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Human Dental Pulp Stem Cells: Isolation, Cultivation and Applications

Guest Editor:

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Message from the Guest Editor

Dental pulp stem cells (DPSCs) are a new source of mesenchymal stem cells. They reside within the dental pulp of immature human teeth and possess a great ability to differentiate into odontoblast-like cells that can regenerate a dentin–pulp complex. DPSCs play an important role in regeneration medicine with their unique properties and advantages. Studies demonstrated that DPSCs show better neuroregeneration and protective ability than bone marrow-derived mesenchymal cells. Furthermore, DPSCs are relatively easy to obtain through a minimally invasive procedure in adults and children without raising ethical issues. These characteristics make DPSCs an ideal stem cell source for clinical regeneration medicine. However, they have been given relatively less attention compared to other stem cell types, that leave many of their unique functions undetermined. Understanding the biological mechanisms of DPSCs and their clinical applications is required for successful DPSC engineering strategies. The scientific knowledge obtained from this Special Issue will provide an important basis for future studies and for creating therapeutic tools that target DPSC in regenerative medicine.



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Special Issue



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