

Special Issue on  
**Stem Cells Research and Therapy: Diabetes and  
Metabolic Disorders**

# CALL FOR PAPERS

Diabetes is a chronic metabolic disease and the fifth leading cause of death. Blood hyperglycemia causes several complications including cardiovascular, neuronal, hepatic, and other diseases. Diabetes progression is associated with several pathogenic complexes including autoimmune destruction of pancreatic  $\beta$ -cells, genomic disorders, and metabolic abnormalities that cause body resistance to insulin. With all associated limitations, pancreatic and/or islet transplantations are the only available therapy.

Stem cell biology and therapy have gained interest as an alternative approach for regenerative medicine; however, the field is still at research level and further studies are needed toward therapeutic implication in diabetes and its complications. The current approach in stem cell differentiation is to mimic the developmental stages during embryogenesis and utilizes chemically well-defined small molecules that regulate cell signaling pathways to generate pancreatic  $\beta$ -cells. Nevertheless, the complexity of signal pathways requires further improvement to generate a consistent protocol. Notably, pluripotent stem cells usage as a tool for *in vitro* modeling of diabetes has recently attracted a great attention in the field. In addition, a progress has been made in the use of stem cells to heal diabetic-foot ulcers and skin injuries, which also needs a large-scale implementation, understanding the molecular and cellular effectiveness.

In this special issue, we encourage researchers to submit original research articles and review articles which address the current advancement in stem cell research relative to diabetes and its complications.

Potential topics include but are not limited to the following:

- ▶ A wide range of stem cells sources including embryonic-, induced pluripotent-, adult-, and extraembryonic-stem cells
- ▶ Differentiation into endocrine and/or insulin producing cells
- ▶ Stem cells as a model for diabetes and metabolic disorders pathophysiology
- ▶ Stem cells in diabetes complications, wound healing, tissue regeneration, and cancer
- ▶ Biomaterial and 3-dimensional environment for stem cell differentiation
- ▶ Molecular and cellular mechanisms involved in stem cell differentiation
- ▶ Complications associated with stem cell mediated diabetes therapy
- ▶ Stem cells from diabetic patients as a disease model
- ▶ Stem cells in experimental animal model for diabetes and its complications

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/sci/scdmd/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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