Special Issue

The Advanced Research on Cancer Immunology

Message from the Guest Editors

Cancer immunology has transformed oncology by unlocking new therapeutic avenues that mobilize the immune system to recognize and eliminate tumors. While approaches such as immune checkpoint inhibitors, adoptive cell transfer, monoclonal antibodies, and therapeutic cancer vaccines have achieved meaningful clinical successes, their effectiveness is often hindered by the immunosuppressive tumor microenvironment (TME). Tumors evade immune destruction through several mechanisms, including upregulation of checkpoint ligands, recruitment of regulatory T cells and myeloid-derived suppressor cells, and secretion of inhibitory cytokines. This chapter highlights current insights into how the TME orchestrates immune suppression, the resulting challenges for immunotherapy resistance, and emerging strategies aimed at overcoming these barriers. A deeper understanding of these processes will be critical for developing next-generation immunotherapies with greater efficacy and long-lasting patient benefit.

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Deadline for manuscript submissions

30 June 2026

Vaccines

an Open Access Journal by MDPI

Impact Factor 3.4
CiteScore 9.9
Indexed in PubMed

mdpi.com/si/253113

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Vaccines (ISSN 2076-393X) has had a 6-year history of publishing peer-reviewed state of the art research that advances the knowledge of immunology in human disease protection. Immunotherapeutics, prophylactic vaccines, immunomodulators, adjuvants and the global differences in regulatory affairs are some of the highlights of the research published that have shaped global health. Our open access policy allows all researchers and interested parties to immediately scrutinize the rigorous evidence our publications have to offer. We are proud to present the work and perspectives of many to contribute to future decisions concerning human health.

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