Special Issue

Genetically Engineered Mouse Models in Vaccine Development

Message from the Guest Editors

Mice are the most common model for preclinical evaluation of vaccine safety and efficacy. However, there remain many challenges. Due to the strict host tropism, some pathogens do not naturally infect mice. Furthermore, the mouse immune system cannot reconstitute immune responses by humans. To overcome these problems, a number of recent studies have developed genetically engineered mice (GEM) to test vaccine security and immunogenicity. The use of GEMs has exponentially increased, including knockout mice lacking a murine restriction factor, transgenic mice expressing a viral entry factor, and humanized immune system mice with reduced graft-versus-host disease and functional human B and T cells. These GEMs allow a more physiological study of human-restricted pathogens and novel vaccines. In this Special Issue, we aim to introduce new GEM models and will discuss current progress and future perspectives related to these models in vaccinology. We look forward to receiving your contributions.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Vaccines (ISSN 2076-393X), founded in 2013, now has a firm history of publishing peer-reviewed, state-of-the-art research papers on vaccines and vaccination in the broadest sense. Areas covered include, but are not limited to, novel and emerging vaccine technologies, building on in-depth knowledge of what constitutes a protective immune response. These can be new vaccines for old diseases, or old vaccines for new diseases. Vaccines against cancer and autoimmune diseases explicitly are also within the scope of the journal. Because public opinion and even government policies towards vaccines and vaccination have changed, vaccine policy and public health issues are major concerns. Climate change will also have an impact on the spread of infectious diseases, and thus also on vaccine and vaccination policies worldwide.

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