Claims

1. A process for producing a transplantable cartilage material for tissue engineering, wherein said process comprises the steps of culturing chondrogenic cells, in 3D culture, in a culture medium comprising an FGF-18 compound for a time sufficient to allow the formation of a transplantable cartilage material, wherein the FGF-18 compound is added intermittently in the culture medium, for about one, two or three days per week, said about one-day, two-days or three-days addition being repeated each week for at least 2 weeks of culture, at least 3 weeks of culture or at least 4 weeks of culture.

2. A process for producing a transplantable cartilage material for tissue engineering, wherein said process comprises the steps of culturing chondrogenic cells, in 3D culture, in a culture medium comprising an FGF-18 compound for a time sufficient to allow the formation of a transplantable cartilage material, wherein the FGF-18 compound is added intermittently in the culture medium, for about one, two or three days per week, said about one-day, two-days or three-days addition being repeated each month for at least 2 months of culture, at least 3 months of culture or at least 4 months of culture.

3. The process according to claim 1, wherein the FGF-18 compound is added intermittently in the culture medium, for one, two or three days per week, said one-day, two-days or three-days addition being repeated each week for 2 weeks of culture, 3 weeks of culture or 4 weeks of culture.

4. The process according to claim 2, wherein the FGF-18 compound is added intermittently in the culture medium, for one, two or three days per month, said one-day, two-days or three-days addition being repeated each month for 2 months of culture, 3 months of culture or 4 months of culture.

5. The process according to any one of the preceding claims, wherein the chondrogenic cells are chondrocytes or mesenchymal stem cells derived from mature tissues.

6. The process according to any one of the preceding claims, wherein the FGF-18 compound is selected from the group consisting of:

a) a polypeptide comprising or consisting of the human FGF-18 mature form comprising residues 28-207 of SEQ ID NO:1,

b) a polypeptide comprising or consisting of the residues 28-196 of SEQ ID NO:1, or

c) a polypeptide comprising or consisting of SEQ ID NO:2.

7. The process according to any one of the preceding claims, wherein the chondrogenic cells are harvest or isolated from a mammal before expansion or culture.

8. The process according to claim 7, wherein the chondrogenic cells are harvest or isolated from the mammal to be treated or from a different mammal.

9. The process according to any one of claims 7 or 8 wherein the mammal is a human.

10. Transplantable cartilage material obtained according to the process of claim 1 or claim 2 for use in the treatment of a cartilage disorder.

11. Transplantable cartilage material or regenerated cartilage, according to claim 10, wherein the cartilage disorder is osteoarthritis, cartilage injury or osteochondral defect.