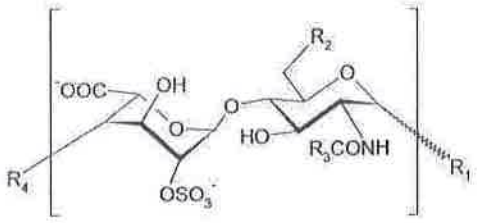
CLAIMS

1. Octasaccharide compounds corresponding to formula (I):



(I)

in which:

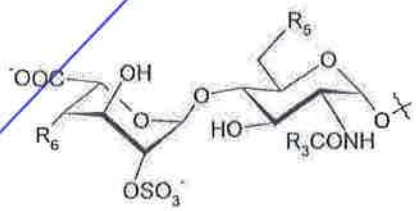
- the wavy line denotes a bond located either below or above the plane of the pyranose ring of the glucosamine unit,

- R_1 represents a group O-alkyl, in which the said alkyl group comprises from 1 to 16 carbon atoms and is optionally substituted with one or more groups, which may be identical or different, chosen from aryl and cycloalkyl groups,

- R_2 represents either a group OSO_3^- or a hydroxyl group,

- R_3 represents an alkyl, cycloalkyl or alkyl-cycloalkyl group, and

- R_4 represents a disaccharide of formula (II):



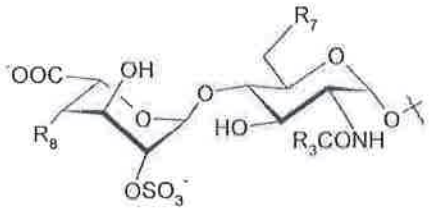
(II)

in which:

- R_3 is as defined above,

- R_5 represents either a group OSO_3^- or a hydroxyl group, and

- R_6 represents a disaccharide of formula (III):



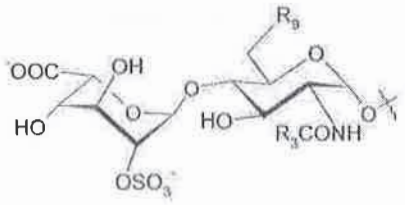
(III)

in which:

- R_3 is as defined above,

- R_7 represents either a group OSO_3^- or a hydroxyl group, and

- R_8 represents a disaccharide of formula (IV):



(IV)

in which:

- R_3 is as defined above,
- R_9 represents either a group OSO_3^- or a hydroxyl group,

in acid form or in the form of any pharmaceutically acceptable salt thereof.

2. Compounds according to Claim 1, in which R_1 represents:

- either a group O-alkyl, in which the said alkyl group comprises from 5 to 16 carbon atoms,
- or a group O-alkyl, in which the said alkyl group comprises from 1 to 8 carbon atoms and is substituted with 1 or 2 groups, which may be identical or different, chosen from aryl and cycloalkyl groups.

3. Compounds according to Claim 1 or Claim 2, in which R_1 represents a group O-alkyl, in which the said alkyl group comprises from 5 to 12 carbon atoms.

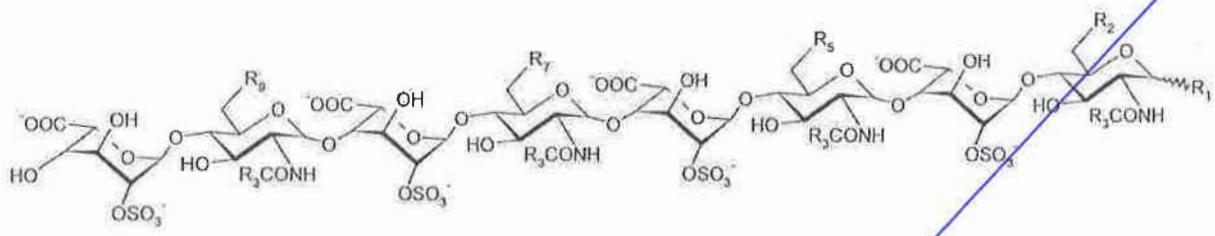
4. Compounds according to any one of Claims 1 to 3, in which R_1 represents a group O-alkyl, in which the said alkyl group comprises from 3 to 6 carbon atoms and is substituted with 1 or 2 groups, which may be identical or different, chosen from phenyl and cycloalkyl groups.

5. Compounds according to any one of Claims 1 to 4, in which R_3 represents either an alkyl group comprising from 2 to 6 carbon atoms, or a cycloalkyl group.

6. Compounds according to any one of Claims 1 to 5, in which at least one of the groups R_2, R_5, R_7 and R_9 represents a hydroxyl group.

7. Compounds according to any one of Claims 1 to 6, in which at least one of the groups R_2, R_5, R_7 and R_9 represents a hydroxyl group and at least one of the groups R_2, R_5, R_7 and R_9 represents a group OSO_3^-.

8. Compounds according to any one of Claims 1 to 7, characterized in that they correspond to formula (I'), in which R_1, R_2, R_3, R_5, R_7 and R_9 are as defined in any one of Claims 1 to 7:



(I')

9. Compounds according to any one of Claims 1 to 8, chosen from the following compounds:

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyl-uronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 1);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 2);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 3);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-

[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 4);**

- Undecyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 5);**

- 5-phenylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 6);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-[(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)]$_2$-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 7);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-O-sodium sulfonato-α-D-glucopyranoside **(No. 8);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 9);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-α-D-glucopyranoside **(No. 10);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 11);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-α-D-glucopyranoside **(No. 12);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-

sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 13);**

- 5-phenylpentyl (sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 14);**

- 2-propylpentyl (sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 15);**

- 3-cyclohexylpropyl (sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-acetamido-β-D-glucopyranoside **(No. 16);**

- 3-cyclohexylpropyl (sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 17);**

- 3,3-diphenylpropyl (sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-*O*-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-

oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-gluco-pyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 18);** and

- 5-phenylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(3-methyl-1-oxobutyl)amino-β-D-gluco-pyranoside **(No. 19).**

10. Medicament, characterized in that it comprises a compound according to any one of Claims 1 to 9, or a pharmaceutically acceptable salt thereof.

11. Pharmaceutical composition, characterized in that it comprises a compound according to any one of Claims 1 to 9, or a pharmaceutically acceptable salt thereof, and also at least one pharmaceutically acceptable excipient.

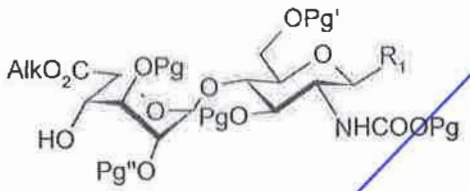
12. Compound according to any one of Claims 1 to 9, for its use in the treatment of pathologies requiring activation of the FGF receptors.

13. Compound according to Claim 12, for its use in the treatment of pathologies requiring angiogenesis activation and post-ischaemic revascularization.

14. Compound according to Claim 12 or Claim 13, for its use in the treatment of ischaemia, such as cardiac ischaemia and arterial ischaemia of the lower limbs, the treatment of diseases associated with narrowing or obstruction of the arteries or arterites, the treatment of angina pectoris, the treatment of thromboangitis obliterans, the treatment of atherosclerosis, the treatment of inhibition of restenosis after angioplasty or endoarterectomy, the treatment of cicatrization, muscle regeneration treatment, treatment for the survival of myoblasts, the treatment of peripheral neuropathy, the treatment of post-operative nerve damage, the treatment of nerve

deficiencies such as Parkinson's disease, Alzheimer's disease, prion disease and neuronal degeneration in alcoholics, the treatment of dementias, treatment for improving the survival of a bioartificial pancreas graft in the case of diabetics, treatment for improving the revascularization of grafts and the survival of grafts, the treatment of retinal degeneration, the treatment of pigmentary retinitis, the treatment of osteoarthritis, the treatment of pre-eclampsia or the treatment of vascular lesions and of acute respiratory distress syndrome, treatment for repairing cartilage, treatment for repairing and protecting bones, treatment for repairing and protecting hair follicles and for protecting and regulating hair growth.

15. Compound of formula (V), in which Alk represents an alkyl group, R_1 is as defined in any one of Claims 1 to 4, and Pg, Pg' and Pg", which may be identical or different, represent protecting groups:

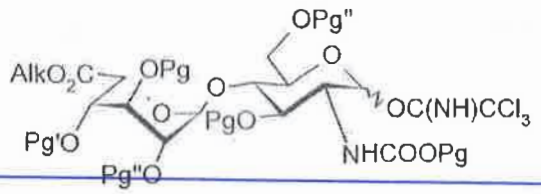


(V)

16. Compound according to Claim 15, in which Pg, Pg' and Pg" represent, respectively, benzyl, tBDPS and acetyl groups, Alk represents a methyl group and R_1 is as defined in any one of Claims 1 to 4.

17. Compound according to Claim 15 or 16, in which Pg, Pg' and Pg" represent, respectively, benzyl, tBDPS and acetyl groups, Alk represents a methyl group and R_1 is chosen from the following groups: -O-methyl, -O-$(CH_2)_5$-phenyl, -O-CH_2-$CH(C_3H_7)_2$, -O-$(CH_2)_3$-C_6H_{11} and -O-$(CH_2)_2$-CH(phenyl)$_2$.

18. Compound of formula (VI), in which Alk represents an alkyl group and Pg, Pg' and Pg", which may be identical or different, represent protecting groups:

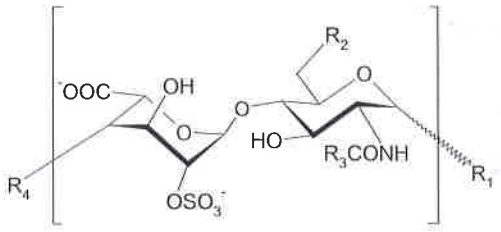


(VI)

19. Compound according to Claim 18, in which Alk represents a methyl group and Pg, Pg' and Pg'' represent, respectively, benzyl, levulinyl and acetyl groups.

CLAIMS

1. Octasaccharide compounds corresponding to formula (I):



(I)

in which:

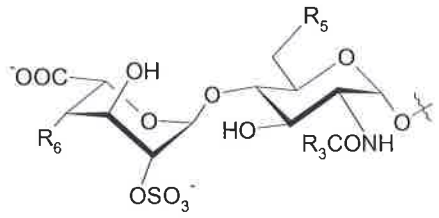
- the wavy line denotes a bond located either below or above the plane of the pyranose ring of the glucosamine unit,

- R_1 represents a group O-alkyl, in which the said alkyl group comprises from 1 to 16 carbon atoms and is optionally substituted with one or more groups, which may be identical or different, chosen from aryl and cycloalkyl groups,

- R_2 represents either a group OSO_3^- or a hydroxyl group,

- R_3 represents an alkyl, cycloalkyl or alkyl-cycloalkyl group, and

- R_4 represents a disaccharide of formula (II):



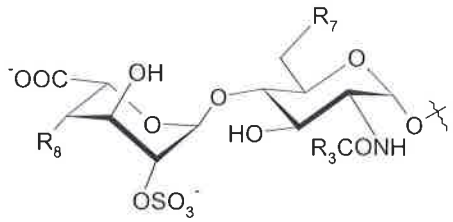
(II)

in which:

- R_3 is as defined above,

- R_5 represents either a group OSO_3^- or a hydroxyl group, and

- R_6 represents a disaccharide of formula (III):



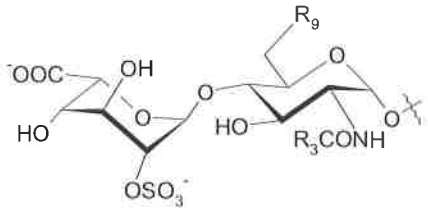
(III)

in which:

- R_3 is as defined above,

- R_7 represents either a group OSO_3^- or a hydroxyl group, and

- R_8 represents a disaccharide of formula (IV):



(IV)

in which:

- R_3 is as defined above,

- R_9 represents either a group OSO_3^- or a hydroxyl group,

in acid form or in the form of any pharmaceutically acceptable salt thereof, wherein

- an alkyl group means a linear or branched saturated aliphatic group comprising between 1 and 6 carbon atoms,

- a cycloalkyl group means a cyclic alkyl group comprising from 3 to 6 carbon atoms,

- an alkyl-cycloalkyl group means an alkyl group which is itself substituted with a cycloalkyl group, and

- an aryl group means a cyclic aromatic group comprising between 5 and 10 carbon atoms.

2. Compounds according to Claim 1, in which R_1 represents:

- either a group O-alkyl, in which the said alkyl group comprises from 5 to 16 carbon atoms,

- or a group O-alkyl, in which the said alkyl group comprises from 1 to 8 carbon atoms and is substituted with 1 or 2 groups, which may be identical or different, chosen from aryl and cycloalkyl groups.

3. Compounds according to Claim 1 or Claim 2, in which R_1 represents a group O-alkyl, in which the said alkyl group comprises from 5 to 12 carbon atoms.

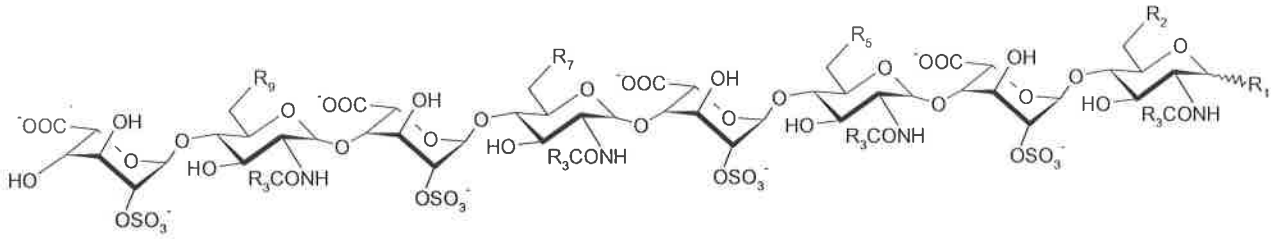
4. Compounds according to any one of Claims 1 to 3, in which R_1 represents a group O-alkyl, in which the said alkyl group comprises from 3 to 6 carbon atoms and is substituted with 1 or 2 groups, which may be identical or different, chosen from phenyl and cycloalkyl groups.

5. Compounds according to any one of Claims 1 to 4, in which R_3 represents either an alkyl group comprising from 2 to 6 carbon atoms, or a cycloalkyl group.

6. Compounds according to any one of Claims 1 to 5, in which at least one of the groups R_2, R_5, R_7 and R_9 represents a hydroxyl group.

7. Compounds according to any one of Claims 1 to 6, in which at least one of the groups R_2, R_5, R_7 and R_9 represents a hydroxyl group and at least one of the groups R_2, R_5, R_7 and R_9 represents a group OSO_3^-.

8. Compounds according to any one of Claims 1 to 7, characterized in that they correspond to formula (I'), in which R_1, R_2, R_3, R_5, R_7 and R_9 are as defined in any one of Claims 1 to 7:



(I')

9. Compounds according to any one of Claims 1 to 8, chosen from the following compounds:

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 1);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 2);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxohexyl)amino-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 3);**

- Pentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-[(cyclopentylcarbonyl)amino]-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 4);**

- Undecyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 5);**

- 5-phenylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-β-D-glucopyranoside **(No. 6);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-

acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-[(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)]$_2$-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 7);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-O-sodium sulfonato-α-D-glucopyranoside **(No. 8);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 9);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-α-D-glucopyranoside **(No. 10);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 11);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-α-D-glucopyranoside **(No. 12);**

- Methyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-acetamido-2-deoxy-6-*O*-sodium sulfonato-α-D-glucopyranoside **(No. 13);**

- 5-phenylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 14);**

- 2-propylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 15);**

- 3-cyclohexylpropyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-acetamido-α-D-gluco-

pyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-acetamido-β-D-glucopyranoside **(No. 16);**

- 3-cyclohexylpropyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyl-uronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-gluco-pyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 17);**

- 3,3-diphenylpropyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyl-uronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-gluco-pyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(1-oxobutyl)amino-β-D-glucopyranoside **(No. 18);** and

- 5-phenylpentyl (sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-gluco-pyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-6-*O*-sodium sulfonato-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-(2-deoxy-2-(3-methyl-1-oxobutyl)amino-α-D-glucopyranosyl)-(1→4)-(sodium 2-O-sodium sulfonato-α-L-idopyranosyluronate)-(1→4)-2-deoxy-2-(3-methyl-1-oxobutyl)amino-β-D-glucopyranoside **(No. 19).**

10. Medicament, characterized in that it comprises a compound according to any one of Claims 1 to 9, or a pharmaceutically acceptable salt thereof.

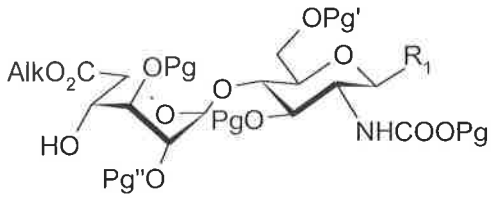
11. Pharmaceutical composition, characterized in that it comprises a compound according to any one of Claims 1 to 9, or a pharmaceutically acceptable salt thereof, and also at least one pharmaceutically acceptable excipient.

12. Compound according to any one of Claims 1 to 9, for its use in the treatment of pathologies requiring activation of the FGF receptors.

13. Compound according to Claim 12, for its use in the treatment of pathologies requiring angiogenesis activation and post-ischaemic revascularization.

14. Compound according to Claim 12 or Claim 13, for its use in the treatment of ischaemia, such as cardiac ischaemia and arterial ischaemia of the lower limbs, the treatment of diseases associated with narrowing or obstruction of the arteries or arterites, the treatment of angina pectoris, the treatment of thromboangitis obliterans, the treatment of atherosclerosis, the treatment of inhibition of restenosis after angioplasty or endoarterectomy, the treatment of cicatrization, muscle regeneration treatment, treatment for the survival of myoblasts, the treatment of peripheral neuropathy, the treatment of post-operative nerve damage, the treatment of nerve deficiencies such as Parkinson's disease, Alzheimer's disease, prion disease and neuronal degeneration in alcoholics, the treatment of dementias, treatment for improving the survival of a bioartificial pancreas graft in the case of diabetics, treatment for improving the revascularization of grafts and the survival of grafts, the treatment of retinal degeneration, the treatment of pigmentary retinitis, the treatment of osteoarthritis, the treatment of pre-eclampsia or the treatment of vascular lesions and of acute respiratory distress syndrome, treatment for repairing cartilage, treatment for repairing and protecting bones, treatment for repairing and protecting hair follicles and for protecting and regulating hair growth.

15. Compound of formula (V), in which Alk represents an alkyl group, R_1 is as defined in any one of Claims 1 to 4, and Pg, Pg' and Pg'', which may be identical or different, represent protecting groups:

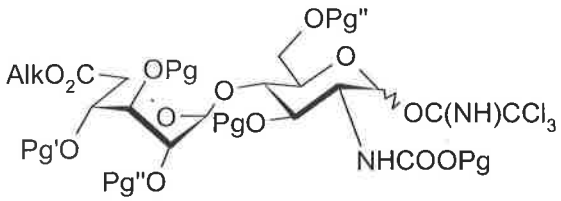


(V)

16. Compound according to Claim 15, in which Pg, Pg' and Pg'' represent, respectively, benzyl, tBDPS and acetyl groups, Alk represents a methyl group and R_1 is as defined in any one of Claims 1 to 4.

17. Compound according to Claim 15 or 16, in which Pg, Pg' and Pg'' represent, respectively, benzyl, tBDPS and acetyl groups, Alk represents a methyl group and R_1 is chosen from the following groups: -O-methyl, -O-$(CH_2)_5$-phenyl, -O-CH_2-$CH(C_3H_7)_2$, -O-$(CH_2)_3$-C_6H_{11} and -O-$(CH_2)_2$-$CH(phenyl)_2$.

18. Compound of formula (VI), in which Alk represents an alkyl group and Pg, Pg' and Pg'', which may be identical or different, represent protecting groups:



(VI)

19. Compound according to Claim 18, in which Alk represents a methyl group and Pg, Pg' and Pg'' represent, respectively, benzyl, levulinyl and acetyl groups.