

1,060,000 Results

Any time ▾

Fate determination in mesenchymal stem cells: a ...

www.ncbi.nlm.nih.gov › ... › [Stem Cell Res Ther](#) › v.6(1); 2015

Mesenchymal stem cells (MSCs) hold great promise for therapeutic use in regenerative medicine and tissue engineering. A detailed understanding of the **molecular** processes governing **MSC fate determination** will be instrumental in the application of MSCs.

Cited by: 25

Author: Biao Huang, Gang Li, Xiao Hua Jiang

Publish Year: 2015

Small Molecules - STEMCELL Technologies

<https://www.stemcell.com/small-molecules-ip.html> ▾

High-throughput Screening. Regulators of **lineage-specific** differentiation are critical for the realization of regenerative therapies, and high throughput screening methods have identified **small molecules** such as Purmorphamine, a Hedgehog pathway activator that promotes differentiation of **mesenchymal stem cells**, 10,11 IDE1...

Specific differentiation of mesenchymal stem cells by ...

www.ncbi.nlm.nih.gov › ... › [Am J Stem Cells](#) › v.1(1); 2012

Aug 18, 2011 - Keywords: **Mesenchymal stem cells**, **cell fate**, differentiation, **small molecules**
Introduction Stem and progenitor cells are less specialized cells that have both the ability for self-renewal and the potential to differentiate into specialized cells in response to specific signals [1].

Cited by: 10

Author: Heesang Song, Woochul Chang, Byeong-...

Publish Year: 2012

Cell fate determination from stem cells | Gene Therapy

www.nature.com › [gene therapy](#)

May 09, 2002 - **Cell fate determination** from stem cells. ... BM contains several stem cell populations, including **mesenchymal** and ... is independent of ontogenic age and regulatory **molecules** Blood ...

Cited by: 200

Author: A J Wagers, J L Christensen, I L Weissman

Publish Year: 2002

[PDF] Fate determination in mesenchymal stem cells: a ...

<https://stemcellres.biomedcentral.com/track/pdf/10.1186/s13287-015...>

Fate determination in **mesenchymal** stem cells: a perspective from histone-modifying enzymes ... associated with lineage-specific differentiation by **small molecules** has immense potential for the advancement of MSC-based regenerative medicine. ... chromatin effector **molecules** ...

Cited by: 25

Author: Biao Huang, Gang Li, Xiao Hua Jiang

Publish Year: 2015

Name of Journal: *World Journal of Stem Cells*

Manuscript NO: 47741

Manuscript Type: REVIEW

Small molecules for mesenchymal stem cell fate determination

Cheng YH *et al.* Small molecules for MSC fate determination

Abstract

Mesenchymal stem cells (MSCs) are adult stem cells harboring self-renewal and multilineage differentiation potential that are capable of differentiating into osteoblasts, adipocytes, or chondrocytes *in vitro*, and regulating the bone marrow microenvironment and adipose tissue remodeling *in vivo*. The process of fate determination is initiated by signaling molecules that drive MSCs into a specific lineage. Impairment of MSC fate determination leads to different bone and adipose tissue-related diseases, including aging, osteoporosis, and insulin resistance. Much progress has been made in recent years in discovering small molecules and their underlying mechanisms control the cell fate of MSCs both *in vitro* and *in vivo*. In this review, we summarize recent findings in applying small molecules to the trilineage commitment of MSCs, for instance, genistein, medicarpin, and icariin for the osteogenic cell fate commitment; isorhamnetin, risedronate, and arctigenin for pro-adipogenesis; and atractylenolides

Match Overview

Match #	Source	Words	Similarity
1	Internet crawled on 26-Sep-2019 diposit.ub.edu	26 words	<1%
2	Crossref Jordan D. Green, Viktor Tollemar, Mark Dougherty, Zhengji an Yan et al. "Multifaceted signaling regulators of chondro..."	21 words	<1%
3	Crossref Fernando Ugarte, Martin Ryser, Sebastian Thieme, Fernando A. Fierro, Katrin Navratil, Martin Bornhäuser, Sebastia	17 words	<1%
4	Crossref Andrea Augello. "The Regulation of Differentiation in Mesenchymal Stem Cells", <i>Human Gene Therapy</i> , 09/23/2010	17 words	<1%
5	Internet crawled on 17-Dec-2018 ir.uiowa.edu	14 words	<1%
6	Crossref Lecanda, F.. "Impaired intramembranous bone formation in connexin43 null mice", <i>Bone</i> , 199811	13 words	<1%
7	Internet crawled on 17-Dec-2018 worldwidescience.org	13 words	<1%
8	Crossref Cutler, Antony, John Girdlestone, Sally Hopewell, Simon Stanworth, Carolyn Doree, Francesco Dazzi, Vipul Jairath, Cr	13 words	<1%
9	Crossref Barker, Devika, Rupa Chandrasekhar, Malini, Oshika...	12 words	<1%



1,450,000 Results Any time

Fate determination in mesenchymal stem cells: a ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4365520>

Fate determination in mesenchymal stem cells: a perspective from **histone-modifying enzymes** Biao Huang , Gang Li , and Xiao Hua Jiang Key Laboratory for Regenerative Medicine, Ministry of Education, Epithelial Cell Biology Research Centre, School of Biomedical Sciences, Lo Kwee-Seong Integrated Biomedical Sciences Building, Shatin, New Territories, Hong Kong, PR China

Cited by: 28 **Author:** Biao Huang, Gang Li, Xiao Hua Jiang

Publish Year: 2015

Fate determination in mesenchymal stem cells: a ...

<https://stemcellres.biomedcentral.com/articles/10.1186/s13287-015-0018-0>

Mar 19, 2015 · Histone-modifying **enzymes regulate mesenchymal stem cell multi-lineage differentiation**. Indeed, accumulating evidence indicates that **cell fate** and function are **determined** by DNA-binding transcription factors that are regulated more specifically at the epigenetic level, as we learned from **pluripotent stem cells** such as **embryonic stem (ES)**...

Cited by: 28 **Author:** Biao Huang, Gang Li, Xiao Hua Jiang

Publish Year: 2015 **Author:** Biao Huang

Small Molecules - STEMCELL Technologies

<https://www.stemcell.com/small-molecules-lp.html>

Regulators of lineage-specific **differentiation** are critical for the realization of regenerative therapies, and high throughput screening methods have identified small molecules such as **Purmorphamine**, a Hedgehog pathway activator that promotes differentiation of mesenchymal stem cells, 10,11 IDE1 and IDE2 which induce definitive endodermal differentiation of mouse and **human pluripotent stem cells**, 12 and Cardiogenol C, found to induce cardiomyocyte differentiation of **mouse ES cells**...