CLAIMS

What is claimed is:

1. A composition for inducing differentiation of mesenchymal stem cells (MSCs) into chondrocytes, said composition comprising Avenanthramide C (Avn C) present at a concentration in the range of **10** nM - **50**,**000** nM.

2. The composition according to claim **1**, wherein said Avenanthramide C (Avn C) is preferably present at the concentration of **50 - 300** nM.

3. The composition according to claim **1**, further comprises chondroitin sulfate (CS) as a bioactive factor.

4. The composition according to claim **2**, further comprises chondroitin sulfate (CS) as a bioactive factor.

5. The composition according to claim **1**, wherein said chondroitin sulfate (CS) is present at the concentration in the range of **300 - 700** µg/mL.

6. The composition according to claim **1**, wherein said mesenchymal stem cells are adipose-derived mesenchymal stem cells (aMSCs).

7. The composition according to any one of claims **1**-**6**, wherein said chondrocytes are **2**-dimensional manner chondrocyte-like cells.

8. The composition according to any one of claims **1**-**6**, for increasing chondrocyte markers in said chondrocytes relative to a control, and wherein said chondrocyte markers are selected from the group consisting of FSTL-**1**, LRP**1**, ACAN, COL**2**A, SOX**9**, and any combination thereof.

9. Use of a medium for inducing *in vitro* differentiation of mesenchymal stem cells (MSCs), said medium comprising the composition according to any one of claims **1**-**6**.

10. A method for inducing differentiation of *in vitro* cultured mesenchymal stem cells (MSCs) into chondrocytes, said method comprising a step of culturing said MSCs in a medium comprising Avenanthramide C (Avn C) present at a concentration in the range of **10** nM - **50**,**000** nM.

11. The method according to claim **10**, wherein said Avenanthramide C (Avn C) is preferably present at the concentration of **50** nM - **300** nM.

12. The method according to claim **10**, wherein chondroitin sulfate (CS) is present in the medium as a bioactive factor.

13. The method according to claim **12**, further comprising chondroitin sulfate (CS) is present in the medium as a bioactive factor.

14. The method according to Claim **13**, wherein said chondroitin sulfate (CS) is present in the medium at the concentration in the range of **300** - **700** μg/mL.

15. The method according to claim **10**, wherein said mesenchymal stem cells are adipose-derived mesenchymal stem cells (aMSCs).

16. The method according to any one of claims **10**-**15**, wherein said chondrocytes are **2**-dimensional manner chondrocyte-like cells.

17. The method according to any one of claims **10**-**15**, wherein chondrocyte markers of said chondrocytes are increased relative to a control, and wherein said chondrocyte markers are selected from the group consisting of FSTL-**1**, LRP**1**, ACAN, COL**2**A, SOX**9**, and any combination thereof.