



cells



Special Issue Reprint

Cellular and Molecular Mechanisms in Immune Regulation

www.mdpi.com/books/reprint/11885

Edited by

Fábio Rinaldo Santori

Natalia B. Ivanova

ISBN 978-3-7258-5805-7 (Hardback)

ISBN 978-3-7258-5806-4 (PDF)



This is a Reprint of the first edition of the Special Issue on "Cellular and Molecular Mechanisms in Immune Regulation" published by the journal *Cells* in 2024–2025. The reprint starts with a review of the latest advances in molecular mechanisms of immunity and the effect of X chromosome loss in immune function. Next, we focus on autoimmunity by exploring the use of circular RNAs as biomarkers in multiple sclerosis and the role of circulating T cell subsets in Type 1 diabetes. We conclude reviewing the part played by lipid biosynthesis metabolism in the inflammatory response mediated by microglia in neurodegeneration and wound healing in the central nervous system. The importance of Immune regulation for preventive medicine is highlighted by a review on the interactions of T follicular helper cells and B cells and their role in the control of viral infections and vaccine design. Next, we explore how immune cell populations affect the prognosis of cancer patients treated by Immunotherapy using immune check point inhibitors. We conclude this part with an emphasis on tissue resident memory T cells (TRMs) and their potential in the control of cancer metastasis. The Special Issue concludes with articles highlighting the interactions between the environment and the immune system, specifically on the generation of tolerogenic dendritic cells mediated by oxygen tension in tissues and exposure to ultraviolet light (UV) on the skin. Thus, this reprint provides a glimpse of the multi-cellular immunoregulatory networks implicated in autoimmune diseases, infection and cancer as well as during normal interactions with the environment.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/11885

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.