



Special Issue Reprint

Physiology, Biochemistry, and Pharmacology of Transporters for Organic Cations

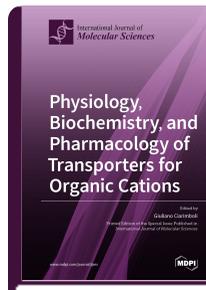
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Membrane transporters are of vital importance for cells. They mediate the flux of many substances through the plasma membrane. In this book, the transporters for organic cations, a special class of membrane transporters, are presented. Transporters belonging to this class are important because they allow many neurotransmitters (e.g., histamine and serotonin) and many drugs (e.g., trospium and tofacitinib) to permeate the plasma membrane. Therefore, transporters for organic cations can modulate the action of neurotransmitters and drugs, having in this way important physiological and pharmacological implications. These aspects are illustrated in original works and reviews presented in this book. Using a system biology approach, the global significance of different transporters working together has been illustrated. Regulation mechanisms determining their expression in specific organs and modulating their function are also described in this book, also concerning their role for special drug toxicities. Such an aspect is also discussed in relationship to mutations (single nucleotide polymorphisms) of transporters for organic cations. Finally, the translational value of studies performed in flies, mice, and rats is discussed. Therefore, this book offers integrative information on transporters for organic cations, which may be of interest to beginners and specialized scientists in this field.



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