

Special Issue

Novel Aspects of Bacterial AB5-Toxins

Message from the Guest Editors

Current important members of the bacterial AB5 toxin family are cholera toxin (Ctx) of *Vibrio cholerae*, pertussis toxin (Ptx) of *Bordetella pertussis*, Shiga toxin (Stx), subtilase cytotoxin (SubAB), and heat-labile Enterotoxin (Lt) of pathogenic *Escherichia coli*. AB5 toxins share a similar architecture as hexamers, consisting of an enzymatic A-subunit and five receptor-binding B-subunits that form a pentamer. Whereas the enzymatic A-subunits execute the toxic effects to their eukaryotic target cells, the B-subunit pentamer guide the holotoxin to the target cells by specific receptor-binding and finally deliver the A-subunits into the cytosol where they meet their substrate molecules. Binding, uptake and intracellular transport of AB5 toxins follow similar rules but are toxin-specific, and already well-described in the literature.

This special issue aims at interesting new aspects of AB5 toxins concerning subunit structures, assembly, binding, uptake, function, and distribution. Moreover, original and review articles dealing with attractive novel approaches to specifically inhibit toxin uptake and thereby intoxication of cells are welcome.

Guest Editors

Prof. Dr. Holger Barth

Institute of Experimental and Clinical Pharmacology, Toxicology and Pharmacology of Natural Products, Ulm University Medical Center, 89081 Ulm, Germany

Prof. Dr. Herbert Schmidt

Institute of Food Science and Biotechnology, Department of Food Microbiology and -hygiene, University of Hohenheim, Garbenstrasse 28, 70599 Stuttgart, Germany

Deadline for manuscript submissions

closed (31 January 2022)



Toxins

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 8.2
Indexed in PubMed



mdpi.com/si/68745

Toxins
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
toxins@mdpi.com

[mdpi.com/journal/
toxins](https://mdpi.com/journal/toxins)





Toxins

an Open Access Journal
by MDPI

Impact Factor 4.0
CiteScore 8.2
Indexed in PubMed



[mdpi.com/journal/
toxins](https://mdpi.com/journal/toxins)



About the Journal

Message from the Editor-in-Chief

Toxinology is an incredibly diverse area of study, ranging from field surveys of environmental toxins to the study of toxin action at the molecular level. The editorial board and staff of *Toxins* are dedicated to providing a timely, peer-reviewed outlet for exciting, innovative primary research articles and concise, informative reviews from investigators in the myriad of disciplines contributing to our knowledge on toxins. We are committed to meeting the needs of the toxin research community by offering useful and timely reviews of all manuscripts submitted. Please consider *Toxins* when submitting your work for publication.

Editor-in-Chief

Prof. Dr. Jay Fox

Department of Microbiology, University of Virginia, Charlottesville, VA,
USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, MEDLINE, PMC, Embase, CAPlus / SciFinder, AGRIS, and other databases.

Journal Rank:

JCR - Q1 (Toxicology) / CiteScore - Q1 (Toxicology)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the first half of 2025).