

11

**Name of Journal:** *World Journal of Stem Cells***Manuscript NO:** 55039**Manuscript Type:** REVIEW

## Autophagy in fate determination of mesenchymal stem cells and bone remodeling

Chen XD *et al.* Autophagy in MSCs and bone remodeling

Xiao-Dan Chen, Jia-Li Tan, Yi Feng, Li-Jia Huang, Mei Zhang, Bin Cheng

### Abstract

Mesenchymal stem cells (MSCs) have been widely exploited as promising candidates in clinical settings for bone repair and regeneration in view of their self-renewal capacity and multipotentiality. However, less is known about the mechanisms underlying their fate determination, which would illustrate their effectiveness in regenerative medicine. Recent evidence has shed light on a fundamental biological role of autophagy in the maintenance of the

### Match Overview

1	Internet 63 words crawled on 15-Sep-2019 <a href="http://link.springer.com">link.springer.com</a>	2%
2	Internet 27 words crawled on 27-Aug-2019 <a href="http://www.tandfonline.com">www.tandfonline.com</a>	1%
3	Crossref 24 words Yang Ma, Meng Qi, Ying An, Liqiang Zhang, Rui Yang, Daniel H Doro, Wenjia Liu, Yan Jin. "Autophagy controls mes...	1%
4	Internet 19 words crawled on 18-Nov-2019 <a href="http://onlinelibrary.wiley.com">onlinelibrary.wiley.com</a>	1%
5	Internet 18 words crawled on 04-Mar-2016 <a href="http://www.intechopen.com">www.intechopen.com</a>	1%
6	Crossref 18 words Nixon, R.A.. "Autophagy failure in Alzheimer's disease-locating the primary defect", <i>Neurobiology of Disease</i> , 201107	1%
7	Internet 16 words crawled on 17-Apr-2016 <a href="http://content.karger.com">content.karger.com</a>	<1%
8	Crossref 15 words Dayong Zhang, Yifan Chen, Xianbin Xu, Haoyi Xiang, Yizhan Shi, Ying Gao, Xiaowen Wang, Xuefan Jiang, Na Li, Jia	<1%
9	Internet 13 words crawled on 26-Jun-2019 <a href="http://www.ijbs.com">www.ijbs.com</a>	<1%
10	Internet 13 words	<1%



Autophagy in fate determination of mesenchymal stem c



391,000 Results

Any time ▼

## [Autophagy and Stem Cells: Self-Eating for Self-Renewal](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7065261)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7065261>

Mar 04, 2020 · **Autophagy** protects cells against metabolic stress and prevents genome instability, cell death and senescence. Through its ability to regulate epigenetic and metabolic programs, **autophagy** can also influence cell fate and regulate stem cell quiescence, activation, differentiation, and self-renewal.

## [Autophagy in Mesenchymal Stem Cell Fate Determination ...](https://www.ndorms.ox.ac.uk/graduate-courses/...)

<https://www.ndorms.ox.ac.uk/graduate-courses/...> ▼

**Autophagy in Mesenchymal Stem Cell Fate Determination** Project Overview Osteoporosis has been widely studied for decades yet ways to reverse bone loss once it has occurred are few and the increasing population age makes this an area of critical research and clinical need.

## [Fate determination in mesenchymal stem cells: a ...](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4365520)

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

**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. Much progress has ...

Cited by: 33

Author: Biao Huang, Gang Li, Xiao Hua Jiang

Publish Year: 2015





ALL

IMAGES

VIDEOS

MAPS

NEWS

SHOPPING

386,000 Results

Any time ▾

## Autophagy in stem cells - PubMed Central (PMC)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3672294>

Jun 01, 2013 · **Autophagy and Mesenchymal Stem Cells.** **Mesenchymal stem cells (MSCs)** are a diverse group of multipotent precursors capable of differentiating to **mesenchymal lineages**, including adipose, **bone**, cartilage and muscle. 120 Although originally isolated from **human bone marrow**, MSCs have also been identified in many other adult tissues including muscles, adipose tissues, kidney, ...

**Cited by:** 203

**Author:** Jun Lin Guan, Anna Katharina Simon, Ma...

**Publish Year:** 2013

## Fate determination in mesenchymal stem cells: a ...

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

Mar 19, 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:** 33

**Author:** Biao Huang, Gang Li, Xiao Hua Jiang

**Publish Year:** 2015

## Autophagy in Mesenchymal Stem Cell Fate Determination ...

<https://www.ndorms.ox.ac.uk/graduate-courses/...>

**Autophagy in Mesenchymal Stem Cell Fate Determination** Project Overview Osteoporosis has been widely studied for decades yet ways to reverse **bone** loss once it has occurred are few and the increasing population age makes this an area of critical research and clinical need.

## Fate decision of mesenchymal stem cells: adipocytes or ...

<https://www.nature.com/articles/cdd2015168>

Feb 12, 2016 · **Mesenchymal stem cells** (MSCs), a non-hematopoietic **stem cell** population first discovered in **bone** marrow, are multipotent **cells** capable of differentiating into mature **cells** of several **mesenchymal** ...

**Cited by:** 350

**Author:** Q Chen, Q Chen, P Shou, C Zheng, M Ji...

**Publish Year:** 2016





Autophagy in fate determination of mesenchymal stem c



ALL

IMAGES

VIDEOS

MAPS

NEWS

SHOPPING

386,000 Results

Any time ▾

## [Autophagy in stem cells - PubMed Central \(PMC\)](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3672294>

Jun 01, 2013 · **Autophagy and Mesenchymal Stem Cells**. **Mesenchymal stem cells (MSCs)** are a diverse group of multipotent precursors capable of differentiating to **mesenchymal lineages**, including adipose, **bone**, cartilage and muscle. 120 Although originally isolated from **human bone marrow**, MSCs have also been identified in many other adult tissues including muscles, adipose tissues, kidney, ...

**Cited by:** 203

**Author:** Jun Lin Guan, Anna Katharina Simon, Ma...

**Publish Year:** 2013

## [Fate determination in mesenchymal stem cells: a ...](#)

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

Mar 19, 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:** 33

**Author:** Biao Huang, Gang Li, Xiao Hua Jiang

**Publish Year:** 2015

## [Autophagy in Mesenchymal Stem Cell Fate Determination ...](#)

<https://www.ndorms.ox.ac.uk/graduate-courses/...>

**Autophagy in Mesenchymal Stem Cell Fate Determination** Project Overview Osteoporosis has been widely studied for decades yet ways to reverse **bone** loss once it has occurred are few and the increasing population age makes this an area of critical research and clinical need.

## [Fate decision of mesenchymal stem cells: adipocytes or ...](#)

<https://www.nature.com/articles/cdd2015168>

Feb 12, 2016 · **Mesenchymal stem cells (MSCs)**, a non-hematopoietic **stem cell** population first discovered in **bone** marrow, are multipotent **cells** capable of differentiating into mature **cells** of several **mesenchymal** ...

**Cited by:** 350

**Author:** Q Chen, Q Chen, P Shou, C Zheng, M Ji...