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PM@GS/PCL scaffold
Repair large load-bearing bone defect

PCL/MeHA scaffolds
Inhibit host response and improve angiogenesis

Mg-containing bioceramics
Exhibit excellent osteoinductivity and osteoconductivity

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Editing
Editorial Office of *Biomaterials Translational*

Editors-in-Chief
Changsheng Liu
Shanghai University, China
Zengwu Shao
Huazhong University of Science and Technology, China

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Contact
Shanghai University
99 Shangda Road, Baoshan District, Shanghai, China
Email: editors@biomat-trans.com
Tel: 0086-21-66132181

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

Cell therapy has the potential to revolutionise medicine, but its success relies on the engraftment, survival, and performance of the transplanted cells. This issue introduces a composite scaffold made of poly(ε-caprolactone) and methacrylated hyaluronic acid hydrogel, which shows mild foreign body reaction and intensive angiogenesis after subcutaneous transplantation. Such a scaffold might facilitate the cell engraftment and survival, and maintain the cell functions. The cover image illustrates the composite scaffold structure and its pro-angiogenic ability.

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

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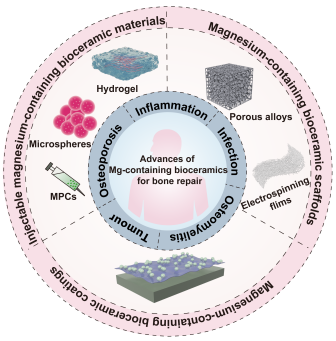

Different kinds of magnesium (Mg)-containing bioceramics, such as Mg-containing bioceramic scaffolds, injectable Mg-containing bioceramic materials and Mg-containing bioceramic coatings, have been regarded as promising biomaterials for bone repair due to their great physiological effects, significant biological functions, stable loading capacity, and great biocompatibility.

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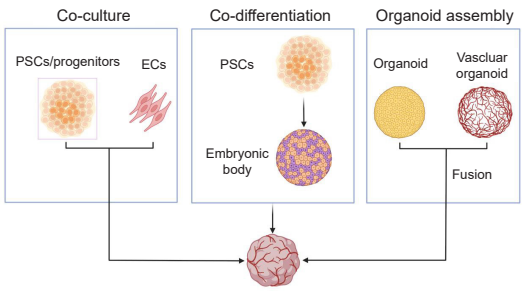
Zhangjie Li, Dingyuan Yu, Chenyang Zhou, Feifan Wang, Kangyi Lu, Yijun Liu, Jiaqi Xu, Lian Xuan, Xiaolin Wang



Currently, there are three main strategies for vascularising organoids, namely the co-culture strategy involving progenitors/pluripotent stem cells and endothelial cells, the mesodermal co-differentiation strategy, and the organoid assembly strategy.

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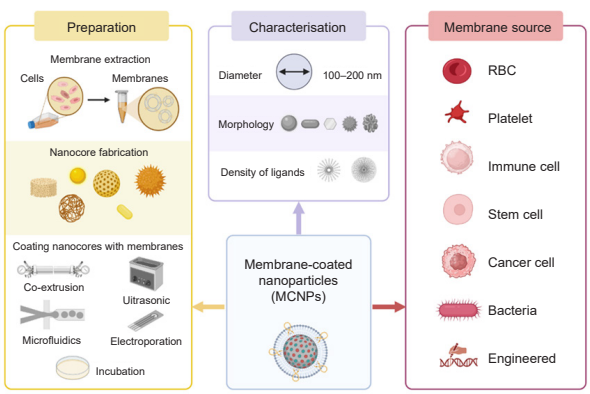

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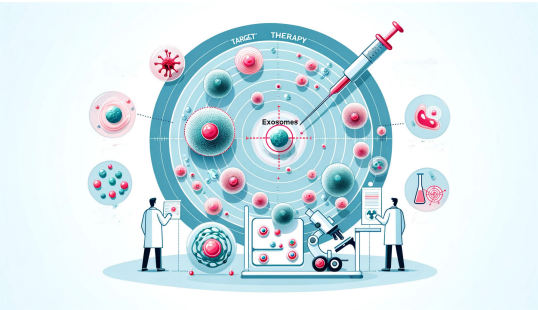
Xiaoxiang Ren, Ruixue Xu, Chenjie Xu, Jiacan Su



The review depicted the innovative landscape of exosome-targeted therapy. It highlighted the intricate mechanisms through which exosomes, the cellular messengers, can be harnessed for therapeutic purposes. It emphasised the potential of this therapy in delivering targeted treatments, thereby revolutionising the management of various diseases.

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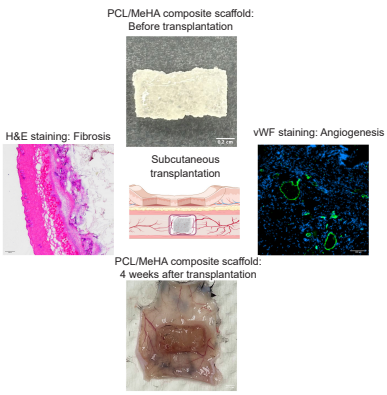
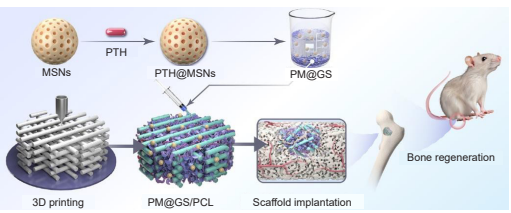
59 **Enhanced angiogenesis in porous poly(ε-caprolactone) scaffolds fortified with methacrylated hyaluronic acid hydrogel after subcutaneous transplantation**
Huaxin Yang, Mengjia Zheng, Yuyue Zhang, Chaochang Li, Joseph Ho Chi Lai, Qizheng Zhang, Kannie WY Chan, Hao Wang, Xin Zhao, Zijiang Yang, Chenjie Xu



A composite scaffold consisting of poly(ε-caprolactone) (PCL) and methacrylated hyaluronic acid (MeHA) hydrogel is prepared. After subcutaneous transplantation in mice, this scaffold exhibits mild foreign body reaction and intensive angiogenesis.

69 **Meticulously engineered three-dimensional-printed scaffold with microarchitecture and controlled peptide release for enhanced bone regeneration**
Jin Yang, Kanwal Fatima, Xiaojun Zhou, Chuanglong He



The polycaprolactone (PCL)-based biocomposite scaffold was constructed by combining of three-dimensional (3D)-printed PCL scaffold and methacrylate gelatin (GelMA)/methacrylated silk fibroin (SFMA) hydrogel with parathyroid hormone (1–34) (PTH) peptide-loaded mesoporous silica nanoparticles (PTH@MSNs). This biocomposite scaffold (PM@GS/PCL) shows a favourable microarchitecture for cells growth and controlled release of PTH peptide to promote bone formation. This scaffold has great potential for the treatment of bone defects.

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