Kubalski, A., Martinac, B., editors

Bacterial Ion Channels and Their Eukaryotic Homologs

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The editors are affiliated with the Nenski Institute of Experimental Biology, Warsaw and with the University of Queensland, Brisbane. The list of contributors comprises 39 acknowledged experts in molecular biology, biochemistry, molecular physiology, biophysics and related sciences – from USA, Canada, Europe and Australia. As explained in the introduction, ion channels are molecular pores of excitable membranes. The role of ion channels is to facilitate passage of physiologically important ions across cellular membranes. Ion channels thus function in numerous biological processes.

The volume is composed of 14 chapters. It examines the accumulated knowledge of channel structures, and considers how it has advanced the understanding of basic bacterial channel ion properties.

The first compendium of this kind, *Bacterial Ion Channels* provides a historical background and presents an analysis of the structure and function of several types of channels, including potassium, chloride transporters, and sodium ion channels. Discussed are diversity of potassium channels in prokaryotic and eukaryotic cells, selectivity of bacterial ion channels, voltage- and mechano-sensing, molecular modeling and the role of bacterial channels in cell biology. This book presents a multidisciplinary approach and will serve as an important reference for ion channel specialists, as well as a useful introduction to the topic for non-specialists in various branches of biology and microbiology.

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