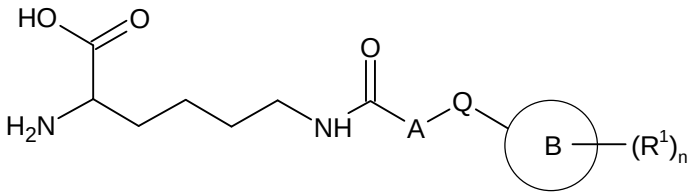
Claims

What is claimed is:

1. A modified lysine of formula **(I)**:



(I)

wherein:

A is a bond, C_{1-6}alkylene, carbocyclyl or heterocyclyl; wherein said carbocyclyl or heterocyclyl may be optionally substituted on carbon by one or more R^2; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^A;

Q is a bond, carbocyclyl or heterocyclyl; wherein said carbocyclyl or heterocyclyl may be optionally substituted on carbon by one or more R^3; and wherein if said heterocyclyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^B;

Ring B is morpholinyl or thiomorpholinyl; wherein if said morpholinyl or thiomorpholinyl contains an -NH- moiety that nitrogen may be optionally substituted by a group selected from R^C;

R^1, **R^2** and **R^3** are each independently selected from halo, nitro, cyano, hydroxy, trifluoromethoxy, trifluoromethyl, amino, carboxy, carbamoyl, mercapto, sulphamoyl, methyl, ethyl, methoxy, ethoxy, acetyl, acetoxy, methylamino, ethylamino, dimethylamino, diethylamino, N-methyl-N-ethylamino, acetylamino, N-methylcarbamoyl, N-ethylcarbamoyl, N,N-dimethylcarbamoyl, N,N-diethylcarbamoyl, N-methyl-N-ethylcarbamoyl, methylthio, ethylthio, methylsulphinyl, ethylsulphinyl, mesyl, ethylsulphonyl, methoxycarbonyl, ethoxycarbonyl, N-methylsulphamoyl, N-ethylsulphamoyl, N,N-dimethylsulphamoyl, N,N-diethylsulphamoyl and N-methyl-N-ethylsulphamoyl;

n is 0-4;

R^A, **R^B** are **R^C** are independently selected from methyl, ethyl, propyl, isopropyl, acetyl, mesyl, ethylsulphonyl, methoxycarbonyl, ethoxycarbonyl, propoxycarbonyl, butoxycarbonyl, carbamoyl, N-methylcarbamoyl, N-ethylcarbamoyl, N,N-dimethylcarbamoyl, N,N-diethylcarbamoyl and N-methyl-N-ethylcarbamoyl.

2. A modified lysine as claimed in claim 1 wherein **A** is a bond, C_{1-6}alkylene or heterocyclyl.

3. A modified lysine as claimed in claim 1 or claim 2 wherein **Q** is a bond.

4. A modified lysine as claimed in any one of claims 1 – 3 wherein **n** is 0.

5. A modified lysine as claimed in any one of claims 1 – 4 wherein **Ring B** is morpholinyl.

6. A modified lysine as claimed in any one of claims 1 – 4 wherein **Ring B** is thiomorpholinyl.

7. A modified lysine as claimed in any one of claims 1 – 4 wherein:

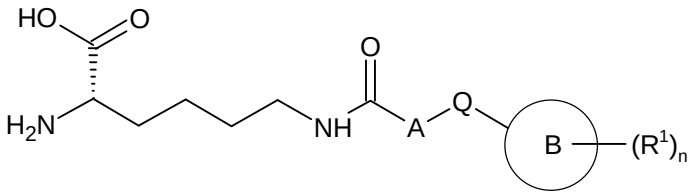
A is a bond, methylene or a pyridyl;

Q is a bond;

Ring B is morpholinyl or thiomorpholinyl; and

n is 0.

8. A modified lysine as claimed in any one of claims 1 – 7 which is a modified lysine of formula **(IB)**:



(IB)

9. A modified lysine as claimed in any one of claims 1 – 4, 7 or 8 selected from:

2-amino-6-{[6-(morpholin-4-yl)pyridine-3-carbonyl]amino}hexanoic acid;

2-amino-6-[(thiomorpholine-3-carbonyl)amino]hexanoic acid; and

2-amino-6-[2-(morpholin-4-yl)acetamido]hexanoic acid.

10. A polypeptide comprising one or more modified lysine residues as claimed in any one of claims 1-9.

11. A polypeptide as claimed in claim 10 comprising 20-50 amino acid residues.

12. A polypeptide as claimed in either claim 10 or claim 11 wherein fewer than 50% of the amino acid residues are modified lysine residues.

13. A polypeptide as claimed in any one of claims 10-12 wherein fewer than 50% of the amino acid residues are modified lysine residues and the remainder are unmodified lysine residues.

14. A polypeptide as claimed in any one of claims 10-13 further comprising a polyethylene glycol polymer.

15. A polypeptide as claimed in any one of claims 10-14 for use as a pharmaceutical delivery system.

16. A pharmaceutical composition which comprises a polypeptide as claimed in any one of claims 10-14 and a pharmaceutically active agent.

17. A pharmaceutical composition as claimed in claim 16 wherein the pharmaceutically active agent is genetic material.

18. A pharmaceutical composition as claimed in claim 17 wherein the genetic material is DNA.

19. A pharmaceutical composition as claimed in any one of claims 16-18 for use in therapy.