

Tentative Outline

Special Thematic Issue for Current Stem Cell Therapy and Research

Open challenges and new perspectives in cardiac regenerative medicine

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Aims & Scope:

Cardiac regenerative medicine for heart failure has become a consolidated research field in the past 20 years. Cell therapy has played an important leading role in its history, although many other areas have significantly pushed the field forward, mostly related to cell reprogramming and cell cycle re-entry. Cardiac regenerative cell populations have been widely studied and characterized, as well as the biological mechanisms responsible for the observed beneficial effects in both preclinical and clinical settings. Moreover, progress in the field has contributed to discoveries in cognate research areas in physiopathology and cell biology.

The present collection of review articles aims at deepening several topics, which can significantly affect the way cardiac regenerative medicine (particularly cardiac cell therapy) will advance towards future steps. Assessing the role of the microenvironment and of intracellular/extracellular signaling on regeneration will provide tools to enhance survival and engraftment of regenerative cells. Moreover, the development of cell-derivatives or cell-mimicking products offers innovative and alternative biotechnological strategies. Many challenges still persist also in the clinical translation of regenerative protocols, which will be discussed in the present topic as well.

Keywords: cardiac regeneration, cell therapy, clinical translation.

Subtopics:

The subtopics to be covered within this issue are listed below:

- Role of the microenvironment in heart regeneration
- Cell senescence and oxidative stress in cardiac regeneration
- Intracellular and extracellular signaling for cardiac regenerative cell survival and engraftment
- Cell signaling and antagonism in cardiac regeneration and fibrosis
- Cell populations for cardiac regeneration
- Cell derivatives for cardiac regeneration, e.g. microvesicles, nano- and micro-particles
- Healthy and diseased tissue modelling for preclinical testing
- Challenges in clinical translation of cardiac regeneration.

Schedule:

- ✧ Manuscript submission deadline: August 31st 2019
- ✧ Peer Review Due: October 15th 2019
- ✧ Revision Due: November 15th 2019
- ✧ Announcement of acceptance by the Guest Editors: November 25th 2019
- ✧ Final manuscripts due: December 1st 2019

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