

Special Issue

Advances in Next-Generation Sequencing for Aging and Cancer Research

Message from the Guest Editor

Next-generation sequencing (NGS) technologies have revolutionized biomedical research, offering unprecedented resolution and throughput to decode the molecular mechanisms underlying aging and cancer. This Special Issue focuses on the latest advancements in NGS applications that illuminate the complex interplay between genomic, transcriptomic, and epigenomic alterations in aging tissues and cancerous cells. By enabling high-resolution profiling of somatic mutations, gene expression dynamics, and epigenetic modifications, NGS provides critical insights into cellular senescence, tumor evolution, clonal heterogeneity, and age-related disease progression. We welcome contributions that explore novel NGS-based methodologies, bioinformatics pipelines, and translational applications in aging and oncology. Studies leveraging NGS to identify biomarkers, therapeutic targets, or mechanisms of resistance in age-associated cancers are particularly encouraged. This Special Issue aims to bridge the gap between aging biology and cancer genomics, fostering interdisciplinary research that advances precision medicine and healthy aging.

Guest Editor

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