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Titolo	Extracellular Matrix Omics / / edited by Sylvie Ricard-Blum
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ISBN	3-030-58330-9
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (VIII, 225 p. 22 illus., 20 illus. in color.)
Collana	Biology of Extracellular Matrix, , 2191-1959 ; ; 7
Disciplina	571.5
Soggetti	Bioinformatics Biological transport Cell membranes Analytical chemistry Human physiology Membrane Trafficking Analytical Chemistry Human Physiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: The extracellular matrix goes - omics: resources and tools -- Chapter 2:The matrisome of model organisms: from in-silico prediction to big-data annotation -- Chapter 3: Detecting changes to the extracellular matrix in liver diseases -- Chapter 4: Characterization of Proteoglycanomes by Mass Spectrometry -- Chapter 5: Historical overview of integrated GAG-omics and proteomics -- Chapter 6: Extracellular matrix networks: from connections to functions -- Chapter 7: Integration of Matrisome Omics: Towards System Biology of the Tumor Matrisome -- Chapter 8: Proteomic and degradomic analysis of body fluids: applications, challenges and considerations -- Chapter 9: Regulation of Cell-Matrix Adhesion Networks: Insights from Proteomics -- Chapter 10: Integrative models for TGF- signaling and extracellular matrix.
Sommario/riassunto	This book covers different omics aspects related to the extracellular matrix (ECM), namely specific omics resources focused on the extracellular matrix (e.g., databases, repositories and atlases),

quantitative proteomics applied to specific extracellular matrices (e.g. basement membranes), biological processes such as ECM degradation (degradomics), cell-matrix interactions (adhesomes), signaling pathways, biomarker discovery and diseases, and interactomics (extracellular matrix interaction networks including not only protein-protein but also protein-glycosaminoglycan interactions). The volume also includes recent advances in glycomics and glycobioinformatics applied to proteoglycans and glycosaminoglycans, which are key biological players. The use of omics data to build dynamic models of ECM-regulated biological pathways is addressed, together with the requirement to standardize omic data, which is a prerequisite for the FAIR (Findability, Accessibility, Interoperability, and Reusability) guiding principles for scientific data management. This book will be of great interest to a broad readership from beginners to advanced researchers, who are interested in extracellular matrix omics and will inspire future research topics. .