Stem Cells International

Special Issue on

Stem Cells in Cartilage Regeneration

CALL FOR PAPERS

Cartilage remains one of the most difficult tissues to regenerate. Several approaches including stem cell therapy have been developed in the past decade to repair damaged articular cartilage, intervertebral disc, and meniscus. Current approaches using culture-expanded chondrocytes, bone marrow mesenchymal stem cells, or pluripotent stem cells with chondroinductive growth factors are able to generate cartilaginous tissue within articular cartilage defects but do not form hyaline cartilage-based articular surfaces. Meanwhile, the mechanical and functional characteristics of repaired cartilage are often unsatisfactory compared with the native cartilage.

At the cellular level, the challenges faced in cartilage regeneration include the regulation of stem cells during chondrogenic differentiation, chondrocyte dedifferentiation, chondrocyte hypertrophy, and maintenance of the cartilage phenotype.

We invite investigators to contribute original research articles as well as review articles that will stimulate continuing efforts on stem cell research in cartilage tissue regeneration and increase the overall understanding of fundamental stem cell biology (regulatory mechanisms of self-renewal and differentiation).

Potential topics include but are not limited to the following:

- Characterization and differences among cartilage stem cells and various cartilage cells
- Chondrogenic differentiation and chondrocyte dedifferentiation of various stem cells including bone marrow mesenchymal stem cells (MSCs), embryonic stem cells (ESCs), adipose-derived stem cells (ASCs), and tendon stem cells (TSCs)
- Chondrocyte hypertrophy
- Cartilage injury (articular cartilage, intervertebral disc, meniscus, etc.) mechanism and treatment
- Regenerative medicine (tissue engineering, biomaterials, drug delivery, etc.) on cartilage
- Mechanical factors on stem cell differentiation in cartilage maintenance and repair
- Clinical applications of stem cell therapy in cartilage repair

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/sci/sccrg/.

Lead Guest Editor
Jianying Zhang, University of Pittsburgh Medical School, Pittsburgh, USA
jianying@pitt.edu

Guest Editors
Shiwu Dong, Third Military Medical University, Chongqing, China
dongshiwu@tmmu.edu.cn

Wesley N. Sivak, University of Pittsburgh, Pittsburgh, USA
sivakwn2@upmc.edu

Herb B. Sun, Yeshiva University, New York, USA
herb.sun@einstein.yu.edu

Kai Tao, General Hospital of Shenyang Military Command, Shenyang, China
taokaizx123@163.com

Manuscript Due
Friday, 26 August 2016

First Round of Reviews
Friday, 18 November 2016

Publication Date
Friday, 13 January 2017