**CLAIMS**

1. Use of a composition comprising a population of human allogeneic TNAP+ mesenchymal precursor cells (MPCs) in the manufacture of a medicament for treatment of lower back pain, in which the medicament is to be administered into the nucleus pulposus or the annulus fibrosus of the affected intervertebral disc, and in which the lower back pain is associated:

(i) with or without contained disc herniation up to a 3 mm protrusion with no radiographic evidence of neurological compression;

(ii) with a disc height loss of less than 30% compared to a normal adjacent disc based upon radiographic evaluation; and

(iii) with a visual analog scale (VAS) back pain score greater than 40; and wherein

(iv) administration of the TNAP+ MLSPCs is at a dose sufficient to result in at least a 50% reduction in pain as determined by visual analog scale (VAS) for at least 6 months after administration; and a reduction of at least 15 points as determined by Oswestry Disability Index (ODI) for at least 6 months after administration.

2. Use according to Claim 1, in which the lower back pain is non-radicular in origin.

3. Use according to Claim 1, in which the lower back pain is associated with nerve ingrowth into an intervertebral disc.

4. Use according to Claim 1, in which the lower back pain is associated with inflammation in an intervertebral disc.

5. Use according to any preceding claim, in which the TNAP+ MPCs release TGFβ1, when cultured, in an amount of at least 2800 pg/$10^6$ cells, or at least 2810 pg/$10^6$ cells, or at least 2820 pg/$10^6$ cells, or at least 2830 pg/$10^6$ cells, or at least 2840 pg/$10^6$ cells, or at least 2850 pg/$10^6$ cells, or at least 2860 pg/$10^6$ cells, or at least 2870 pg/$10^6$ cells, or at least 2880 pg/$10^6$ cells, or at least 2890 pg/$10^6$ cells, or at least 2900 pg/$10^6$ cells, or at least 2910 pg/$10^6$ cells, or at least 2920 pg/$10^6$ cells, or at least 2930 pg/$10^6$ cell, or at least 2940 pg/$10^6$ cells, or at least 2950 pg/$10^6$ cells, or at least 2960 pg/$10^6$ cells, or at least 2970 pg/$10^6$ cells, or at least 2980 pg/$10^6$ cells, or at least 2990 pg/$10^6$ cells, or at least 3000 pg/$10^6$ cells.

6. Use according to any preceding claim, in which the TNAP+ MPCs are isolated by immunoselection.

7. Use according to any preceding claim , in which the TNAP+ MPCs are culture expanded prior to administration.

8. Use according to any preceding claim, in which the composition comprises a dose of between about 1 x $10^6$ cells to about 20 x $10^6$ cells.

9. Use according to Claim 8, in which the composition comprises a dose of about 6 x $10^6$ cells.

10. Use according to Claim 8, in which the composition comprises a dose of about 18 x $10^6$ cells.

11. Use according to any preceding claim, in which the medicament is for administration as a single dose.

12. Use according to any preceding claim, in which administration of the composition results in at least a 50% reduction in pain as determined by the visual analog scale (VAS) for at least 1 month, or at least 6 months, or at least 12 months, or at least 18 months, or at least 24 months after administration.

13. Use according to any preceding claim, in which administration of the composition results in a reduction of at least 15 points as determined by the Oswestry Disability Index (ODI) for at least 1 month, or at least 6 months, or at least 12 months, or at least 18 months, or at least 24 months after administration.