BioMed Research International

Special Issue on

Impact of Extracellular Matrix on Cellular Behavior: A Source of Molecular Targets in Disease

CALL FOR PAPERS

Over the past decade, extracellular matrices (ECMs) have received significant attention due to their capability to form dynamic networks affecting cell functional properties and (patho) physiological processes. It is now well established that ECMs are not just space-filling materials that provide tissues and organs with mechanical strength, but they also interact with cells and generate signals through feedback loops to control cellular events.

Currently, there are strong indications that ECMs could potentially play a revolutionary role in drug discovery. The established key roles of specific ECM components in the development and progression of several diseases suggest that ECMs hold a great potential in driving the design and development of novel disease targeting tools.

This special issue will be focused on the role and impact of specific extracellular matrix effectors in cellular behavior as well as their potential targeting that could advance the treatment of various diseases, even those for which efficient therapies are not yet available.

To this aim, we invite investigators to contribute original research articles as well as review articles that will help in understanding the matrix pathobiology underlying specific pathologies and the development of matrix-based therapeutic strategies, and the current and expected challenges in this emerging research field that is expanding exponentially.

Potential topics include, but are not limited to:

- Involvement of matrix effectors (proteoglycans, glycosaminoglycans, matrix-degrading enzymes, matricellular proteins, cytokines, collagenous proteins, matrix receptors, and integrins) in the interplays between mechanical and functional properties of ECM and disease (i.e., inflammation, cancer, and vascular/neural/muscular/skeletal diseases) progression and their potential for disease diagnosis and prognosis as well as for developing new tools for disease targeting
- Recent advances and latest technologies to be applied in matrix-based management of disease (i.e., nanomedicine)
- Role of extracellular matrix components in modulating normal cellular processes (i.e., autophagy, senescence, differentiation, and apoptosis) and abnormal ECM (collagen) accumulation in impaired wound healing that could reveal important therapeutic targets for controlling critical processes (i.e., EMT, angiogenesis, and fibrosis) in human pathologies
- Lessons from matrix-mediated cellular functions in model organisms (i.e., *Drosophila*): strategies for developing novel pharmacological agents and tools for disease targeting
- Bioinformatics approaches to characterize and target the regulatory networks formed by matrix effectors and their molecular partners in disease

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/bmri/pharmaceutics/smmt/.

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