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Volume 298

# **SENSORY NERVES AND NEUROPEPTIDES IN GASTROENTEROLOGY**

**From Basic Science to  
Clinical Perspectives**

Edited by Marcello Costa,  
Calogero Surrenti, Sergio Gorini,  
Carlo Alberto Maggi, and Alberto Meli

# Sensory Nerves And Neuropeptides In Gastroenterology

**S Marginson**



## **Sensory Nerves And Neuropeptides In Gastroenterology:**

**Sensory Nerves and Neuropeptides in Gastroenterology** Marcello Costa, Calgero Surrenti, Sergio Gorini, Carlo Alberto Maggi, Alberto Meli, 2013-11-21 In the past 15 years much evidence has accumulated which indicates the paramount importance of sensory nerves in regulating functions of the gastrointestinal tract In parallel the attention of researchers in this field has been increasingly attracted to the role played by neuropeptides in the normal and diseased gut Basic research on the peculiar properties of capsaicin the pungent ingredient from plants of the genus *Capsicum* has allowed the gap between these two areas of research to be bridged Since then the study of gut afferents and neuropeptides has become more and more interconnected and recognized as a major avenue to understanding the pathophysiology of various human diseases It is widely recognized that a certain subset of primary afferents synthesize store and release neuropeptides such as tachykinins and calcitonin gene related peptide from their central and peripheral endings the latter being widely distributed in the alimentary canal and related organs liver pancreas The First International Meeting on Sensory Nerves and Neuropeptides in Gastroenterology held in Florence from December 4-5 1989 sponsored and organized by Fondazione Internazionale Menarini aimed to focus the current status of research in this field The contributions presented at the meeting and in this book delineate a suggestive scenario in which sensory nerves of the gut and the multiple messages they carry through the release of neuropeptides are to be considered as a major target for the development of new drugs potentially useful in a number of diseases of the gastrointestinal tract

**Sensory Nerves and Neuropeptides in Gastroenterology** Marcello Costa, Calgero Surrenti, Sergio Gorini, 2014-09-01 Neuropeptide Function in the Gastrointestinal Tract Edwin E. Daniel, 2019-08-15 First published in 1991 This book assimilates and evaluates the rapidly accumulating information regarding neuropeptides in the gut their chemistry genetic control processing in enteric nerves the projections of their nerves their actions at the tissue cell and molecular levels and their roles in controlling gut motility in health and disease *Neuropeptide Function in the Gastrointestinal Tract* is directed to scientists in all disciplines who work with neuropeptides as well as physiologists interested in the neural and smooth muscle actions of neuropeptides

*Physiology of the Gastrointestinal Tract, Two Volume Set* Hamid M. Said, 2012-07-04 *Physiology of the Gastrointestinal Tract* Fifth Edition winner of a 2013 Highly Commended BMA Medical Book Award for Internal Medicine covers the study of the mechanical physical and biochemical functions of the GI Tract while linking the clinical disease or disorder bridging the gap between clinical and laboratory medicine The gastrointestinal system is responsible for the breakdown and absorption of various foods and liquids needed to sustain life Other diseases and disorders treated by clinicians in this area include food allergies constipation chronic liver disease and cirrhosis gallstones gastritis GERD hemorrhoids IBS lactose intolerance pancreatic appendicitis celiac disease Crohn's disease peptic ulcer stomach ulcer viral hepatitis colorectal cancer and liver transplants The new edition is a highly referenced and useful resource for gastroenterologists physiologists internists professional

researchers and instructors teaching courses for clinical and research students 2013 Highly Commended BMA Medical Book Award for Internal Medicine Discusses the multiple processes governing gastrointestinal function Each section edited by preeminent scientist in the field Updated four color illustrations Physiology of the Gastrointestinal Tract Kim E. Barrett, Faye K. Ghishan, Juanita L. Merchant, Hamid M. Said, Jackie D. Wood, 2006-05-10 FROM THE PREFACE The original purpose of the First Edition of Physiology of the Gastrointestinal Tract to collect in one set of volumes the most current and comprehensive knowledge in our field was also the driving force for the Fourth Edition The explosion of information at the cellular level made possible in part by the continued emergence of powerful molecular and cellular techniques has resulted in a greater degree of revision than that of any other edition The first section now titled Basic Cell Physiology and Growth of the GI Tract contains numerous new chapters on topics such as transcriptional regulation signaling networks in development apoptosis and mechanisms in malignancies Most of the chapters in this section were edited by Juanita L Merchant Section II has been renamed Neural Gastroenterology and Motility and has been expanded from seven chapters with rather classic titles to more than twenty chapters encompassing not only the movement of the various parts of the digestive tract but also cell physiology neural regulation stress and the regulation of food intake Almost all of the chapters were recruited and edited by Jackie D Wood The third section is entirely new and contains chapters on Immunology and Inflammation which were edited by Kim E Barrett The fourth section on the Physiology of Secretion consists of chapters with familiar titles but with completely updated information to reflect the advances in our understanding of the cellular processes involved in secretion The last section on Digestion and Absorption contains new chapters on the intestinal barrier protein sorting and ion channels along with those focusing on the uptake of specific nutrients These chapters were recruited and edited by Hamid M Said and Faye K Ghishan Collected in one set the most current and comprehensive coverage of gastrointestinal physiology Information presented in a style that is both readable and understandable Valuable to the specialized researcher the clinical gastroenterologist the teacher and the student Features an entirely new section on Immunology and Inflammation Each section edited by the preeminent scientist in the field **Current Catalog** National Library of Medicine (U.S.), 1992

*Regulatory Mechanisms in Gastrointestinal Function* (1995) Timothy S. Gaginella, 2017-11-22 Regulatory Mechanisms in Gastrointestinal Function includes a collection of contemporary topics in gastrointestinal research The control of gastroduodenal electrolyte transport and the influence of drugs on bicarbonate secretion are reviewed in detail The importance of the interactions between calcium and cyclic AMP in intestinal secretion is emphasized in a comprehensive chapter that systematically addresses each link in the mechanisms that regulate chloride secretion Other important topics included in the book are neural reflex modulation of intestinal epithelial transport the influence of the microcirculation on intestinal secretion and nitric oxide as a mediator of physiologic and pathophysiologic secretion The expertise of the authors has resulted in a breadth of important contemporary topics covered in depth *Innervation of the Gut* Yvette Tache, David L.

Wingate, Thomas F. Burks, 1993-12-02 *Innervation of the Gut* provides a stimulating discussion of gut innervations based on exciting developments generated by advanced neuroanatomical and electrophysiological approaches. All components of the nervous system are covered including central spinal autonomic and enteric systems. This information is relative to secretory motor and immune regulatory functions of the gut as well as visceral sensation. Brain transmitters involved in mediating stress induced alterations of gastrointestinal motor function and the central regulation of vagal outflow to the gut are discussed in detail. The book will stimulate basic scientists and gastroenterologists to expand research efforts that may enable them to unravel the mechanisms of brain gut interactions under physiological and pathological conditions. Students, psychologists and psychiatrists will find *Innervation of the Gut* an essential reference for their studies. *Innervation of the Gastrointestinal Tract* Simon Brookes, Marcello Costa, 2002-06-27 The long tube that makes up the gastrointestinal tract is composed of a variety of tissue types and is the largest internal organ of the body. Its main function is to digest food and absorb the released nutrients. Furthermore, it is subdivided into functionally distinct regions that each mediate one of a variety of actions upon the food consumed. **Cumulated Index Medicus**, 1987 Neuroendocrinology of Gastrointestinal Ulceration Sandor Szabo, Yvette Taché, 2012-12-06 Proceedings of a meeting held in Esterel, Quebec, Canada, September 13-15, 1989. **Psychopharmacology Bulletin**, 1966 *National Library of Medicine Current Catalog* National Library of Medicine (U.S.), 1992 *Gastrointestinal Regulatory Peptides* David R. Brown, 2012-12-06 Since the discovery of the pancreatic secretagogue secretin by W. M. Bayliss and E. H. Starling at the inception of the twentieth century, intense interest has focused on numerous continually expanding classes of small peptides which appear to serve as regulatory molecules in the gastrointestinal tract, brain, and other organ systems. Initially, many of these substances were like secretin, discovered in functional assays as factors or activities extractable in minute quantities from tissues or tissue fluids. By the middle of the century, advances in biochemical and immunological methods for the purification, characterization, and quantification of biologically active peptides in organ systems, tissues, and body fluids provided further impetus to this field. It was readily appreciated that small biologically active peptides were particularly abundant in the digestive tract. Many peptides, such as vasoactive intestinal peptide, gastrin, and more recently peptide YY and galanin, were in fact originally discovered in and isolated from gut tissue. Moreover, these peptides were found to have profound actions on the gastroenteropancreatic system in vivo and in vitro. During the past 2 decades, information on regulatory peptides has burgeoned as a result of technological refinements in the synthesis of peptides, improved methods for detecting and visualizing peptides and their precursors in cells and tissues, advances in the functional assessment of peptide activity, and the application of molecular biological techniques to the characterization of peptide gene structure and expression. **Gastrointestinal Endocrinology** Jr. Greeley, 1998-12-31 Leading clinical and basic science researchers present the latest molecular and cellular findings on key gut peptides, illuminating their physiology and pathophysiology as

well as highlighting the regulatory mechanisms underlying their action in the intestinal tract The book focuses on gut peptide physiology and receptor pharmacology gut processing and receptor biology and on regulatory mechanisms in the gut including pancreatic feedback mechanisms Also included are chapters on the trophic effects of gut peptides on GI and pancreatic cancer the regulation of gut peptide gene expression and gastric secretion especially in diseased states

Neuro-Immuno-Gastroenterology Mr. Rohit Manglik,2023-10-23 Explores the complex interactions between the nervous immune and gastrointestinal systems including gut brain axis signaling and neuro immune regulation

**Psychopharmacology Bulletin** ,1966      **Vascular Innervation and Receptor Mechanisms** Rolf

Uddman,2012-12-02 Vascular Innervation and Receptor Mechanisms New Perspectives reviews the areas of structure function and pathophysiology of the circulatory system The text focuses on the role of neuropeptides and structural function of endothelium The book begins with a brief discussion on the background of autonomic and sensory nerves in the circulatory system which is provided in Chapter 1 Having established the basic studies in the circulatory system the book moves to the discussion on the analysis of peptidergic innervations and peptides in vascular control in various disorders The last part of the book features the clinical applications of neuropeptides perivascular peptides and vasoactive peptides in different diseases and regulation such as cardiovascular regulation hypertension congestive heart failure and migraine and cluster headache The text will be a good reference to both students and professionals in the fields of biology chemistry and medicine

Gastrointestinal Pharmacology Beverley Greenwood-Van Meerveld,2017-04-19 This volume aims to connect current ideas and concepts about GI disorders with the search for novel therapeutics Towards this goal authors provide a timely state of the art overview of the GI tract in health and disease current treatment approaches and ongoing developments in drug discovery and their potential for the better treatment of patients with GI disorders      **Canine and Feline**

**Gastroenterology** Robert J. Washabau,Michael J. Day,2012-04-27 A comprehensive reference standard for the discipline Canine and Feline Gastroenterology covers the biology pathobiology and diagnosis and treatment of diseases of the gastrointestinal pancreatic and hepatobiliary systems An international team of experts including 85 authors from 17 different countries led by Robert Washabau and Michael Day covers everything from minor problems such as adverse food reactions to debilitating inflammatory infectious metabolic and neoplastic diseases of the digestive system This authoritative text utilizes an evidence based approach to reflect the latest science and research complemented by principles of problem solving algorithms to improve clinical diagnoses and extensive full color illustrations For generalists and specialists alike this gastroenterology reference should be part of every serious practitioner s professional library A comprehensive 928 page reference standard covers the discipline of canine and feline gastroenterology An international focus is provided by 85 authors from 17 different countries including renowned experts in veterinary gastroenterology internal medicine pathology clinical pathology radiology and infectious disease Coverage of the entire breadth and depth of gastroenterology ranges from

biology to pathobiology as well as diagnosis and treatment of diseases of the gastrointestinal pancreatic and hepatobiliary systems Current information on GI microflora immunology cellular growth and systems integration provides a foundation for treating clinical problems Coverage of diseases in dogs and cats includes the oral cavity esophagus stomach small intestine large intestine colon anorectum liver and biliary tract exocrine pancreas peritoneum and associated vasculature A focus on patient management examines the full range of procedures and techniques essential to diagnosis and treatment from clinical signs and diagnosis to nutritional support and pharmacologic management of disease Clear explanations of current diagnostic modalities include laboratory tests molecular methods diagnostic imaging endoscopy and histopathology also showing how to interpret and utilize results A strong clinical approach emphasizes need to know information for managing the common and not so common G I clinical problems of everyday practice Full color photographs and illustrations depict concepts conditions and procedures An evidence based medicine perspective reflects the latest research as well as the modern practice of veterinary medicine Logical coherent and consistent internal organization makes this a reader friendly edition Problem based algorithms help in diagnosing every G I clinical problem from A to Z A stand alone section on the pharmacologic approach to G I disease offers quick and easy drug reference

## Unveiling the Power of Verbal Art: An Psychological Sojourn through **Sensory Nerves And Neuropeptides In Gastroenterology**

In some sort of inundated with screens and the cacophony of instantaneous interaction, the profound energy and psychological resonance of verbal beauty frequently fade in to obscurity, eclipsed by the constant barrage of noise and distractions. Yet, nestled within the musical pages of **Sensory Nerves And Neuropeptides In Gastroenterology**, a interesting perform of literary beauty that pulses with natural thoughts, lies an unique trip waiting to be embarked upon. Composed with a virtuoso wordsmith, that exciting opus courses readers on a psychological odyssey, gently revealing the latent possible and profound influence embedded within the complicated web of language. Within the heart-wrenching expanse of this evocative examination, we shall embark upon an introspective exploration of the book is main styles, dissect their charming writing design, and immerse ourselves in the indelible effect it leaves upon the depths of readers souls.

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