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**Manuscript NO:** 53696

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DNA methylation and demethylation link the properties of mesenchymal stem cells: Regeneration and immunomodulation

Xin TY *et al.* DNA methylation links MSCs

Tian-Yi Xin, Ting-Ting Yu, Rui-Li Yang

### Abstract

Mesenchymal stem cells (MSCs) are a heterogeneous population that can be isolated from various tissues, including bone marrow, adipose tissue, umbilical cord blood, and craniofacial tissue. MSCs have attracted increasingly more attention over the years due to their regenerative capacity and function in immunomodulation. The foundation of tissue regeneration is the potential of cells to differentiate into multiple cell lineages and give rise to multiple tissue types. In addition, the immunoregulatory function of MSCs has provided insights into therapeutic treatments for immune-mediated diseases. DNA methylation and demethylation are

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**Cited by:** 15

**Author:** Seunghye Lee, Hyung-Sik Kim, Kyoung...

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## Mesenchymal stem cells and immunomodulation: current ...

[www.nature.com/articles/cddis2015327](http://www.nature.com/articles/cddis2015327)

Jan 21, 2016 · The **unique immunomodulatory properties** of mesenchymal stem cells (**MSCs**) make them an invaluable **cell type** for the **repair of tissue/ organ damage** caused by **chronic inflammation** or **autoimmune disorders**.

**Cited by:** 390

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## Immunomodulation by mesenchymal stem cells and clinical ...

<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2796.2007.01844.x>

**Mesenchymal stem cells** are rare noncycling **cells** in the human bone marrow [9-13]. Positive selection using antibodies that recognize marrow fibroblastic **cells** enrich for a discrete subpopulation of colony forming **cells** that retain the capacity to differentiate into adipose tissue, cartilage and bone in vitro [ 13 - 18 ].

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