

1. Record Nr.	UNINA9910484853603321
Titolo	Basic Concepts on 3D Cell Culture // edited by Cornelia Kasper, Dominik Egger, Antonina Lavrentieva
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-66749-9
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XV, 252 p. 88 illus., 83 illus. in color.)
Collana	Learning Materials in Biosciences, , 2509-6133
Disciplina	571.638
Soggetti	Biotechnology Cytology - Technique Biomedical engineering Regenerative medicine Cytological Techniques Biomedical Engineering and Bioengineering Regenerative Medicine and Tissue Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Introduction to 3D cell culture -- Chapter 2. Lab equipment for 3D cell culture -- Chapter 3. A view from the cellular perspective -- Chapter 4. Biological, natural and synthetic 3D matrices -- Chapter 5. Hydrogels for 3D cell culture -- Chapter 6. Vascularization in 3D cell culture -- Chapter 7. Application of scaffold-free 3D models -- Chapter 8. 10. Microfluidic Systems and Organ (Human) on a Chip -- Chapter 9. 3D-Bioprinting -- Chapter 10. Non-destructive and label-free monitoring of 3D cell constructs.
Sommario/riassunto	This textbook shall introduce the students to 3D cell culture approaches and applications. An overview on existing techniques and equipment is provided and insight into various aspects and challenges that researchers need to consider and face during culture of 3D cells is given. The reader will learn the importance of physiological cell, tissue and organ models and gains important knowledge on 3 D analytics. This textbook deepens selected aspects of the textbook "Cell Culture Technology", which also is published in this series, while offering

extended insight into 3D cell culture. The concept of the textbook encompasses various lectures ranging from basics in cell cultivation, tissue engineering, biomaterials and biocompatibility, in vitro test systems and regenerative medicine. The textbook addresses Master- and PhD students interested and/or working in the field of modern cell culture applications and will support the understanding of the essential strategies in 3D cell culture and waken awareness for the potentials and challenges of this application.
