What is claimed is:

1. Use of a population of a mammalian connective tissue cell without a scaffolding or any supporting structure, wherein the cells are injected into an intervertebral disc defect site, such that the presence of the cells at the intervertebral disc defect site causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

2. The use according to claim 1, wherein the connective tissue cell is allogeneic relative to the mammal.

3. The use according to claim 1, wherein the cell is a chondrocyte, in particular a non-disc chondrocyte or juvenile chondrocyte or primed chondrocyte.

4. The use according to claim 1, wherein the mammal is human.

5. Use of a population of cultured mammalian connective tissue cell transfected *in vitro* with a generated recombinant viral or plasmid vector comprising a DNA sequence encoding a protein having intervertebral disc regenerating function without a scaffolding or any supporting structure, wherein the transfected cells are injected into an intervertebral disc defect site, such that expression of the DNA sequence within the intervertebral disc defect site causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

6. The use according to claim 5, wherein said gene belongs to TGF-β superfamily, in particular TGF- β1.

7. The use according to claim 5, wherein the connective tissue cell is allogeneic relative to the mammal.

8. The use according to claim 5, wherein the connective tissue cell is a chondrocyte.

9. The use according to claim 5, wherein the mammal is human.

10. Use of a mixed population of a first cultured mammalian connective tissue cell transfected *in vitro* with a generated recombinant viral or plasmid vector comprising a DNA sequence encoding a protein having intervertebral disc regenerating function and a second unmodified cultured mammalian connective tissue cells, without a scaffolding or any

supporting structure, wherein the mixed population of cells is injected into an intervertebral disc defect site, such that expression of the DNA sequence within the intervertebral disc defect site and the presence of the unmodified cultured mammalian connective tissue cells causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

11. The use according to claim 10, wherein said gene belongs to TGF-β superfamily.

12. The use according to claim 10, wherein said first and second mammalian connective tissue cell is chondrocyte, in particular a non-disc chondrocyte or juvenile chondrocyte or wherein the chondrocyte for the second mammalian connective tissue is primed chondrocyte.

13. The use according to claim 10, wherein the first or second connective tissue cell is allogeneic relative to the mammal.

14. The use according to claim 1, 5, or 10, wherein treatment of degenerated or injured intervertebral disc at the intervertebral disc defect site results.

Claims

1. Use of a population of a mammalian connective tissue cell without a scaffolding or any supporting structure, wherein the cells are injected into an intervertebral disc defect site of a mammal, such that the presence of the cells at the intervertebral disc defect site causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

2. The use according to claim 1, wherein the connective tissue cell is allogeneic relative to the mammal.

3. The use according to claim 1, wherein the cell is a chondrocyte, in particular a non-disc chondrocyte or juvenile chondrocyte or primed chondrocyte.

4. The use according to claim 1, wherein the mammal is human.

5. Use of a population of cultured mammalian connective tissue cell transfected *in vitro* with a generated recombinant viral or plasmid vector comprising a DNA sequence encoding a protein having intervertebral disc regenerating function without a scaffolding or any supporting structure, wherein the transfected cells are injected into an intervertebral disc defect site of a mammal, such that expression of the DNA sequence within the intervertebral disc defect site causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

6. The use according to claim 5, wherein said DNA sequence belongs to TGF-β superfamily, especially encodes TGF-β1.

7. The use according to claim 5, wherein the connective tissue cell is allogeneic relative to the mammal.

8. The use according to claim 5, wherein the connective tissue cell is a chondrocyte.

9. The use according to claim 5, wherein the mammal is human.

10. Use of a mixed population of a first cultured mammalian connective tissue cell transfected *in vitro* with a generated recombinant viral or plasmid vector comprising a DNA sequence encoding a protein having intervertebral disc regenerating function and a second unmodified cultured mammalian connective tissue cells, without a scaffolding or any supporting structure, wherein the mixed population of cells is injected into an intervertebral disc defect site of a mammal, such that expression of the DNA sequence within the intervertebral disc defect site and the presence of the unmodified cultured mammalian connective tissue cells causes prevention or retardation of degeneration of intervertebral disc at the intervertebral disc defect site.

11. The use according to claim 10, wherein said DNA sequence belongs to TGF-β superfamily.

12. The use according to claim 10, wherein said first and second mammalian connective tissue cell is chondrocyte, in particular a non-disc chondrocyte or juvenile chondrocyte or wherein the chondrocyte for the second mammalian connective tissue is primed chondrocyte.

13. The use according to claim 10, wherein the first or second connective tissue cell is allogeneic relative to the mammal.