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   Collana   Biology of Extracellular Matrix, , 0887-3224 ; ; 7

   Disciplina   571.5

   Soggetti   Bioinformatics
                       Cell membranes
                       Analytical chemistry

   Lingua di pubblicazione   Inglese

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   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. .