



Emerging Trends in Chimeric Antigen Receptor (CAR)-Based Cellular Immunotherapies

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Message from the Guest Editors

Adoptive cell therapy (ACT) is an advanced approach to cancer treatment in which a patient's immune cells can be removed, engineered, expanded *ex vivo*, and transferred back into the patient to boost the anti-tumor immune response. The chimeric antigen receptor T (CAR-T) cell is a form of ACT that has revolutionized treatment for hematological malignancies. However, the success of CAR-T therapy for the treatment of solid tumors remains limited due to (1) antigen heterogeneity in solid tumors, (2) T-cell exhaustion, (3) inability to infiltrate solid tumors, or (4) immunosuppressive tumor microenvironment (TME).

We invite the submission of original articles and reviews discussing the emerging trends in CAR-based immunotherapies for solid and hematological malignancies, chimeric engulfment receptor (CER) technology, biomarkers for CAR-based therapies, dendritic cell (DC) and regulatory (Treg) T-cell-based immunotherapies, multiplexing CAR, and CAR-based combination therapies. In addition, novel modalities for *in vivo* CAR therapies (e.g., mRNA-lipid nanoparticles) or pre-clinical investigations are also welcome.





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Editor-in-Chief

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Message from the Editor-in-Chief

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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