



Editorial

Toxins and potassium channels

Ion channels have been well recognized as important membrane proteins for a variety of cellular functions. They are best known as the fundamental elements in excitable cells like heart, nerve and muscle. In those tissues they generate electrical signals like the resting membrane potential, action potentials or trains of action potentials through which we can perceive and process sensations. In non-excitable tissues ion channels play important roles in a variety of processes like salt and water transport through epithelia, volume regulation, signal transduction and so on. Toxins from a variety of species have been used to characterize and pharmacologically profiling different ion channel types. In addition, the effect of toxins on specific ion channels has had a huge impact on the understanding of the physiological as well as pathophysiological role of different ion channels in cell functions. This special issue of *Toxicon* is devoted to toxins and potassium channels in an effort to recognize the importance of such interactions.

We hope that this special issue on toxins and potassium channels may be of help to those scientists studying either toxins or potassium channels. The contributions presented here provide evidence for the ongoing advances in our understanding of the structure and mechanisms of either toxins or ion channels, as well as their interactions. We expect that this issue will motivate future research efforts studying toxins and ion channels and bring together

scientists studying toxins with those working on ion channels and vice versa. We anticipate that the increasing knowledge of toxin/channel interactions will also accelerate the development of new therapeutic tools for the treatment of a variety of ion channel diseases and may serve as useful diagnostic markers.

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