Special Issue

Development and Biomedical Application of Nanofibers

Message from the Guest Editor

The extracellular matrix (ECM) controls the growth of cells under a three-dimensional (3D) environment in living tissues. A 3D cell culture method is biomimetic and can improve cell culture efficiency because two-dimensional (2D) cell culture has an extracellular environment different from that of living tissues. Nanofiber structure mimics the configuration of native ECM in biological tissues. Thus, nanofibers can provide a 3D architecture in cell culture and tissue engineering. However, an ideal nanofibrous scaffold for ECM replacement should provide in-vivo-like ECM–cell interactions. Many biocompatible and biodegradable natural and synthetic polymers are nanofiber composites for tissue engineering applications. The nanofiber structure and composites may influence cellular behaviors, including cell adhesion, proliferation, and differentiation. However, information regarding the mechanisms underlying these effects of the scaffolds on cellular behavior is limited. Recently, many research groups have developed nanofiber-based 3D cell culture and tissue engineering and its biomedical application. This Special Issue welcomes original research articles and reviews on nanofibers.

Guest Editor

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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