

ISSN: 2161-6760

Volume 11, Number 1, January 2021



Stem Cell Discovery



ISSN: 2161-6760



9 772161 676004 01

<https://www.scirp.org/journal/scd>

Journal Editorial Board

ISSN: 2161-6760 (Print) ISSN: 2161-6787 (Online)

<https://www.scirp.org/journal/scd>

Editor-in-Chief

Prof. Ming Zhan

The Methodist Hospital Research Institute, USA

Editorial Board (According to Alphabet)

Dr. Fahd Al-Mulla	Kuwait University, Kuwait
Prof. Sayed Amin Mohamed Amer	Cairo University, Egypt
Prof. Anand Anbarasu	VIT University, India
Prof. Jean-François Beaulieu	Université de Sherbrooke, Canada
Dr. Kenneth Richard Boheler	National Institutes of Health, USA
Dr. Dean J. Burkin	University of Nevada School of Medicine, USA
Prof. Arvind Chhabra	University of Connecticut Health Center, USA
Prof. Robert Paul Coppes	University of Groningen, Netherlands
Prof. Francesco Filippini	University of Padua, Italy
Prof. Nicholas R. Forsyth	Keele University Medical School, UK
Prof. Umberto Galderisi	Second University of Napoli, Italy
Dr. Jian-Xin Gao	The Ohio State University, USA
Prof. Pantelis Georgiades	University of Cyprus, Cyprus
Prof. Antonio Giordano	University of Siena, Italy
Dr. Jonathan R. Keller	National Cancer Institute-NIH, USA
Dr. Hitoshi Komuro	Lerner Research Institute, USA
Prof. Jong Eun Lee	Yonsei University, South Korea
Dr. Anskar Yu-Hung Leung	The University of Hong Kong, China
Dr. Yonghe Li	Southern Research Institute, USA
Prof. Guanghui Liu	Chinese Academy of Sciences, China
Prof. Tarik Möröy	Université de Montréal, Canada
Dr. Didier Merlin	Emory University, USA
Dr. Eran Meshorer	The Hebrew University of Jerusalem, Israel
Prof. Chiara Mondello	Institute of Molecular Genetics, Italy
Dr. Janet L. Paluh	College of Nanoscale Science and Engineering, USA
Prof. Cesare Patrone	Karolinska Institute, Sweden
Prof. Elias A. Said	Montreal University, Canada
Prof. Åke Sjöholm	Karolinska Institute, Sweden
Prof. Jin Tao	Soochow University, China
Dr. Stavros Taraviras	University of Patras, Greece
Prof. Christian Templin	University Hospital Zürich, Switzerland
Prof. Marta Tesone	University of Buenos Aires, Argentina
Dr. Kohichiro Tsuji	University of Tokyo, Japan
Dr. Yigang Wang	University of Cincinnati, USA
Prof. Masayoshi Yamaguchi	Emory University School of Medicine, USA

Table of Contents

Volume 11 Number 1

January 2021

**Isolation and *Ex Vivo* Expansion of Human Hematopoietic Stem Cells
Derived from Umbilical Cord Blood**

M. Pang, S. Q. Han, M. Ren, D. W. Guan, T. Y. Kuang, S. X. Liu, Y. S. Liu,

J. P. Chen, F. C. Wang, C. M. Shi, Z. J. Ye.....1

Stem Cell Discovery (SCD)

Journal Information

SUBSCRIPTIONS

The *Stem Cell Discovery* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$69 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2021 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

Copyright for individual papers of the journal:

Copyright © 2021 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: scd@scirp.org

Call for Papers

Stem Cell Discovery

ISSN 2161-6760 (Print) ISSN 2161-6787 (Online)

<https://www.scirp.org/journal/scd>



Stem Cell Discovery (SCD) is an international journal dedicated to the latest advancement of stem cell discovery. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of stem cell discovery. All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy.

Editor-in-Chief

Prof. Ming Zhan

The Methodist Hospital Research Institute, USA

Editorial Board

Dr. Fahd Al-Mulla
Prof. Sayed Amin Mohamed Amer
Prof. Anand Anbarasu
Prof. Jean-François Beaulieu
Dr. Kenneth Richard Boheler
Dr. Dean J. Burkin
Prof. Arvind Chhabra
Prof. Robert Paul Coppes
Prof. Francesco Filippini
Prof. Nicholas R. Forsyth
Prof. Umberto Galderisi
Dr. Jian-Xin Gao

Prof. Pantelis Georgiades
Prof. Antonio Giordano
Dr. Jonathan R. Keller
Dr. Hitoshi Komuro
Prof. Jong Eun Lee
Dr. Anskar Yu-Hung Leung
Dr. Yonghe Li
Prof. Guanghui Liu
Dr. Didier Merlin
Dr. Eran Meshorer
Prof. Chiara Mondello
Prof. Tarik Möröy

Dr. Janet L. Paluh
Prof. Cesare Patrone
Prof. Elias A. Said
Prof. Åke Sjöholm
Prof. Jin Tao
Dr. Stavros Taraviras
Prof. Christian Templin
Prof. Marta Tesone
Dr. Kohichiro Tsuji
Dr. Yigang Wang
Prof. Masayoshi Yamaguchi

Stem Cell Discovery, a peer reviewed journal, provides a forum for prompt publication of original investigative papers and concise reviews. It will include all the primary discoveries from stem cell basic and translational research, specifically including the fields but not limited as the follows:

a) Fields:

- Stem Cell and Diseases
- Stem Cell Development and Differentiation
- Stem Cell Therapy
- Tissue Regeneration

b) All types of stem cells: Adult Tissue Stem Cells (ATSC); Embryonic Stem Cells (ESC); Germline Stem Cells (GSC); Inducible Stem Cells (ISC)

c) Various organisms: from insects to mammalian

We are also interested in: 1) Short reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book reviews—Comments and critiques.

Notes for Intending Authors

Submitted papers should not be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. For more details, please access the website.

Website and E-Mail

<https://www.scirp.org/journal/scd>

E-mail: scd@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Website: <https://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org