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Volume 194

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Sensory Nerves

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Preface

The intention of this book is to provide a comprehensive and contemporary review of the biology of sensory nerves. In keeping with the theme of the *Handbook of Experimental Pharmacology* series, emphasis will be placed on the actions of drugs, transmitters and autacoids that initiate or inhibit sensory nerve activation (through actions on ion channels and receptors at their peripheral terminals) or modulate the release or actions of the transmitters released from the central terminals of sensory nerves. On the basis of extensive supportive evidence in the literature, it is our view that many diseases are characterized by alterations in sensory nerve function (e.g. pain, cardiovascular disease and migraine). It is our belief that this book will be unique, as it will comprehensively cover the role of sensory nerves across many therapeutic areas. To address directly one of the editorial board queries, this is not intended to be a book about the pharmacology of pain. That said, to most pharmacologists, pain is the most obvious indication for a role of sensory nerves in disease. We believe that the lessons learnt from the study of neuropathic pain will be invaluable for researchers in the other therapeutic areas covered in this volume. Since most interest has focused on the role of sensory nerves in neuropathic pain, we have added a number of chapters devoted to this subject.

The book is organized in three parts, covering the types and roles of sensory nerves in somatic and visceral disorders (Part I), specific targets on sensory nerves relevant to pain and visceral disorders (Part II) and a description of current and future therapeutic strategies for targeting sensory nerves (Part III).

The first two chapters in Part I are devoted to describing the clinical features of neuropathic pain and visceral pain. Our intention is for the authors to provide a clinical viewpoint on the features of these conditions and the advantages/disadvantages of current treatment modalities. The next five chapters in Part I focus on the role of sensory nerves in other pathological conditions. Several common themes will emerge in this part, including the mode of sensory nerve activation in various tissues and organs, the alterations in sensory nerve excitability associated with disease, and the importance of inflammation and inflammatory mediators in initiating altered sensory nerve function in disease.

Whilst the first part focuses on the clinical and/or systems physiology, Part II has its focus at the cell and molecular level. This part highlights the current understanding of proteins/ion channels/mediators that have created the most intense recent interest in the area of sensory nerve biology. Together, these chapters will give the reader important knowledge about how sensory nerve function can be altered pharmacologically. The last chapter in this part describes the processes that give rise to altered neural reflexes at the central level. The mechanisms described in these chapters reinforce the role of proteins/mediators highlighted in the preceding chapters. The role of these cellular, molecular and physiological processes in the diseases discussed in Part 1 are emphasized.

The aim of Part III is to highlight potential drug targets that might alter sensory nerve function. Most of the work has been devoted to the treatment of neuropathic pain and so this part heavily emphasizes this subject. However, as will be apparent from Part I, many of these targets could be utilized in other therapeutic areas that implicate sensory nerves in their pathophysiological processes. The focus of the chapters is on opioids and modulators of ion channels and then the final chapter is devoted to future treatment strategies for neuropathic pain.

Finally, we would like to thank all the contributors, including co-authors, who agreed to write chapters for this book and the publishers, especially Susanne Dathe, for their patience and assistance.

Baltimore
London

B.J. Canning
D. Spina

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