

# Advances in Bioscience and Biotechnology



ISSN: 2156-8456



# Journal Editorial Board

ISSN: 2156-8456 (Print) ISSN: 2156-8502 (Online)

<http://www.scirp.org/journal/abb>

---

## Editor-in-Chief

Prof. Abass Alavi

University of Pennsylvania, USA

## Executive Editor-in-Chief

Prof. Roberto Fernández-Lafuente

Consejo Superior de Investigaciones Científicas, Spain

## Managing Executive Editor

Prof. Tingfeng Li

Tulane University, USA

## Editorial Board

Prof. Suleyman I. Allakhverdiev

Russian Academy of Sciences, Russia

Prof. Atsushi Asakura

University of Minnesota, USA

Prof. Sanchita Bandyopadhyay-Ghosh

University of Toronto, Canada

Prof. Susanta K. Behura

University of Notre Dame, USA

Prof. Benoît Chénais

Université du Maine, France

Prof. Mohamed Chahine

Laval University, Canada

Dr. Priya Choudhry

California Institute of Technology, USA

Prof. Alexsandro S. Galdino

Universidade Federal de São João Del-Rei (UFSJ), Brazil

Prof. Mahdi Garelnabi

University of Massachusetts, USA

Dr. Mazeyar Parvinzadeh Gashti

Département de Chimie, Université Laval, Canada

Prof. Mehrnaz Gharaee-Kermani

University of Michigan, USA

Prof. Jane L. Hoover-Plow

Cleveland Clinic Lerner Research Institute, USA

Dr. Basalingappa L. Hungund

Columbia University, USA

Prof. Avinash P. Ingle

SGB Amravati University, India

Prof. Noah Isakov

Ben Gurion University of the Negev, Israel

Prof. Sabzali A. Javadov

University of Puerto Rico, USA

Dr. Shuli Kang

University of Southern California, USA

Prof. Lukasz Kedzierski

Monash University, Australia

Prof. Wan Lee

Dongguk University, South Korea

Dr. Lingyu Li

Stanford University, USA

Dr. Jiyan Ma

Ohio State University, USA

Prof. Manuela Martins-Green

University of California, USA

Prof. James Michael Mathis

Louisiana State University Health Sciences Center, USA

Prof. Subhash C. Mojumdar

University of New Brunswick, Canada

Prof. Pablo Iván Nikel

University of San Martín, Argentina

Prof. Akbar Nikkhah

University of Zanjan, Iran

Prof. David Pimentel

Cornell University, USA

Prof. Kun Qu

Stanford University, USA

Prof. Alireza G. Senejani

Yale University, USA

Dr. Manjunatha Shivaraju

Centre for Regenerative Medicine, Harvard Stem Cell  
Institute, Harvard Medical School, USA

Prof. Ajay Singh

Lystek International Inc., Canada

Prof. Zheng Su

Genentech Inc., USA

Prof. Jinrong Wan

University of Missouri, USA

Prof. Jinfu Wang

Zhejiang University, China

Prof. Zhixiang Wang

University of Alberta, Canada

Dr. Yonggan Wu

Stanford University, USA

Prof. Wanxi Yang

Zhejiang University, China

# Table of Contents

Volume 7    Number 6

June 2016

## **Therapeutic Potential of Bone Marrow Derived Mesenchymal Stem Cells in Modulating Astrocytosis of Surgical Induced Experimental Spinal Cord Injury**

M. A. Elawady, M. M. Elmaghrabi, N. Ebrahim, M. A. Elawady, D. Sabry, A. Shamaa, A. Ragaei.....251

## **Mechanics of Centriole Microtubules**

R. L. Huston.....266

## **Analysis of Nitrogen Dioxide in Environment**

J. Wang, W. Zhang, R. Cao, X. Y. You, H. Lai.....278

## **Effect of Supplementation of *Spirulina platensis* to Enhance the Zinc Status in Plants of *Amaranthus gangeticus*, *Phaseolus aureus* and Tomato**

L. Anitha, G. S. Bramari, P. Kalpana.....289

## **Expression of SAMDC Gene for Enhancing the Shelf Life for Improvement of Fruit Quality Using Biotechnological Approaches into Litchi (*Litchi chinensis* Sonn.) Cultivars**

D. K. Das, M. Prabhakar, D. Kumari, N. Kumari.....300

## **Microscopy Method to Compare Cyst Nematode Infection of Different Plant Species**

R. Kooliyottil, L.-M. Dandurand, B. N. Govindan, G. R. Knudsen.....311

## **Advances in Bioscience and Biotechnology (ABB)**

### **Journal Information**

#### **SUBSCRIPTIONS**

The *Advances in Bioscience and Biotechnology* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published monthly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$89 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

#### **SERVICES**

##### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

##### **Reprints (minimum quantity 100 copies)**

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

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

#### **COPYRIGHT**

##### **COPYRIGHT AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:**

Copyright © 2016 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 © 2016 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.

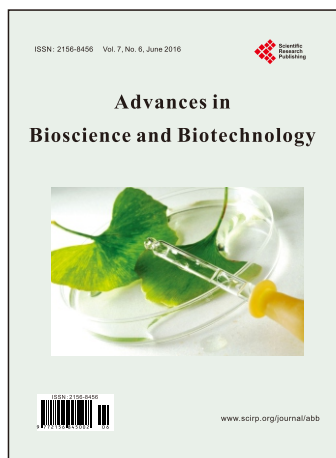
##### **DISCLAIMER OF LIABILITY**

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: [abb@scirp.org](mailto:abb@scirp.org)



**Call for Papers**

# Advances in Bioscience and Biotechnology

ISSN: 2156-8456 (Print) ISSN: 2156-8502 (Online)

<http://www.scirp.org/journal/abb>

**Advances in Bioscience and Biotechnology (ABB)** is an international journal dedicated to the latest advancement of biosciences. 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 biosciences. 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. Abass Alavi**

University of Pennsylvania, USA

## Executive Editor-in-Chief

**Prof. Roberto Fernández-Lafuente**

Consejo Superior de Investigaciones Científicas, Spain

## Managing Executive Editor

**Prof. Tingfeng Li**

Tulane University, USA

## Editorial Board

Prof. Suleyman I. Allakhverdiev	Dr. Mazeyar Parvinzadeh Gashti	Dr. Lingyu Li	Dr. Manjunatha Shivaraju
Prof. Atsushi Asakura	Prof. Mehrnaz Gharaee-Kermani	Dr. Jiyan Ma	Prof. Ajay Singh
Prof. Sanchita Bandyopadhyay-Ghosh	Prof. Jane L. Hoover-Plow	Prof. Manuela Martins-Green	Prof. Zheng Su
Prof. Susanta K. Behura	Dr. Basalingappa L. Hungund	Prof. James Michael Mathis	Prof. Jinrong Wan
Prof. Benoît Chénais	Prof. Avinash P. Ingle	Prof. Subhash C. Mojumdar	Prof. Jinfu Wang
Prof. Mohamed Chahine	Prof. Noah Isakov	Prof. Pablo Iván Nikel	Prof. Zhixiang Wang
Dr. Priya Choudhry	Prof. Sabzali A. Javadov	Prof. Akbar Nikkhah	Dr. Yonggan Wu
Prof. Alessandro S. Galdino	Dr. Shuli Kang	Prof. David Pimentel	Prof. Wanxi Yang
Prof. Mahdi Garelnabi	Prof. Lukasz Kedzierski	Prof. Kun Qu	
	Prof. Wan Lee	Prof. Alireza G. Senejani	

## Subject Coverage

This journal invites original research and review papers that address the following issues in bioscience and biotechnology. Topics of interest include, but are not limited to:

- Aerobiology
- Anthropology
- Biochemical Genetics
- Biochemistry
- Bioinformatics
- Biological Engineering
- Biological Evolution
- Biomathematics
- Biophysics
- Biostatistics
- Botany
- Cytobiology
- Developmental Biology
- Ecology
- Entomology
- Enzyme Engineering
- Genetic Engineering
- Genetics
- Immunology
- Microbiology
- Molecular Biology
- Nano-Bio-Analysis
- Neurobiology
- Pathology
- Physiology
- Protein Engineering
- Radiation Biology
- Virology
- Zoology

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the *ABB*.

## Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. Authors are responsible for having their papers checked for style and grammar prior to submission to ABB. For more details about the submissions, please access the website.

## Website and E-Mail

<http://www.scirp.org/journal/abb>

E-mail: [abb@scirp.org](mailto:abb@scirp.org)