Biomaterials Translational

VOL 03

生物材料转化电子杂志（英文）

Volume 3 Issue 4 December 2022

Additive Layer Manufacturing
Improve dermal adhesion and revascularisation

H_2S-Releasing Biomaterials
Incorporate H_2S donors into biomaterials

Osteoarthritis Animal Models
Use for biomaterial-assisted osteochondral regeneration

ISSN 2096-112X
CN 11-9367/R

Responsible Institution
National Health Commission of the People's Republic of China

Sponsor
Chinese Medical Association
42 Dongsi Xidajie, Beijing 100710, China

Publishing
Chinese Medical Multimedia Press Co. , Ltd.
62 Dongheyan Street, Beijing 100052, China
Tel: 0086-10-51322622

Executed by
Union Hospital Affiliated to Tongji Medical College of Huazhong University of Science and Technology
1277 Jiefang Avenue, Wuhan, Hubei Province, China

Editing
Editorial Office of *Biomaterials Translational*

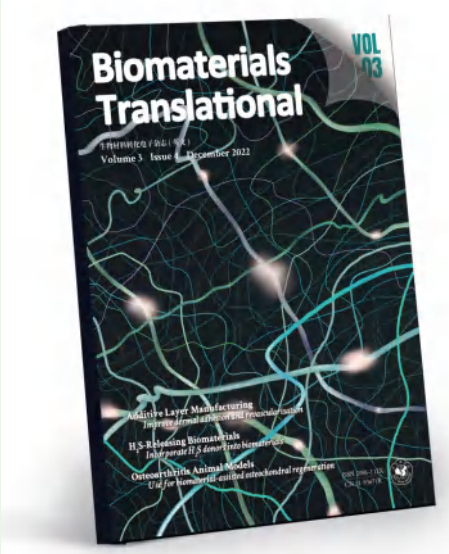
Websites
http://www.biomat-trans.com/

Online Submission
https://www.editorialmanager.com/biomater_transl/

Contact
1277 Jiefang Avenue, Wuhan, Hubei Province, China
Email: editors@biomat-trans.com
Tel: 0086-13437105155

Periodical Registration
ISSN 2096-112X
CN 11-9367/R

Biomaterials Translational is an electronic journal, which will be printed on demand of readers.



To promote cardioprotection and wound healing, many hydrogen sulfide (H2S)-releasing biomaterials have been developed that can deliver H2S molecules, showing as bright silhouettes in the cover illustration, to fine tune the physiological concentrations of H2S in vivo. This is highlighted by Jingyu Fan et al. in their review article on page 250.

Cover image: by Florence R. Wang

Biomaterials Translational is an international journal publishing research at the interface of translational medicine, biomaterials science and engineering. The journal publishes original, high-quality, peer-reviewed papers including original research articles, reviews, viewpoints and comments. Translational medicine is an interdisciplinary field that applies emerging new technologies and sciences to the prevention, diagnosis and treatment of human disease, with a particular focus on animal disease models in the application of biomaterials for treatments. Thus, the journal highlights breakthrough discoveries in basic science and clinical application of biomaterials, as well as other significant findings related to the translation of biomaterials.

The scope of the journal covers a wide range of physical, biological and chemical sciences that underpin the design of biomaterials and the clinical disciplines in which they are used.

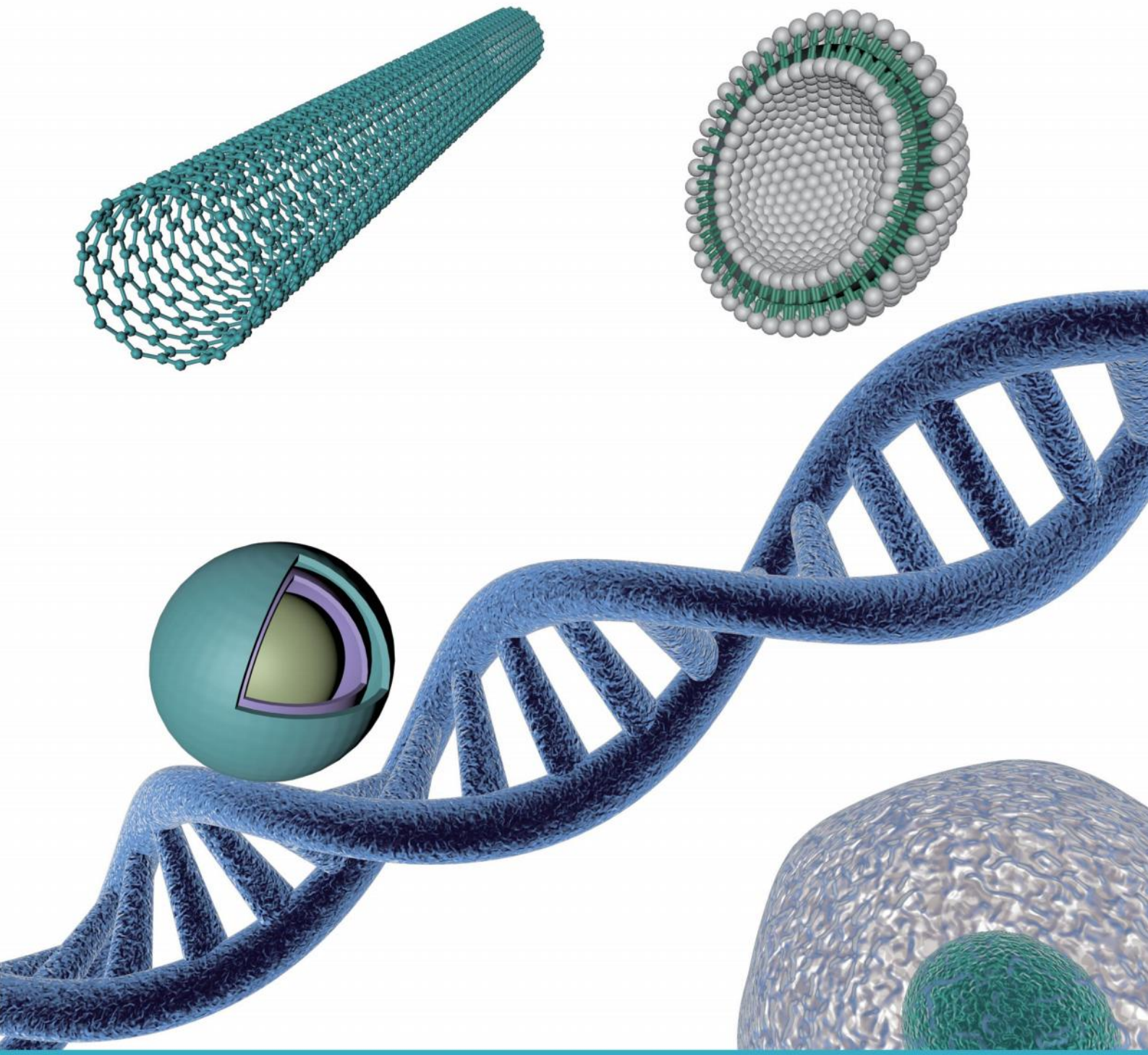
Original articles will be considered for publication within, but not limited to, the following domains:

- Investigation of human biology and pathogenesis of diseases with potential applications of biomaterials in treatment
- Synthesis, characterization and biomedical potential of metallic, ceramic, polymeric, composite and hybrid biomaterials
- Physical, chemical, biological, pharmaceutical and toxicological features of biomaterials
- Drug and gene delivery system design, with a focus on its application to disease conditions
- Short-term and long-term biocompatibility of biomaterials
- *In vivo* disease models and the biology of the host response in application of novel biomaterials
- Biomaterials design for modern diagnosis and therapeutic clinical practice (bioimaging, biosensing, biotherapy)
- Stem cell–biomaterial-based tissue engineering

THE FIRST EDITORIAL BOARD

Biomaterials Translational

The new vehicle of translational medicine:
www.biomat-trans.com



submit your best research at
www.editorialmanager.com/biomater_transl/

ISSN 2096-112X

Biomaterials Translational

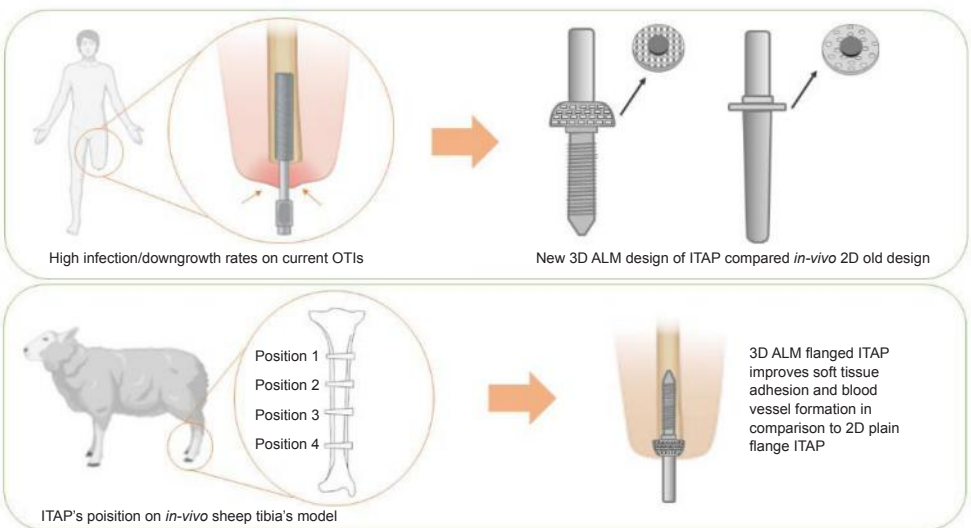
Contents

Quarterly Established in December 2020. Volume 3, Issue 4 December 28, 2022

Editorial

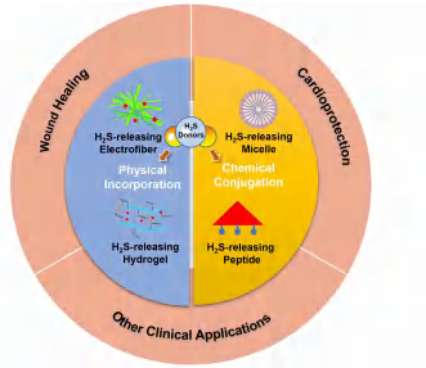
Viewpoints

Research Article

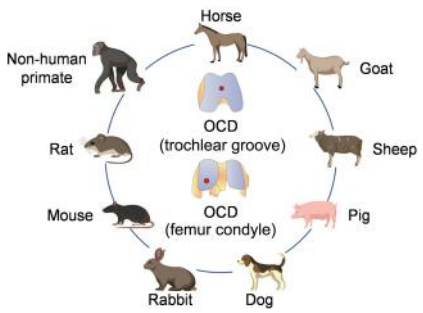


The current osseointegrated transcutaneous implant design has a high rate of infection and soft tissue downgrowth. A three-dimensional additive layer manufacturing (3D ALM) flange design has been compared *in-vivo* to a bi-dimensional one, resulting in an improvement of soft tissue adhesion and blood vessel formation.

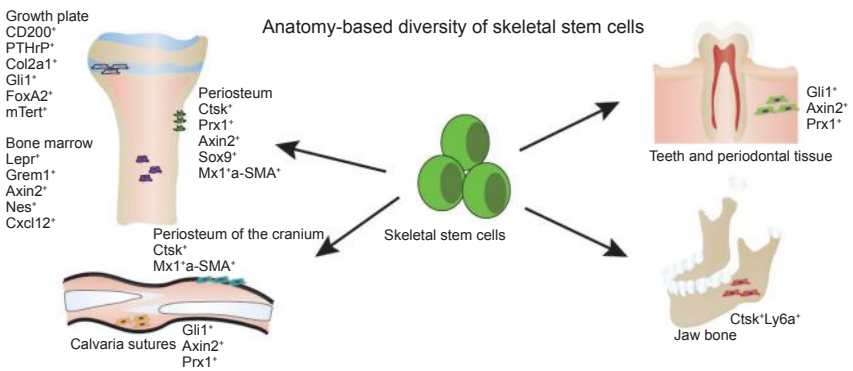
REVIEWS



Two main strategies could be applied in fabrication of hydrogen sulfide (H_2S)-releasing biomaterials, namely, through physical incorporation or chemical conjugation, based on different needs and various environment in treatment, leading to desired H_2S-releasing profiles and corresponding material properties for different applications.



Understanding the characteristics of various osteochondral defect (OCD) models is critical for the study of biomaterial-assisted osteochondral repair. This review aims to elaborate the advantages, the limitations, the surgical procedures, and the novel biomaterial applications that promote OCD repair in different species.



Spatial distributions of skeletal stem cells (SSCs) are currently found in the growth plate, periosteum, and bone marrow of long bones, as well as in craniofacial bones. At present, SSCs can be distinguished by various cell surface markers, and this group of cells mainly contributes to the process of bone regeneration and bone repair. Furthermore, several signalling pathways have also been shown to regulate the SSC niche.