



Tumor Microenvironment, Immunology and Precision Medicine of Liver Cancer

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Message from the Guest Editor

Hepatocellular carcinoma (HCC) is the most common primary liver cancer. Despite the variety of available treatments ranging from liver transplantation, resection, or locoregional therapies to systemic treatments, the prognosis of HCC remains unsatisfactory. Unlike other cancers, HCC responds less effectively to immunotherapies due to its complex tumor microenvironment (TME). One postulated factor is its deregulated cellular metabolism, which leads to an immune inhibitory TME characterized by elevated lactate and low pH.

Among other immune cells, tumor-associated macrophages (TAMs) can exhibit pro-tumorigenic function when they differentiate towards anti-inflammatory, M2-like subtypes. Given the high plasticity of TAMs, exploring relevant factors in the regulation of macrophage polarization could inform therapeutic decisions and improve the efficacy of immunomodulatory therapies.

In recent years, metabolite alterations, metabolic reprogramming, and potential immunometabolic crosstalk in the TME have attracted increasing attention. This will be beneficial in providing sufficient biological information for the personalized and precise treatment of liver cancer.





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