



cells



Special Issue Reprint

Major Histocompatibility Complex (MHC) in Health and Disease

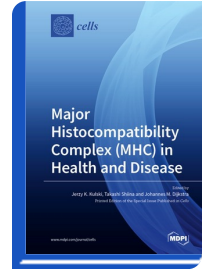
www.mdpi.com/books/reprint/2011

Edited by

Jerzy K. Kulski

Takashi Shiina

Johannes M. Dijkstra



ISBN 978-3-03928-072-8 (Softback)

ISBN 978-3-03928-073-5 (PDF)

The major histocompatibility complex (MHC) is a highly polymorphic and diverse multigene locus in all jawed vertebrate species that has an integral role in adaptive/innate immune systems, transplantation, and infectious and autoimmune diseases. The MHC supra-locus in mammalian vertebrates is usually partitioned into three distinct regions, known as classes I, II, and III, which, to varying extents, can be found conserved in nonmammalian jawed vertebrates, such as bony fish, amphibians, and bird lineages. The MHC gene region is characterized particularly by the expression of class I and class II glycoproteins that bind peptides derived from intracellular or extracellular antigens to circulating T-cells. While this expressed antigenic specificity remains the predominant interest with respect to MHC function and polymorphism in a population, a broader concept has emerged that examines the MHC as a multifunctional polymorphic controller that facilitates and regulates genome diversity with a much greater array of functions and effects than just MHC-restricted antigen recognition. This volume of 19 reprints presented by various experts and collected from the Special Issue of Cells on “MHC in Health and Disease” covers a broad range of topics on the genomic diversity of the MHC regulatory system in various vertebrate species, including MHC class I, II, and III genes; innate and adaptive immunity; neurology; transplantation; haplotypes; infectious and autoimmune diseases; fecundity; conservation; allelic lineages; and evolution. Taken together, these articles demonstrate the immense complexity and diversity of the MHC structure and function within and between different vertebrate species.

Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/2011



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.