

Special Issue

Advances in Single-Cell and Spatial Transcriptomics: Decoding Tumor Heterogeneity and Microenvironment

Message from the Guest Editor

Tumor heterogeneity and microenvironment (TME) interactions drive cancer progression and therapy resistance. Single-cell sequencing (scRNA-seq, scATAC-seq) and spatial transcriptomics resolve the cellular diversity and spatial architecture of tumors at an unprecedented quality. This Research Topic seeks studies leveraging these technologies to decode the molecular mechanisms of oncogenesis, immune evasion, and treatment failure, translating insights into precision oncology. We welcome original research and reviews on the following areas:

- Tumor evolution—clonal dynamics via single-cell multi-omics.
- Spatial TME—immune/stromal interactions, metabolic niches.
- Resistance mechanisms—rare cell states and spatial niches in chemo/immunotherapy resistance.
- Translational innovations—spatial biomarkers, computational tools, and therapeutic targeting.

Guest Editor

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Message from the Editor-in-Chief

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.

Editor-in-Chief

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