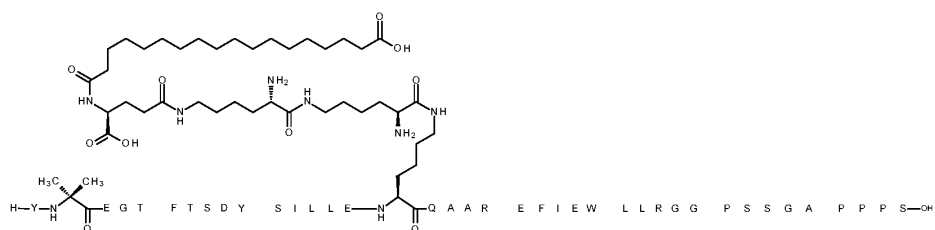
SEQ ID NO: 20

Substituent: B

**Compound No. 27**

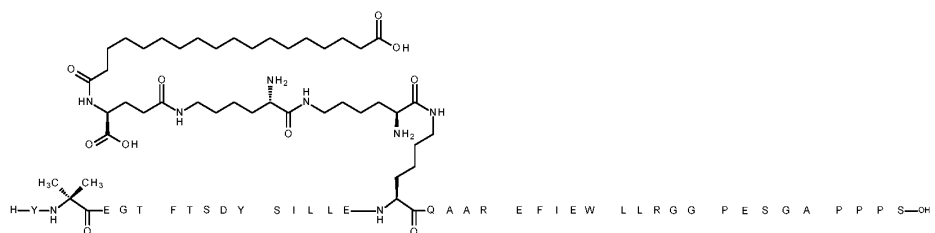
SEQ ID NO: 21

Substituent: B

**Compound No. 28**

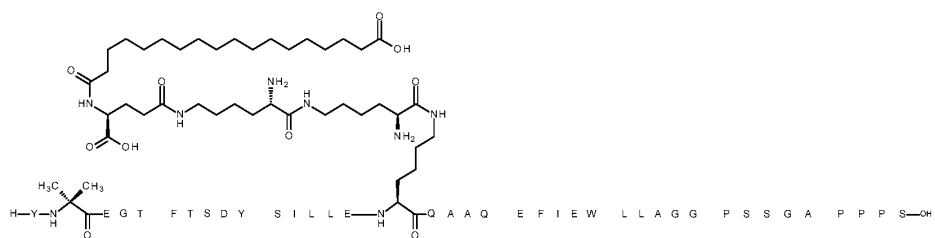
SEQ ID NO: 22

Substituent: B

**Compound No. 29**

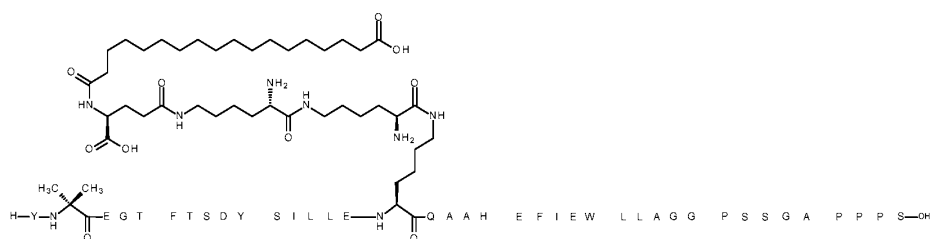
SEQ ID NO: 23

Substituent: B

**Compound No. 30**

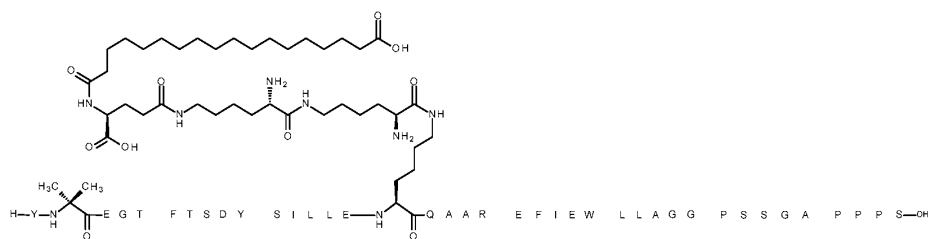
SEQ ID NO: 24

Substituent: B

**Compound No. 31**

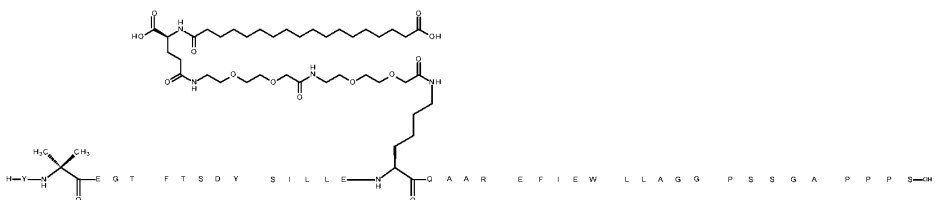
SEQ ID NO: 25

Substituent: B

**Compound No. 32**

SEQ ID NO: 25

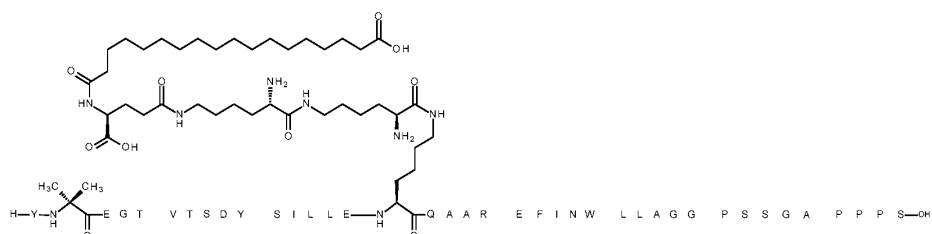
Substituent: A



Compound No. 33

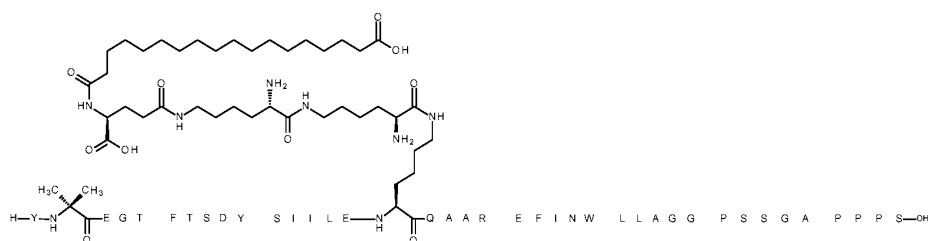
SEQ ID NO: 26

Substituent: B

**Compound No. 34**

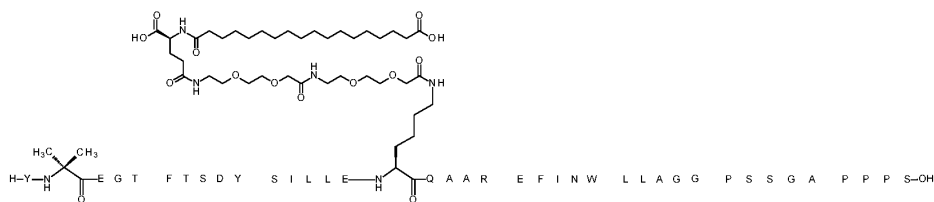
SEQ ID NO: 27

Substituent: B

**Compound No. 35**

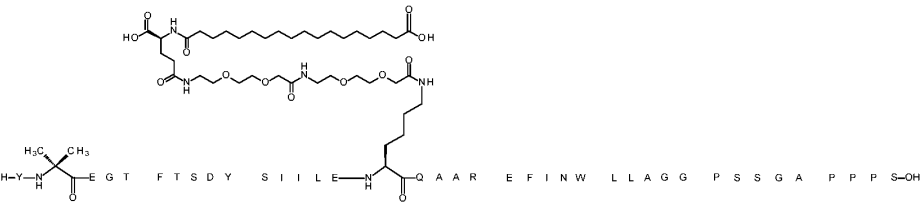
SEQ ID NO: 10

Substituent: A

**Compound No. 36**

SEQ ID NO: 27

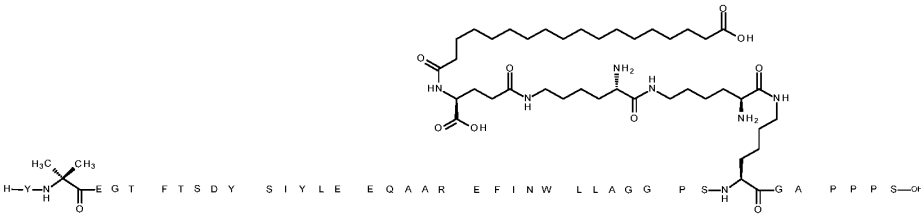
Substituent: A



Compound No. 42

SEQ ID NO: 33

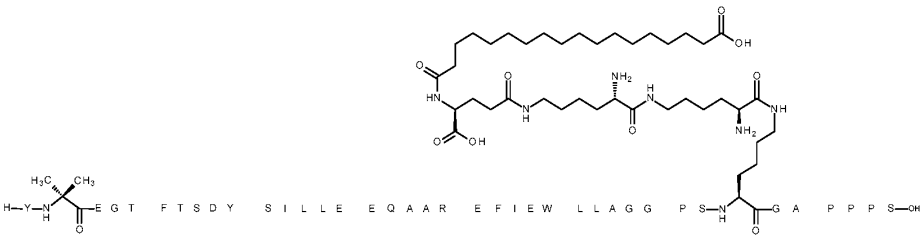
Substituent: B



Compound No. 43

SEQ ID NO: 34

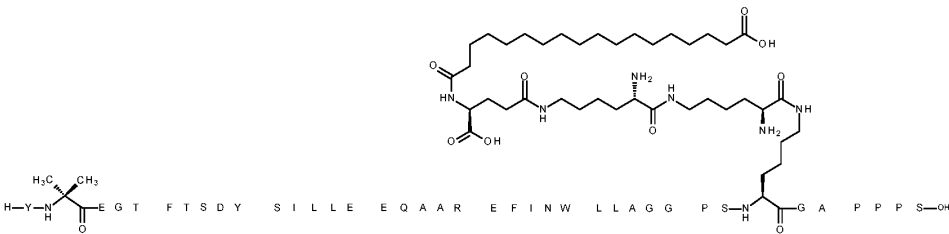
Substituent: B



Compound No. 44

SEQ ID NO: 35

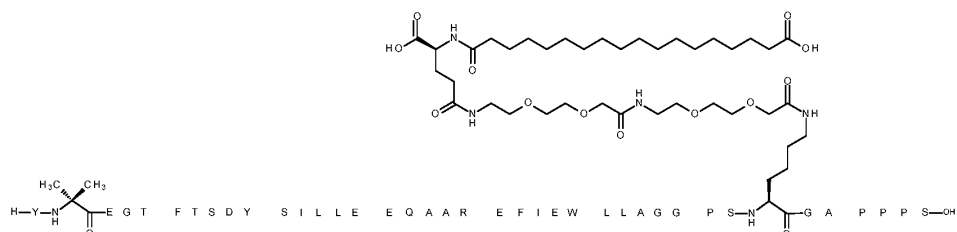
Substituent: B



Compound No. 45

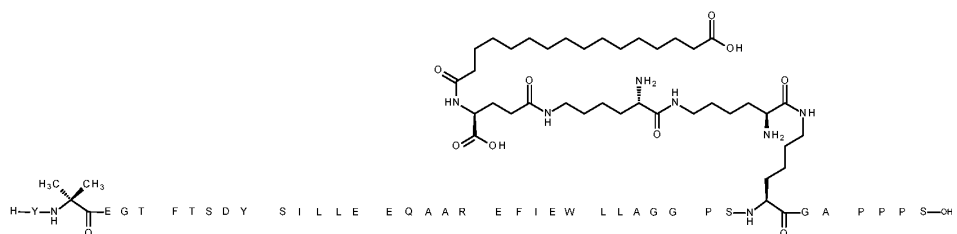
SEQ ID NO: 34

Substituent: A

**Compound No. 46**

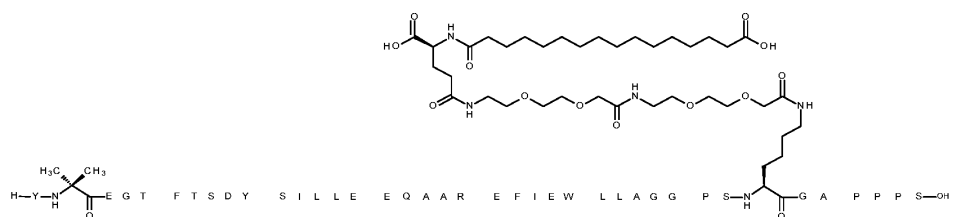
SEQ ID NO: 34

Substituent: E

**Compound No. 47**

SEQ ID NO: 34

Substituent: D

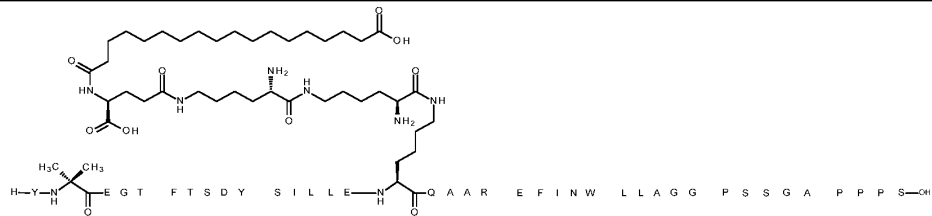


9. The compound according to claim 1, wherein the compound is selected from the group consisting of:

Compound No. 15

SEQ ID NO: 10

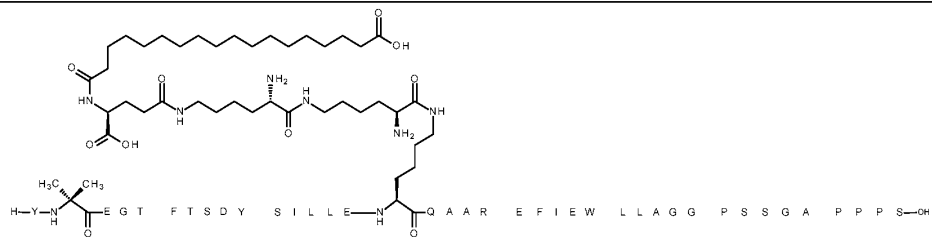
Substituent: B



Compound No. 31

SEQ ID NO: 25

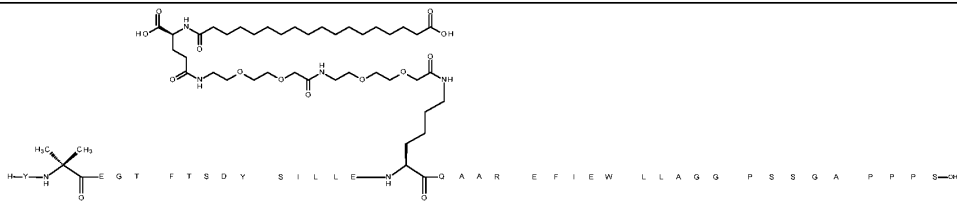
Substituent: B



Compound No. 32

SEQ ID NO: 25

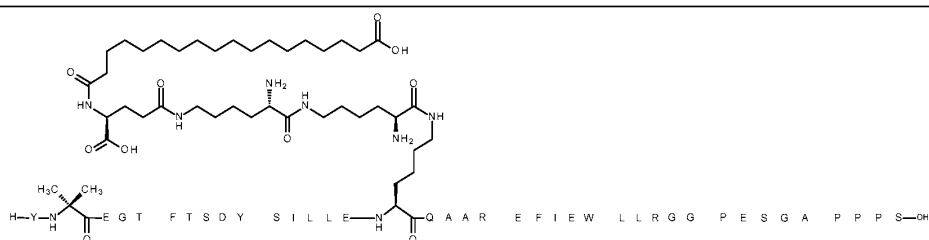
Substituent: A



Compound No. 28

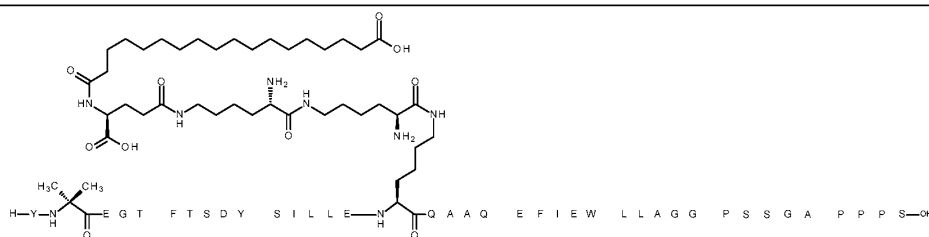
SEQ ID NO: 22

Substituent: B

**Compound No. 29**

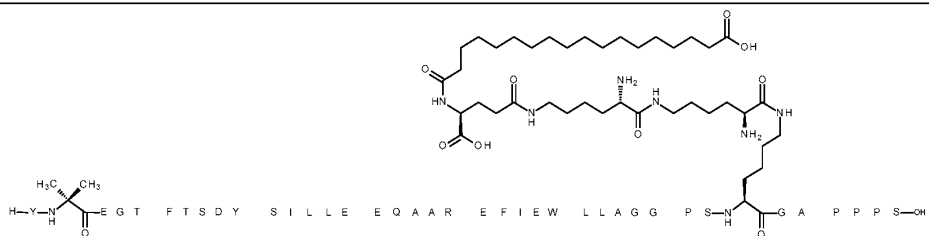
SEQ ID NO: 23

Substituent: B

**Compound No. 43**

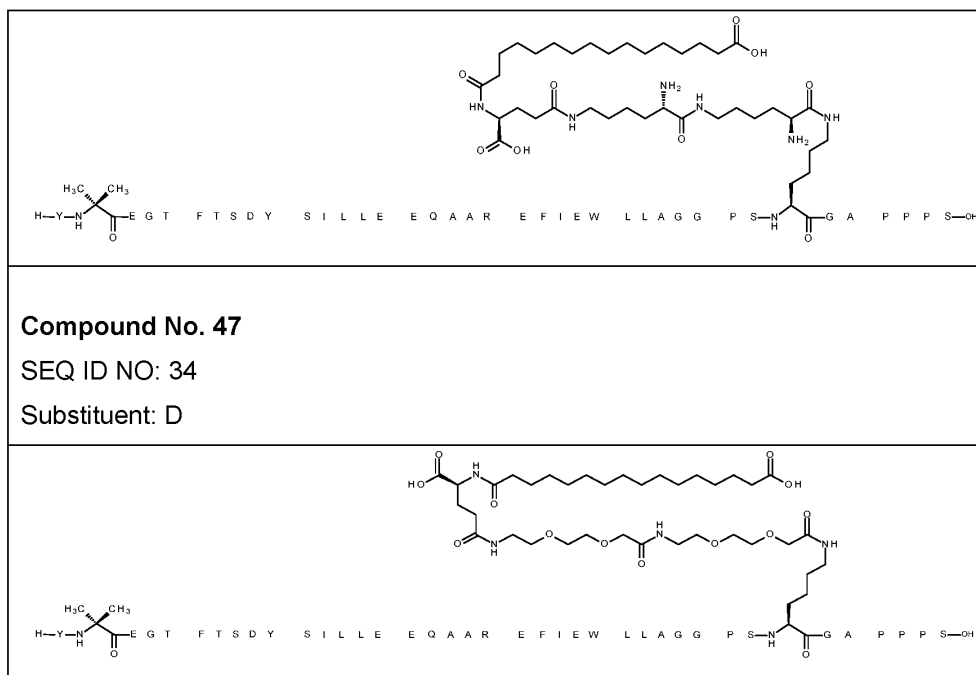
SEQ ID NO: 34

Substituent: B

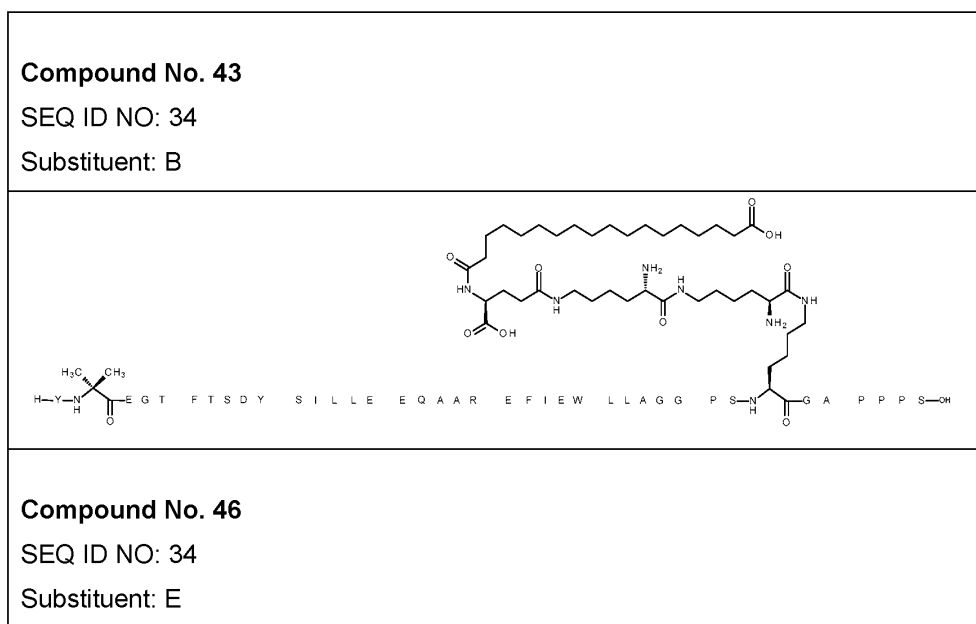
**Compound No. 46**

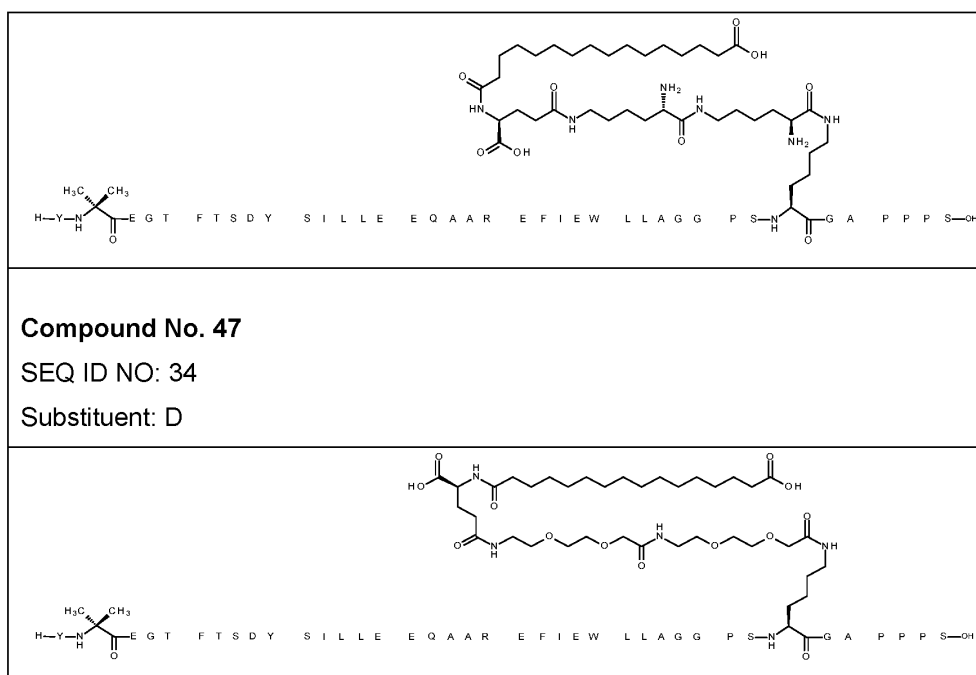
SEQ ID NO: 34

Substituent: E



10. The compound according to claim 1, wherein the compound is:





11. A compound according to any of the previous claims for use as a medicament.

12. A pharmaceutical composition comprising the compound according to any of the previous claims for prevention and/or treatment of diabetes and/or obesity.

13. A pharmaceutical composition comprising the compound according to any of the previous claims for prevention and/or treatment of liver disorders, such as hepatic steatosis, non-alcoholic fatty liver disease (NAFLD), non-alcoholic steatohepatitis (NASH) liver inflammation and/or fatty liver.

14. A peptide having the amino acid sequence

YX₂EGTX₆TSDYSX₁₂X₁₃LEX₁₆QAAX₂₀X₂₁FX₂₃X₂₄WLLX₂₈GX₃₀X₃₁X₃₂X₃₃X₃₄X₃₅X₃₆X₃₇X₃₈X₃₉ (SEQ ID NO.: 47)

15. with an optional amide modification of the C-terminus; wherein

X₂ is Aib or A

X₆ is F or V

X₁₂ is I or Y

X₁₃ is Y, A, L or I

5 X₁₆ is K or E
 X₂₀ is Q, R, E, H
 X₂₁ is A or E
 X₂₃ is I or V
 X₂₄ is E, Q or N
 X₂₈ is A or R
 X₃₀ is G or absent
 X₃₁ is P or absent
10 X₃₂ is E, S or absent
 X₃₃ is S, K or absent
 X₃₄ is G or absent
 X₃₅ is A or absent
 X₃₆ is P or absent
 X₃₇ is P or absent
15 X₃₈ is P or absent
 X₃₉ is S or absent.

15. The peptide according to claim 14 where the amino acid sequence of the peptide is
any one of SEQ ID NO.: 1-27 or 33-35.

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