



TECHNOLOGY OFFER

UP-041: Quality control test for chondrogenic potency

Key Facts

Quality control method to measure chondrogen potency of cells by enzyme linked immunosorbent assay

The Technology

Method to control quality of cell culture in a culture medium comprises in vitro culturing of chondrocyte or chondrocyte-similar cell, and measuring the concentration of secreted molecule of at least one cell in the culture medium for the measurement of chondrogen potency of the cell by enzyme linked immunosorbent assay-reconditioning. Serine- or cysteine proteinase inhibitor-1 (SERPINA 1) and matrix-metallo proteinase-3 (MMP3) are used as quality marker for measuring the chondrogen potency of chondrocyte or chondrocyte-similar cell.

Background

Mesenchymal stem cells (MSCs) are a population of cells broadly discussed to support cartilage repair. Understanding differentiation of MSCs into for example articular chondrocytes is an important step for tissue engineering and regeneration approaches. Our scientists performed a genome-wide screen for genes differentially expressed between cartilage and MSCs and extracted new markers useful to define chondrocyte differentiation stages.

Advantages

- Monitoring chondrocyte cell cultures
- Accurate quality testing

Commercial Opportunity

Quality control assay for in vitro culturing of chondrocyte cells – tissue engineering

Development Stage

Clinical development.

Inventors

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Intellectual Property

EP Patent application EP 1 873 236,
US 12/201,511

Reference:

Boeuf S, Steck E, Pelttari K, Hennig T, Buneb A, Benz K, Witte D, Sultmann H, Poustka A, Richter W., Subtractive gene expression profiling of articular cartilage and mesenchymal stem cells: serpins as cartilage-relevant differentiation markers. Osteoarthritis Cartilage. 2008 Jan;16(1):48-60. Epub 2007 Jul 2.

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