



toxins

IMPACT
FACTOR
3.9

Indexed in:
PubMed

CITESCORE
7.5

Special Issue Reprint

Identification and Functional Characterization of Novel Venom Components

www.mdpi.com/books/reprint/2680

Edited by
Steven D. Aird

ISBN 978-3-03936-467-1 (Hardback)

ISBN 978-3-03936-468-8 (PDF)



Throughout most of the 20th century, the toxinological literature consisted largely of pharmacological and functional characterizations of crude venoms and venom constituents, often constituents that could not be identified unambiguously. The advent of amino acid composition analysis in the 1950s enabled the first forays into physical characterizations of purified toxins, though these remained few in number until the 1970s. Then, the tryptic and chymotryptic cleavage of venom proteins coupled with manual Edman degradation began to provide the first complete sequences, particularly of three-finger toxins. Polyacrylamide gel electrophoresis and improved resins for liquid chromatography permitted improved purification and better gross structural characterization of venom components. The early 1980s witnessed the advent of automated Edman degradation, and entire sequences of longer proteins began to be reported in the literature. Then, the molecular biology revolution enabled the generation of cDNA sequences of more and larger proteins, followed by mass-spectrometry-based proteomics and quantitative high-throughput DNA sequencing and genomics. Today, we face an unprecedented situation in which our capacity to generate sequence/structural data has completely overwhelmed our capacity to functionally characterize venom constituents. This Special Issue of Toxins includes 11 publications addressing the discovery and functional characterization of novel venom constituents of vertebrate and invertebrate venoms.



Order Your Print Copy

You can order print copies at

www.mdpi.com/books/reprint/2680

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.