

Special Issue

Advances in Molecular Biology Methods in Hepatology Research

Message from the Guest Editors

Recent advances in molecular biology methods have profound implications for deciphering the complexities of hepatology research, specifically in understanding liver function, disease development and novel therapies. The integration of genomic technologies such as Next-Generation Sequencing (NGS), single-cell sequencing, CRISPR-Cas9 and epigenetic studies allow for a more comprehensive analysis of the liver's genomic landscape. Similarly, advancements in single-cell proteomic techniques, including sensitive mass spectrometry and high-throughput proteomics, have made it possible to identify and quantify liver proteins at the cellular level. In addition to advances in genomic techniques, the development of advanced hepatic in vivo models and liver tissue engineering, utilizing technologies such as CRISPR-Cas9, places a clear emphasis on creating humanized organoid models. Overall, these advancements in molecular biology have propelled hepatology research to the next level, offering additional opportunities for efficient diagnosis, treatment, and prevention strategies for hepatic diseases.

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