Special Issue

Nanofibrous Biomaterials for Biomedicine and Medical Applications

Message from the Guest Editor

Creating an ideal biomaterial for replacing the extracellular matrix (ECM) in 3D cell cultures and tissue engineering provides in vivo-like ECM protein–cell interactions. Cell–ECM interactions are crucial for maintaining cell adhesion, growth, and other functions. Nanofibrous biomaterials exhibit the physical and biological characteristics of the ECM. Recently, 3D cell cultures and tissue engineering of primary cells from tissues in experimental animal models and patients are being investigated to replace stem-cell-derived organoids. This Special Issue aims to define some suitable biomaterials for the construction of 3D cell culture systems and engineered tissues for modeling a specific disease. Platform technology using synthetic and natural biopolymers can be useful in drug screening and delivery, cancer and stem cell research, toxicity tests, and regenerative medicine. Suitable topics include, but are not limited to, the following: the synthesis, characterization, functionalization, and processing of nanofibrous biomaterials and composites for different biomedical applications; polymers for the release of drug and bioactive materials.

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