Special Issue

Development of Bio-Inks and Engineering Functional 3D Microenvironments

Message from the Guest Editor

The development of bio-inks and engineering functional 3D microenvironments represent a cutting-edge frontier in molecular research, revolutionizing the field of bioprinting. Bio-inks, which are specialized materials capable of supporting cell growth and organization, are pivotal in 3D bioprinting, enabling the fabrication of complex tissue structures. Molecular research in this context delves into understanding the intricate interplay between cells and their microenvironment, emphasizing the role of biomolecules in guiding cellular behaviour. Researchers are exploring the integration of signalling molecules, extracellular matrix components, and growth factors within bio-inks to precisely mimic native tissue conditions. This approach aims to create bioengineered tissue constructs with enhanced functionality and therapeutic potential. The synergy of molecular insights and advanced bio-ink technologies holds promise for addressing critical challenges in organ transplantation, disease modelling, and personalized medicine, marking a transformative era in regenerative healthcare.

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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