

Special Issue

Genomics and Epigenetics of Stem Cell: An Update

Message from the Guest Editor

Stem cells maintain a delicate balance between self-renewal and differentiation, guided by transcription factor networks and dynamic epigenetic regulation. Chromatin remodeling, DNA methylation, histone modifications, and microRNAs collectively regulate stem cell fate, ensuring reversible gene expression patterns essential for development and tissue homeostasis. This Special Issue examines how genomic and epigenetic mechanisms govern stem cell self-renewal, fate determination, and differentiation, including intrinsic/extrinsic signaling pathways that sustain stemness. A deeper understanding of these features promises to define novel therapeutic strategies for regenerative medicine and disease intervention. We invite original research and reviews addressing genomic and epigenetic regulation in stem cells, with emphasis on chromatin dynamics, epigenetic crosstalk, and molecular pathways shaping cellular identity. Submissions exploring epigenetic interventions, particularly those that deepen our understanding of how altered epigenetic mechanisms enable the development of bioengineered stem cell-based regenerative therapies for diseases, are especially encouraged.

Guest Editor

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Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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