

We claim:

1. Use of
 - a) a member of a transforming growth factor superfamily of proteins;
 - b) a population of cultured mammalian cells that contain vector encoding a gene, or a population of cultured connective tissue cells that do not contain any vector encoding a gene;in the manufacture of a medicament, for treating osteoarthritis, wherein said medicament is to be transferred
by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that the activity of the combination within the joint space results in regenerating connective tissue.
2. The use according to claim 1, wherein the mammalian cell contains a viral vector.
3. The use according to claim 2, wherein the viral vector is a retroviral vector.
4. The use according to claim 1, wherein the vector is a plasmid vector.
5. The use according to claim 1, wherein the mammalian cells are allogeneic or autologous cells.
6. The use of claim 1, wherein the connective tissue cells are chondrocytes.
7. The use according to claim 1, wherein the member of the transformation growth factor (TGF) superfamily is TGF- β 1, TGF- β 2, TGF- β 3, BMP-2, BMP-3, BMP-4, BMP-6, BMP-7, or BMP-9.
8. Use of

- a) a member of a transforming growth factor superfamily of proteins;
 - b) a population of cultured mammalian cells that contain vector encoding a gene, or a population of cultured connective tissue cells that do not contain any vector encoding a gene;
- in the manufacture of a medicament for regenerating hyaline cartilage, wherein said medicament is to be transferred
- by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that the activity of the combination within the joint space results in regenerating connective tissue.
9. The use according to claim 8, wherein the mammalian cell contains a viral vector.
10. The use according to claim 9, wherein the viral vector is a retroviral vector.
11. The use according to claim 8, wherein the vector is a plasmid vector.
12. The use according to claim 8, wherein the connective tissue cells are chondrocytes.
13. The use according to claim 8, wherein the mammalian cells are allogeneic or autologous cells.
14. The use according to claim 8, wherein the member of the transformation growth factor (TGF) superfamily is TGF- β 1, TGF- β 2, TGF- β 3, BMP-2, BMP-3, BMP-4, BMP-6, BMP-7, or BMP-9.
15. Use of
- a recombinant viral or plasmid vector comprising a DNA sequence encoding a member of a transforming growth factor superfamily of proteins operatively linked to a promoter in the

manufacture of a medicament for regenerating hyaline cartilage, wherein said medicament comprises

transfecting *in vitro* a population of cultured allogeneic mammalian cells with said medicament, resulting in a population of transfected allogeneic mammalian cells; and

wherein said transfected allogeneic mammalian cells is to be transplanted by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that expression of said DNA sequence within said joint space results in regenerating hyaline cartilage.

16. The use according to claim 15, wherein the member of the transforming growth factor (TGF) superfamily of proteins is TGF- β 1, TGF- β 2, TGF- β 3, BMP-2, BMP-3, BMP-4, BMP-6, BMP-7, or BMP-9.

17. Use of

a recombinant viral or plasmid vector comprising a DNA sequence encoding a member of a transforming growth factor superfamily of proteins operatively linked to a promoter in the manufacture of a medicament for treating osteoarthritis, wherein said medicament comprises

transfecting *in vitro* a population of cultured allogeneic mammalian cells with said recombinant vector, resulting in a population of transfected allogeneic mammalian cells; and

wherein said transfected allogeneic mammalian cells is to be transplanted by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that expression of said DNA sequence within said joint space results in regenerating hyaline cartilage.

18. The use according to claim 7, wherein the member of the transforming growth factor (TGF) superfamily of proteins is TGF- β 1, TGF- β 2, TGF- β 3, BMP-2, BMP-3, BMP-4, BMP-6, BMP-7, or BMP-9.

19. Use of

a) a member of a transforming growth factor superfamily of proteins;

b) a population of cultured mammalian cells that contain vector encoding a gene, or a population of cultured connective tissue cells that do not contain any vector encoding a gene;

in the manufacture of a medicament for treating an injury to connective tissue in a joint, wherein said medicament is to be

transferred by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that the activity of the combination within the joint space results in regenerating connective tissue.

20. Use of

a recombinant viral or plasmid vector comprising a DNA sequence encoding a member of a transforming growth factor superfamily of proteins operatively linked to a promoter in the manufacture of a medicament for treating an injury to connective tissue in a joint, wherein said medicament comprises

transfecting *in vitro* a population of cultured allogeneic mammalian cells with said medicament, resulting in a population of transfected allogeneic mammalian cells; and

wherein said transfected allogeneic mammalian cells is to be transplanted by intraarticular injection to an arthritic joint space of a mammalian host with a pharmaceutically acceptable carrier, such that expression of said DNA sequence within said joint space results in regenerating hyaline cartilage.

21. The use according to claims 1 to 20, wherein the mammalian cells are human embryonic kidney cells or epithelial cells.