

Editorial

Tissue-Derived Stem Cell Research

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Tissue-derived stem cells (TDSCs) are undifferentiated cells, presented in tissues such as bone marrow, blood vessels, and adipose tissues and with the ability to repair damaged areas by generation of new cells and tissues. TDSCs have proven to be a feasible source of cells for tissue regeneration medicine in recent experimental and clinical studies. Mesenchymal stem cells revealed potential benefits in atherosclerosis [1] and endothelial progenitor cells reduced lung damage and improved lung function [2]. Moreover, there were some reports that suggested that adipose derived stem cells may improve injured lung function [3], infarcted heart function [4], and injured kidney and its function [5]. Regulation of the process to successfully trigger proper differentiation into the desired cell types is important. Moreover, it is more important to confirm safety of transplantation when stem cells are used to treat diseases.

In the present special issue, the significance and possible clinical applications of TDSCs were presented. Some manuscripts described important biochemical cascade underlying the processes of osteogenesis, adipogenesis, angiogenesis, and their possible applications in new therapy development. All findings and experiences of TDSCs research will open up new possibilities for the treatment of various diseases and extend the human life span.

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