

Special Issue

Epigenetic Mechanisms of Stem Cell Aging

Message from the Guest Editor

This Special Issue seeks to explore the pivotal role of epigenetic mechanisms in regulating stem cell aging and their broader implications for tissue homeostasis and organismal aging. Stem cells are essential for tissue regeneration and repair, but their function declines with age. According to emerging evidence, this is linked to epigenetic alterations, including changes in DNA methylation, histone modifications, and chromatin structure. With the rapid advancement of next-generation epigenomic and transcriptomic technologies, it is now possible to analyze rare stem cell populations at a high level of detail. This Special Issue aims to garner cutting-edge research and reviews that investigate how age-associated epigenetic reprogramming influences stem cell identity, fate decisions, and regenerative potential and how such changes contribute to age-related tissue dysfunction and diseases. By shedding light on the molecular mechanisms underpinning stem cell aging, this collection hopes to inform therapeutic strategies that target epigenetic rejuvenation and delay or reverse age-associated tissue decline.

Guest Editor

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Message from the Editor-in-Chief

Genes is central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fast-moving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised. Why not consider *Genes* for your next genetics paper?

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