



Stem Cells International

Special Issue on
**Stem Cells and Microenvironment in the Heart:
Perspectives and Challenges**

CALL FOR PAPERS

Regenerative medicine and cardiac stem cell research have tremendous potential to revolutionize the understanding and treatment of cardiac disease. Stem cells and their derivatives represent a powerful tool for disease modeling, pharmaceutical screening, therapeutic regeneration, and precision medicine. A thorough understanding of the interaction between stem cells and the microenvironment both *in vitro* and *in vivo* will be crucial for the advancement of this field as there has been a significant interest in various applications of stem cells, particularly in seeking to understand the effects of both intrinsic and extrinsic factors. For instance, the reprogramming efficacy of induced pluripotent stem cells (iPSCs) varies between a 2D cell-culture system and a 3D environment. To consolidate recent findings demonstrating the complex interplay between stem cells and microenvironment, as well as novel advances in the cardiac stem cell research field, we would like to invite experts to submit reviews and original articles that will help to improve our understanding of the complex interplay between stem cells and its surrounding environment, underlining current and future challenges while also offering potential suggestions across broad areas of research.

Potential topics include, but are not limited to:

- ▶ Cardiac stem cells' secretome
- ▶ Interaction between stem cells and the stroma
- ▶ Cellular homeostasis in stem cells, for example, exosomes for mitophagy
- ▶ Mitochondrial dynamics in cardiac stem cells
- ▶ The role of mitochondria in modulating cardiac stem cell fate
- ▶ Advances in cardiac differentiation and transdifferentiation
- ▶ Biomaterial approaches for stem cell-based myocardial tissue engineering
- ▶ Cardiac iPSCs for disease modeling and drug screening

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/sci/scmh/>.

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First Round of Reviews

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