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# Molecular Roadblocks for Cellular Differentiation, Transdifferentiation or Conversion

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**Message from the Guest Editors** 

At all stages of life, cells are continuously subjected to the influence of various factors, usually originating from within the close cellular environment or niche. Maintaining the cell identity can therefore be viewed as an active process counteracting the natural trend to change, and not a passive immovable cellular state. It can be postulated that the regulation of cell fate maintenance is under the influence of molecular roadblocks opposing the intrinsic extrinsic factors promoting the change. The and modulation of these "cell conversion breaks" could prove crucial for treating pathologies characterized by massive cell decay. Moreover, understanding these molecular roadblocks will also improve the in vitro differentiation protocols by uncovering molecular inhibitory signals regulating cell fate switches.

This Special Issue in *Genes* on "Molecular Roadblocks for Cellular Differentiation, Transdifferentiation or Conversion" will address the responding mechanisms to instructive signals, with a focus on molecular brakes regulating cell identity, and thus impacting tissue regeneration or cell differentiation, as described in different experimental models.







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## Message from the Editor-in-Chief

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