tissues of the organism.

SUMMARY

In one aspect, the present disclosure provides a use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of a medicament for treating skeletal conditions, in particular in the regeneration of hard tissues.

In another aspect, the present disclosure provides an implantable scaffold comprising a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form.

In another aspect, the present disclosure provides a use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of an implantable scaffold for the treatment of skeletal conditions, in particular in the regeneration of hard tissues.

In another aspect, the present disclosure provides a use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of a pharmaceutical formulation for the treatment of skeletal conditions, in particular in the regeneration of hard tissues.

DESCRIPTION OF THE INVENTION

A class of hyaluronic acid derivatives, in which this molecule is associated with at least one heterocyclic compound derived from a purine or pyrimidine base and with at least another organic compound consisting of a naturally occurring amino acid, in single, oligomeric or polymeric form, is described in EP1525244 with the procedures for its preparation.

The above mentioned derivatives of hyaluronic acid, a glycosaminoglycan (GAG) naturally present in the extracellular matrix (ECM), constitute a more stable form than the native one because the compounds associated with it are found in the target sites of the lytic hyaluronidase enzyme, normally responsible for its degradation, making its action more difficult. Furthermore, depending on the type of heterocyclic compounds and amino acids selected, these derivatives show a particular three-

CLAIMS

1. Use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of a medicament for treating skeletal conditions, in particular in the regeneration of hard tissues.

2. The use according to claim 1, wherein said at least one heterocycle is thymine.

3. The use according to claim 1 or 2, wherein said at least one different organic compound is lysine.

4. The use according to anyone of the preceding claims, wherein the bond between said hyaluronic acid, said heterocycle and said naturally occurring amino acid is a chemical bond of ionic type.

5. The use according to anyone of the preceding claims, wherein said compound of the hyaluronic acid is a compound of hyaluronic acid in combination with lysine and thymine by the formation of chemical bond of ionic type.

6. The use according to anyone of the preceding claims, for the induction and stimulation of cell differentiation in the osteogenic and chondrogenic lineage of mesenchymal stem cells.

7. The use according to claim 6, wherein said mesenchymal stem cells are stem cells of the dental germ.

8. An implantable scaffold comprising a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form.

9. Use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of an implantable scaffold for the treatment of skeletal conditions, in particular in the regeneration of hard tissues.

10. Use of a compound of hyaluronic acid and at least one heterocycle derived from purine and/or pyrimidine, said compound being further associated with at least one

different organic compound selected from naturally occurring amino acids in the single, oligomeric or polymeric form, in the manufacture of a pharmaceutical formulation for the treatment of skeletal conditions, in particular in the regeneration of hard tissues.