

Special Issue

Novel Liquid Biopsy Biomarkers and Multi-Omic Integration in Metabolic Diseases

Message from the Guest Editor

Metabolic disorders, such as obesity, type 2 diabetes, and non-alcoholic fatty liver disease (NAFLD), represent a growing global health challenge, necessitating advanced tools for early detection and dynamic monitoring. Liquid biopsy has emerged as a powerful, non-invasive approach for uncovering the molecular signatures of metabolic dysregulation. This Special Issue highlights cutting-edge research on diverse circulating biomarkers—including cell-free DNA (cfDNA), extracellular vesicles, circulating RNAs, and proteomic markers—and their roles in disease pathogenesis, prognosis, and therapeutic response. We invite original research and review papers that explore biomarker discovery, analytical innovations (e.g., NGS, fragmentomics, epigenomics), and multi-omic integration using computational tools such as machine learning. Studies emphasizing clinical translation and precision medicine applications are highly encouraged.

Keywords: liquid biopsy; metabolic diseases; cell-free DNA; extracellular vesicles; multi-omics; biomarkers; epigenetics; machine learning; NAFLD

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