



Preface

While historically transporters have not received the attention given to receptors, their study has gained momentum. In the first phase, which started more than 30 years ago, radioligands were used to target transporters; model systems were developed, allowing the study of transporters in isolation; and mathematical models were formulated for the various steps of the transport cycle. In the second phase, over the past 10 years, transporters were cloned, allowing assessment of their function in heterologous expression systems and further characterization of subregions of the transporter protein involved in specific uptake steps or in the recognition of drugs interfering with transport. In the current third stage, transporter structure is being related to function; transporter trafficking and post-translational modification of transporters are being studied; electrophysiological properties of transporters are being uncovered; and transgenic animals underexpressing or overexpressing certain transporters are being created. This special issue of the European Journal of Pharmacology reports on various aspects of transporter research, with emphasis on the pharmacological relevance of targeting transporters.

This special issue covers four topics in the area of transporters. The first and second topics deal with trans-

porters as targets for drug treatment. Thus, how transporters and drugs interact can be studied in terms of their acute inter-relationships and in terms of how the longer-term presence of drugs can regulate the function of transporters. Another crucial interaction is that between transporters and ions. That is the third topic covered in this special issue. The fourth topic covers the role of transporters in health and disease.

The contributors to this special issue are leaders in their research areas and continue to contribute to the development of their specialty. I would like to thank all authors for their highly interesting contributions. I also express my thanks to the editors and staff of the Editorial Office of the European Journal of Pharmacology for their professional support.

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