Special Issue

Tumor Microenvironment in Cancer: Basic Science, Artificial Intelligence, and Clinical Research

Message from the Guest Editor

The tumor microenvironment (TME) is a critical determinant of cancer progression, therapy resistance, and immune evasion, making it a key focus for innovative treatment strategies. Achieving a complete response remains challenging due to the persistence of drug-resistant clones supported by the TME and the multiple resistance mechanisms through which the TME counteracts therapy efficacy. The dynamic interactions between cancer stem cells, stromal components, immune infiltrates, and the extracellular matrix (ECM) create a highly adaptive and heterogeneous ecosystem that is difficult to predict and control. While immunotherapies have shown promising results, the TME remains a major barrier to long-term efficacy.

Therefore, innovative research is needed to unravel the complex molecular and cellular landscape of the TME and to identify novel targets to reduce relapse, overcome resistance, and prevent drug-resistant clones.

This Special Issue welcomes reviews and research articles spanning basic science to artificial intelligence approaches aimed at enhancing our understanding of the influence of TME on malignancies and improving therapeutic strategies.

Guest Editor

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Biomedicines (ISSN 2227-9059) is an open access journal devoted to all aspects of research on human health and disease, the discovery and characterization of new therapeutic targets, therapeutic strategies, and research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. Topics include pathogenesis mechanisms of diseases, translational medical research, biomaterial in biomedical research, natural bioactive molecules, biologics, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, and biosimilars. The journal is open for publication of studies conducted at the basic science and preclinical research levels. We invite you to consider submitting your work to Biomedicines, be it original research, review articles, or developing Special Issues of current key topics.

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