

PATENTS

Regenerative medicine

Recent patents related to organoids, 3D culture and tissue engineering.

Patent number	Description	Assignee	Inventor	Date
US 10,265,155	An implantable device for soft-tissue or soft-tissue-to-bone repair, fixation, augmentation or replacement that includes a biomimetic and biodegradable nanofiber scaffold. Also, a fully synthetic implantable multiphased scaffold that includes, in a single continuous construct, a plurality of phases to mimic the natural anatomy of a tendon or ligament and their insertion sites, and scaffold apparatuses for musculoskeletal tissue engineering.	The Trustees of Columbia University (New York)	Lu HH, Spalazzi J, Moffat KL, Levine WN	4/23/2019
US 10,267,714	An aminoalcohol together with, as necessary, at least one selected from the group consisting of urea and a urea derivative, a nonionic detergent, and sucrose to provide a biological material having an excellent light-transmitting property. The invention provides a technique that allows high-throughput observation of gene expression/localization or cell morphology in tissue at a whole-tissue level.	RIKEN (Wako-Shi, Japan)	Susaki E, Ueda H, Tainaka K	4/23/2019
US 10,254,274	Methods, compositions and devices for making and using three-dimensional biological tissues that accurately mimic native physiology, architecture and other properties of native tissues for use in, among other applications, drug testing, tissue repair and/or treatment, and regenerative medicine.	Radisic M	Miklas J, Radisic M, Thavandiran N, Vasconcelos S, Xiao Y, Zhang B, Zhao Y	4/9/2019
US 10,179,194	Peptides, peptoids and/or peptidomimetics capable of self-assembling and forming a (nanofibrous) hydrogel in biofabrication. Also, methods for preparing hydrogels and continuous fibers, and methods for obtaining multicellular constructs with defined, precise geometrics. The invention relates to various uses of such hydrogels for obtaining mini-hydrogel arrays and 3D organoid structures or 3D macromolecular biological constructs.	Agency for Science, Technology and Research (Singapore)	Hauser C, Loo Y	1/15/2019
US 10,174,289	Methods of inducing formation of gastric cells and/or a gastric tissue, such as in the form of a gastric organoid, by the activating and/or inhibiting of one or more signaling pathways within a precursor cell. Also, methods for using the disclosed gastric cells, gastric tissues and/or gastric organoids derived from precursor cells.	Children's Hospital Medical Center (Cincinnati, OH, USA)	Wells JM, McCracken KW	1/8/2019
US 10,041,047	Cell culture solutions and systems for epithelial stem cell and organoid cultures, formation of epithelial constructs and uses of the same in transplantation.	Massachusetts Institute of Technology (Cambridge, MA, USA), The Brigham and Women's Hospital (Boston)	Karp JM, Yin X, Succi MD, Langer RS	8/7/2019
US 9,856,458	A 3D in vitro biphasic cartilage-bone organoid, including a layer of an artificial cartilage tissue and a layer of an artificial bone tissue comprising a structure-giving scaffold and a bone marrow structure. The layer of the artificial cartilage tissue contacts at least one surface of the layer of the artificial bone tissue.	TissUse GmbH (Berlin)	Rosowski M, Kadler S, Lauster R, Marx U	1/2/2018

Source: United States Patent and Trademark Office (<http://www.uspto.gov>).

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