

1. Record Nr.	UNINA9910563091503321
Titolo	3D Cell Culture [[electronic resource]] : Methods and Protocols // edited by Zuzana Koledova
Pubbl/distr/stampa	New York, NY : , : Springer New York : , : Imprint : Humana, , 2017
ISBN	1-4939-7021-6
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XVI, 452 p. 114 illus., 99 illus. in color.)
Collana	Methods in Molecular Biology, , 1064-3745 ; ; 1612
Disciplina	571.6
Soggetti	Cytology Cell Biology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	3D Cell Culture: An Introduction -- Preparation of Decellularized Biological Scaffolds for 3D Cell Culture -- 3D Cell Culture in Interpenetrating Networks of Alginate and rBM Matrix -- Hydrogel-Based In Vitro Models of Tumor Angiogenesis -- Generation of Induced Pluripotent Stem Cells in Defined Three-Dimensional PEG Hydrogels -- Calcium Phosphate Foams: Potential Scaffolds for Bone Tissue Modelling in Three-Dimensions.oids -- 3d="" fluid-dynamic="" models="" multiple="" myeloma -- preparation="" three-dimensional="" full="" thickness="" skin="" equivalent -- analysis="" breast="" cell="" invasion="" using="" an="" system -- 3d="" the="" brain="" parenchyma="" metastasis="" interface="" metastasis -- 3d="" neural="" in="" dual="" hydrogel="" systems -- 3d="" micro-patterned="" hydrogels="" prepared="" by="" photomask,="" micro-needle,="" or="" soft="" lithography="" techniques -- 3d="" niche="" engineering="" via="" two-photon="" laser="" polymerization -- microfluidic-based="" generation="" collagen="" spheres="" investigate="" multicellular="" spheroid="" invasion -- high-throughput="" sphere="" formation="" culture -- high-throughput="" tumor="" recyclable="" microfluidic="" platform -- high-throughput="" platform="" mesenchymal="" anastomosed="" microvascular="" network="" living="" capillary="" networks="" and="" endothelial="" cell-lined="" channels -- human="" small="" airway-on-a-chip="" protocol -- microfluidic="" bioprinting="" heterogeneous="" tissue=""

constructs -- bioprinting="" decellularized="" extracellular=""
matrix="" bioink -- bioprinting="" cartilage="" peg="" hydrogel --
real-time="" cycle="" imaging="" melanoma -- revealing=""
ultrastructure="" morphology="" spheroids="" electron="" microscopy
-- quantitative="" phenotypic="" image="" analysis="" cultures.

Sommario/riassunto

This book provides an overview of established 3D cell culture assays from leaders in the field. Their contributions cover a wide spectrum of techniques and approaches for 3D cell culture, from organoid cultures through organotypic models to microfluidic approaches and emerging 3D bioprinting techniques, which are used in developmental, stem cell, cancer, and pharmacological studies, among many others. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Comprehensive and cutting-edge, 3D Cell Culture: Methods and Protocols aims to inspire researchers to develop novel 3D cell culture techniques according to their specific scientific needs and interests, leading to a new generation of physiologically relevant and realistic 3D cell cultures. Chapter 15 of this book is available open access under a CC BY 4.0 license.
