Special Issue

Genetics and Epigenetics of Cellular Differentiation

Message from the Guest Editor

Unspecialized cells like stem cells are characterized by their ability to differentiate into different cell types. These processes are determined by genetics, gene expression signatures, and epigenetics, but the mechanisms are not fully characterized. First of all, certain genes are active and inactive, and this can be partially controlled by transcription factors. Different transcription factors can be active and repressed amongst cell types. Epigenetic mechanisms such as histone modifications, including acetylation and methylation, chromatin remodelling, DNA methylation, and non-coding RNA-mediated regulation represent another layer of regulation. In this Special Issue, we aim to uncover novel knowledge on the genetic and epigenetic mechanisms that control cell differentiation. Understanding how stem cells give rise to mature cells will result in effective stem-cell-based therapies.

Guest Editor

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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?

Editor-in-Chief

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