antibodies

IMPACT FACTOR 4.7

Indexed in: PubMed

CITESCORE 9.6

Special Issue Reprint

The Role of Complement in Cancer Immunotherapy

www.mdpi.com/books/reprint/4923

Edited by
Ronald P. Taylor

ISBN 978-3-0365-2938-7 (Hardback)
ISBN 978-3-0365-2939-4 (PDF)

The dual role of complement in cancer development and treatment has been investigated extensively and is characterized by a substantial literature that documents conditions in which complement enhances tumor growth or promotes killing of malignant cells. Although direct in vitro complement-dependent cytotoxicity (CDC) of cancer cell lines by FDA-approved mAbs can be readily demonstrated, there are considerable challenges related to translation of these findings to the clinic. These approaches include: optimization of mAb dosing schedules; engineering Fc regions of mAbs to enhance complement activation; treatment with cocktails of mAbs that bind to different sites on targeted cells and therefore synergize in CDC promotion; and neutralizing complement control proteins on malignant cells to weaken their complement defenses. Target sites on malignant cells that have been successfully exploited for mAb-induced CDC include CD20, CD37, CD38, CD52 and Epidermal Growth Factor Receptors. MAbs specific for complement components have served as powerful analytical reagents to investigate detailed mechanisms of CDC, and they have been employed to document complement activation by cancer cells and to examine the role of complement proteins (C1q and fragments of C3 and C5) in supporting tumor growth. The use of polyclonal and mAb reagents has revealed a role for the intracellular complement system in cancer biology and strategies that focus on the interaction of complement with the tumor microenvironment, and examine the impact of the complotype on the response to immunotherapy in cancer should lead to additional mAb-based therapies.

MDPI

Order Your Print Copy
You can order print copies at
www.mdpi.com/books/reprint/4923

MDPI Books

Publishing Open Access Books & Series

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.

MDPI AG
St. Alban-Anlage 66
4052 Basel
Switzerland
Tel: +41 61 683 77 34
www.mdpi.com/books
books@mdpi.com