Special Issue

Current Advances in mRNA Vaccines for Infectious Diseases and Cancer Immunotherapy

Message from the Guest Editor

mRNA vaccine technology has proven to be an effective medical countermeasure against the COVID-19 pandemic. Over the past two decades, mRNA research labs have dedicated their efforts to gaining a better understanding of this innovative technology. One advantage of mRNA vaccines is their increased safety profile due to the short-lived nature of RNA and the lower risk of integration into the recipient's DNA. However, mRNA's stability may limit its use in infectious diseases and cancer. Implementing innovative approaches to the mRNA platform is important to increase its applications for viruses, cancer, or other diseases for which no valid therapeutics are available. This special issue explores various research areas, such as mRNA structure and stability, different administration routes, the use of adjuvants in mRNA technology, and the application of self-amplifying mRNA-based vaccines. Additionally, considerations on the mechanisms of mRNA vaccine that induce cell-mediated innate and humoral immunity are welcome, as are discussions on ex vivo platforms such as organoids and organ-on-chip systems to study mRNA vaccination.

Guest Editor

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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.

Editor-in-Chief

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