



toxins



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Potency, Duration of Action, and Pharmacodynamics of Human Neurotoxins

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Message from the Guest Editors

Natural and synthetic neurotoxins utilize numerous mechanisms to intoxicate and persist in their hosts. For example, botulinum neurotoxins (BoNTs) are the most potent protein toxins for humans. BoNTs are produced by the anaerobic spore forming clostridia, primarily *C. botulinum*. Botulism is characterized by long-lasting flaccid paralysis due to the continuous block of neurotransmitter release at neuromuscular junctions. While the overall basis for entry into neurons and mechanism of cleavage and recognition SNARE proteins are similar, individual BoNT serotypes and subtypes differ in potency, onset of symptoms, duration of action, pharmacodynamic behavior, and species specificity. Research into these mechanisms will provide insights in the expansion of BoNT pharmaceutical potential and development of countermeasures and treatment modalities against botulism. This series welcomes primary articles and reviews that address the basis for the biological spectrum of the action of BoNTs and other neurotoxins on neurons, humans, and model systems, utilizing informatics, computational biology, and laboratory-based approaches.



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Special Issue



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