



BioMed Research International

Special Issue on
Self-Assembling Peptides for Regenerative Medicine Applications

CALL FOR PAPERS

Regenerative medicine and stem cell research are rapidly developing fields that may revolutionize healthcare in the next decades. They offer unique opportunities for developing new therapeutic approaches to prevent and treat debilitating and life-threatening diseases that arise from the loss or dysfunction of specific cell types in the body, such as Alzheimer's disease and diabetes. Regenerative medicine approaches aim to restore normal functions by repairing or replacing damaged or malfunctioning cells, tissues, or organs in patients. Advances in this field will improve diagnostics and prevention, as well as introducing innovative treatments for injuries and illnesses.

Smart synthetic materials are needed for fully exploiting the unique features of stem cells and regeneration abilities of the human body. Such materials are needed for the manufacturing of three-dimensional scaffolds that are able to support cell growth. Innovative instructive scaffolds that may guide tissue regeneration are currently being developed. Among them, self-assembling peptides (SAPs) bear a great potential. Advances in SAPs synthesis are nowadays making accessible mild reaction conditions as well as biofabrication approaches. SAPs are extremely versatile materials that can be easily modified in order to obtain different structures and modulate their interactions with biological systems. Moreover, the use of nonconventional peptides yields materials with interesting innovative features.

In this field the joined work of scientists with different backgrounds (i.e., chemistry, physics, biology, and materials science) is essential for achieving scientific and technological advancements.

This special issue intends to present and discuss original work and review articles that will stimulate the continuing efforts to develop new SAP-based materials and strategies for applications in regenerative medicine. We are interested in articles describing current research trends as well as future perspectives.

Potential topics include, but are not limited to:

- ▶ Implantable devices
- ▶ Drug delivery systems
- ▶ Bionanotechnologies
- ▶ Tissue engineering and cell engineering
- ▶ Biomaterials and tissue interactions
- ▶ Structure/activity relations of SAP-based materials

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

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First Round of Reviews

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