



Immune Response and Antigen-Specific Personalized Therapeutics in Multiple Sclerosis-the Upcoming Era of Precision Medicine

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Message from the Guest Editors

Multiple sclerosis (MS) is an autoimmune disorder characterized by T cell-mediated demyelination and neurodegeneration of the central nervous system (CNS), whose exact etiology remains unclear. The autoimmune view of MS is strongly supported by the use of the animal *experimental autoimmune encephalomyelitis (EAE)* model, which displays some of the key MS characteristics. During the effector phase, CD4⁺ T cells that recognize antigen proliferate, cross the *blood-brain barrier (BBB)* and subsequently activate macrophages and *microglia* that cause demyelination, oligodendrocyte death, and axon degeneration. As the disease progresses, remyelination and regeneration of oligodendrocyte become inefficient and ultimately fail, resulting in disease progression.

This Special Issue aims at gathering articles *on immune response toward personalized therapeutics in MS*, through the contribution of MS specialists around the world, taking into account the progress in the field in the last two decades.





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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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