

Zeitschrift für Naturforschung C

A Journal of Biosciences

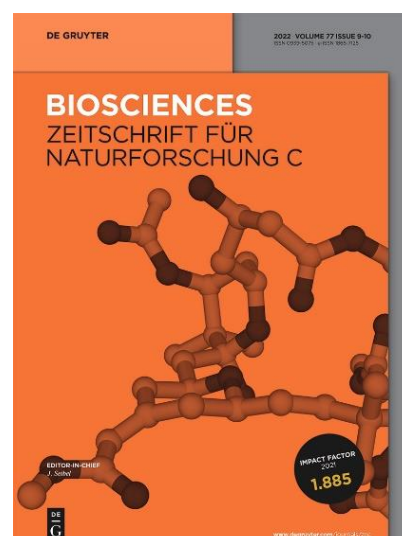
Call for Special Issue Papers

Special Issue on Chitin Structures and Pathways as Targets for Biopesticides and Drugs

Editors: Wilhelm Boland, Klaus Hoffmann

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Chitin is a long-chain polymer of N-acetylglucosamine and the second most abundant polysaccharide in nature. It is a primary component of cell wall in fungi and in the exoskeleton of arthropods, but is also synthesized in some nematodes, mollusks, and lower vertebrates.

In recent years, our understanding of chitin biosynthesis and assembly, chitin degradation and on the regulation of chitin structure formation has greatly increased. Many chemicals have been developed affecting chitin biosynthesis and chitin degradation or disrupt chitin structures. Low-molecular inhibitors such as tebufenozide and diflubenzuron affect the chitin biosynthesis and its regulation, proteins like chitinase, lectins and proteases disrupt chitin structures. Natural products such as allosamidin or psammaplin target chitin degradation. Specific silencing of chitin pathway genes by RNAi inhibits chitin synthesis, whereas baculovirus or tobacco expressed chitinases may reach pest insects through transgenic entomopathogens or transgenic plants. Moreover chitin-precursors and/or metabolites display also important perspectives for the regulation of blood pressure or the treatment of multiple sclerosis.

The ZNC special issue will present novel insights into the low-molecular chemicals and proteins inhibiting chitin biosynthesis and degrading chitin structures, but also into biotechnological approaches serving as a safe chitin-targeted pest management.

A Journal of Biosciences: Zeitschrift für Naturforschung C (ZNC) is a peer-reviewed international scientific journal and a community resource for the emerging field of natural and natural-like products with an Impact factor of 1.885. Original research articles and critical review articles are welcome for the special issue (<https://www.degruyter.com/journal/key/znc/html>). Publication of the special issue is planned for 2024.

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