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Lipid-Activated Nuclear Receptors Matthew C. Gage 2019 This book covers a wide range of state-of-the-art methodologies and detailed protocols currently used to study the actions that lipid-activated nuclear receptors and their co-regulators have in tissues and immune cell types considered classic metabolic "powerhouses". This includes the liver, adipose tissue, and monocytes/macrophages present in these and other metabolic tissues. While the main focus is on the oxysterol receptor or Liver X Receptor (LXR), the majority of the methods described can be easily applied to multiple nuclear receptors, as well as to other tissues or cell types. Written in the

highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, Lipid-Activated Nuclear Receptors: Methods and Protocols serves as an ideal guide for researchers pursuing the vital study of nuclear receptor biology and beyond.
Biology of Trophoblast Y. W. Loke 1983
Enzymes, Receptors, and Carriers of Biological Membranes A. Azzi 1984-11-01 This manual follows at a distance of 3 years the previous one entitled Mem brane Proteins, and, like its predecessor, it is the result of an International Advanced Course sponsored by FEBS, SKMB and SNG, which was held in Bern in September 1983. The experiments offered to the students in the course had to be largely up· dated or chosen from new areas of membrane research, because of the sub stantial and rapid development of the field. Using the protocols of the course, the participants (graduate students, postdoctoral fellows and also senior scientists), in most cases not at all ex pert in biomembrane research, were able to repeat all the experiments suc cessfully. Those few protocols which for some reason did not fulfill the role we expected were modified. These protocols have now been collected in this manual, which we are able to offer to a number of biology, biochemistry and biophysics laborato ries, hoping that the selected number of methods which have been success fully used during the Advanced Course may be useful to them. This manual is also intented for teachers of practical classes, who may use it as a text book and as source of selected references, collected not in the library, but in the laboratory, from the notebooks of the young researchers who have contributed so much to the success of the Course.
Genetic Manipulation of Receptor Expression and Function Domenico Accili 2000-04-13 Our ability to manipulate the genome of living organisms for the elucidation of gene function in vivo has

improved dramatically over the last decade. Genetic Manipulation of Receptor Expression and Function provides a comprehensive review of the principles and applications for genetic manipulation of receptor expression and function. By providing the necessary conceptual framework of transgenic and knockout technologies, Genetic Manipulation of Receptor Expression and Function offers a concise and easily accessible analysis for researchers. The material reviews the numerous advances in the field of transgenic technology allowing researchers to alter expression and function in the mouse genome. This volume also: * Provides a roadmap to transgenic and knockout methodology * Includes a detailed explanation of the differences between embryonic stem cells and fertilized zygotes * Clarifies the use of a DNA construct to make a transgenic mouse and a targeting vector for a knockout * Reviews the considerable progress in receptor research * Covers rapidly changing aspects in transgenic mouse technology (such as the generation of transgenic mice using large DNA fragments, the role of modifier genes, the importance of behavioral testing in analyzing disease phenotypes, and the growing role of antisense techniques in studies of gene function) Receptor biochemists, neuroscientists, molecular biologists, cell biologists, and molecular geneticists will find Genetic Manipulation of Receptor Expression and Function a useful guide.

The Biology of Nicotine Dependence Gregory R. Bock 2008-04-30 Nicotine is considered to be the main agent in the maintenance of the tobacco smoking habit and is largely responsible for the behavioral and physiological responses to the inhalation of tobacco smoke. This work presents advances made in the elucidation of the action of nicotine in the body--essential information for developing treatments to help people give up smoking. The book reviews the progress made in identifying nicotinic acetylcholine receptors in the brain, using the techniques of molecular biology to characterize receptors and investigate the functional differences between receptors composed

of different types of subunits. Sex-specific differences in the response to nicotine, the effects of nicotine on locomotor activity, and its still-debated influence on cognitive performance are considered. The book also examines the habit-forming role of nicotine, the development of tolerance to nicotine, and the less clearly understood phenomenon of withdrawal. Also discusses some potential therapeutic strategies.

Structure-Function Analysis of G Protein-Coupled Receptors Jürgen Wess 1999-06-15 Structure-Function Analysis of G Protein-Coupled Receptors edited by Jürgen Wess. G protein-coupled receptors (GPCRs) are the largest single class of receptors in biology, playing key roles in a remarkably large number of physiological and pathophysiological conditions. GPCRs or GPCR-dependent signalling pathways are the targets of a very large number of therapeutically useful drugs. Detailed knowledge about the molecular structure of GPCRs should therefore pave the way for the design of novel drugs with increased efficacy and specificity. This volume provides a concise, up-to-date presentation of methods (including molecular genetic, biochemical, and biophysical) which have been used successfully in studying the structure and function of GPCRs. With contributions from international leaders in the field, the editor provides overviews of various techniques, followed by in-depth descriptions of basic procedures and discussions of critical experimental parameters. Divided into specific, accessible sections, Structure-Function Analysis of G Protein-Coupled Receptors includes: * An overview of mutagenesis techniques. * Examples of molecular modeling techniques. * Using peptides as tools for the study of GPCR interactions. * Site-Directed Spin Labeling (SDSL) studies of the GPCR rhodopsin. * A complete description of the electron-crystallographic analysis of two-dimensional rhodopsin crystals. * The use of nuclear magnetic resonance techniques to study GPCR structure. Structure-Function Analysis of G Protein-Coupled Receptors is an invaluable reference for receptor biochemists and biological

chemists, pharmacologists, and neuroscientists as well as molecular biologists, cell biologists, and structural biologists worldwide. Also in this series: Receptor Localization: * Laboratory Methods and Procedures edited by Marjorie A. Ariano. * Identification and Expression of G Protein-Coupled Receptors edited by Kevin R. Lynch.

Receptors Douglas A. Lauffenburger 1996-01-11 Receptors: Models for Binding, Trafficking, and Signaling bridges the gap between chemical engineering and cell biology by lucidly and practically demonstrating how a mathematical modeling approach combined with quantitative experiments can provide enhanced understanding of cell phenomena involving receptor/ligand interactions. In stressing the need for a quantitative understanding of how receptor-mediated cell functions depend on receptor and ligand properties, the book offers comprehensive treatments of both basic and state-of-the-art model frameworks that span the entire spectrum of receptor processes--from fundamental cell surface binding, intracellular trafficking, and signal transduction events to the cell behavioral functions they govern, including proliferation, adhesion, and migration. The book emphasizes mechanistic models that are accessible to experimental testing and includes detailed examples of important contemporary issues. This much-needed book introduces chemical engineers and bioengineers to important problems in receptor biology and familiarizes cell biologists with the insights that can be gained from engineering analysis and synthesis. As such, chemical engineers, researchers, and advanced students in the fields of biotechnology, biomedical sciences, bioengineering, and molecular cell biology will find this book to be conceptually rich, timely, and useful.

The Nuclear Receptor Superfamily: Methods and Protocols Phd Iain J. McEwan 2018-06-15 This volume aims to describe a complementary range of molecular, cell biological, and in vivo protocols used to investigate the structure-function of nuclear receptors, together with experimental

approaches that may lead to new drugs to selectively target nuclear receptor-associated diseases. The Nuclear Receptor Superfamily, Second Edition will benefit those starting out in the nuclear receptor research field as well as to more established researchers who wish to apply different methods to a particular receptor or research problem. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and cutting-edge, The Nuclear Receptor Superfamily, Second Edition aims to ensure successful results in the further study of this vital field.

The Nociceptin/Orphanin FQ Peptide Receptor Mei-Chuan Ko 2019-07-13 The aim of this book is not only to introduce readers with a broad spectrum of biological actions of the NOP receptor, but also to feature a detailed look at the N/OFQ-NOP receptor system, medicinal chemistry, pharmacology, and clinical data of NOP-targeted ligands. This special volume book - for the first time focusing on the NOP receptor - is designed to serve as a useful reference, stimulate more research on the N/OFQ-NOP receptor system, and lead to more development of NOP-related ligands for several therapeutic applications.

Cell Biology by the Numbers Ron Milo 2015-12-07 A Top 25 CHOICE 2016 Title, and recipient of the CHOICE Outstanding Academic Title (OAT) Award. How much energy is released in ATP hydrolysis? How many mRNAs are in a cell? How genetically similar are two random people? What is faster, transcription or translation?Cell Biology by the Numbers explores these questions and dozens of others provid

Insect Pheromone Biochemistry and Molecular Biology Gary Blomquist 2020-09-25 Insect Pheromone Biochemistry and Molecular Biology, Second Edition, provides an updated and

comprehensive review of the biochemistry and molecular biology of insect pheromone biosynthesis and reception. The book ties together historical information with recent discoveries, provides the reader with the current state of the field, and suggests where future research is headed. Written by international experts, many of whom pioneered studies on insect pheromone production and reception, this release updates the 2003 first edition with an emphasis on recent advances in the field. This book will be an important resource for entomologists and molecular biologists studying all areas of insect communication. Offers a historical and contemporary perspective, with a focus on advances over the last 15 years Discusses the molecular and regulatory mechanisms underlying pheromone production/detection, as well as the evolution of these processes across the insects Led by editors with broad expertise in the metabolic pathways of pheromone production and the biochemical and genetic processes of pheromone detection Angiotensin II Receptor Blockade Physiological and Clinical Implications Naranjan S. Dhalla 2012-12-06 The relationship between angiotensin II and hypertension was established in 1898 when angiotensin II was shown to modulate systemic blood pressure. Over the intervening decades, a complete characterization of the renin-angiotensin system (RAS) has been achieved, and our understanding of its biochemistry and physiology has led to the directed development of agents such ·as ACE inhibitors and receptor antagonists capable of controlling hypertension. More recently, it was shown that angiotensin II is secreted within certain tissues and that these tissue-specific systems operate independently of the systemic RAS. The novel concept that angiotensin II regulates a number of cardiovascular processes that are unrelated to blood pressure has renewed the interest of both basic and clinical scientists in angiotensin II. The association between angiotensin II and cardiac growth, in particular, has indicated that therapies currently in use for hypertension may have direct application to the treatment of heart failure. The Manitoba

Cardiovascular Forum on Angiotensin Receptor Blockade in Winnipeg was convened October 18-20, 1996 to examine the clinical and basic aspects of angiotensin receptor biology as they apply to hypertension and heart failure. In addition, the potential treatment of these conditions using specific angio tensin receptor antagonists was addressed within the context of their immediate therapeutic application and future potential.

Serotonin Receptors in Neurobiology Amitabha Chattopadhyay 2007-05-17 A number of developments spanning a multitude of techniques makes this an exciting time for research in serotonin receptors. A comprehensive review of the subject from a multidisciplinary perspective, Serotonin Receptors in Neurobiology is among the first books to include information on serotonin receptor knockout studies. With contributions from leading experts in their fields, the book explores serotonin receptors from a broad-based, multidisciplinary approach. The approaches described vary from molecular biological techniques to fluorescence microscopy and imaging, to genetic manipulation in animal models, providing a wide range of tools to study serotonergic phenomena. While each of these approaches has its own advantages and limitations, the synthesis of information and knowledge achieved from studies using multiple approaches will result in a comprehensive understanding of the underlying complex phenomena involved in serotonergic signaling and its implications in health and disease. The book provides an overall understanding of these receptors based on currently used methodologies and techniques. It describes specific experimental procedures that will be of use to researchers interested in addressing similar problems involving other G-protein-coupled receptor signaling systems.

A3 Adenosine Receptors from Cell Biology to Pharmacology and Therapeutics Pier Andrea Borea 2009-12-01 This book, with its 16 chapters, documents the present state of knowledge of the adenosine A receptor. It covers a wide range of information, including data from 3 studies of

theoretical, molecular and cellular pharmacology, signal transduction, integrative physiology, new drug discoveries and clinical applications. It fills an important gap in the literature since no alternative source of such information is currently available. Although the A receptor is increasingly being recognized for 3 its increasing number of biological roles throughout the body and many A receptor 3 ligands have proven useful in elucidating peripheral and central pathologies, many issues remain unresolved. Moreover, research activity in this field continues to grow exponentially, resulting in a constant flow of new information. The chapters in this book cover both basic science and the relevant applications and provide an authoritative account of the current status of the field. They have enabled my goal as editor to make “A Adenosine Receptors from Cell Biology to Pharmacology and 3 Therapeutics” an up to date, scientifically excellent, reference source, attractive to basic and clinical scientists alike, a reality. Detailed understanding of the physico-chemical aspects and molecular biology of the A receptor provides a solid basis for its future development as a target for 3 adenosine-based pharmacotherapies (Chapters 2 and 3).

The Journal of Cell Biology 1999 No. 2, pt. 2 of November issue each year from v. 19 (1963)-47 (1970) and v. 55 (1972)- contain the Abstracts of papers presented at the Annual Meeting of the American Society for Cell Biology, 3d (1963)-10th (1970) and 12th (1972)-

A Massively Parallel Assay for Understanding Receptor-Ligand Relationships Eric Jones 2018 In this dissertation, I describe the development and application of a multiplexed method for high-throughput screening of receptor-ligand interactions. Such interactions underpin our cells' ability to sense and respond to their environment and represent a primary venue for therapeutic intervention. By leveraging advancements in DNA synthesis, genome editing, and next-generation sequencing, we have built a platform to measure the activity of a mixed population of receptors through RNA-seq of barcoded genetic reporters. We demonstrate the utility of the method for large-

scale identification of chemical-receptor interactions and biochemical characterization of receptor function. First, small molecules can interact with many biological targets in an organism, and uncovering these relationships is critical for modulating their function. Mammalian olfactory receptors (ORs), a large family of G protein-coupled receptors (GPCRs), mediate the sense of smell through activation by odorant small molecules. Each OR can respond to many odorants, and vice versa, making exploring this space one interaction at a time difficult. We used the platform to screen chemicals against a multiplexed library of ORs. We screened three concentrations of 181 odorants, where in each well we record the activity of 39 ORs simultaneously, and identified 79 novel associations, including ligands for 15 orphan receptors. Second, GPCRs are ubiquitous throughout mammalian biology. They are conformationally dynamic which is essential to their function, but makes them recalcitrant to many techniques of structural determination. Here, we mutagenize and characterize all 7,828 possible missense variants of the beta-2-adrenergic receptor. On a broad scale, we find positions that respond similarly to mutation share certain properties of their environment and functional role within the protein. We recapitulate the importance of known critical residues and motifs and identify new residues important for function. Additionally, we describe an unreported, conserved extracellular motif maintained in both the inactive and active conformation of the protein that is essential for function. As a whole, multiplexed screening enables the investigation of many outstanding questions in receptor biology. It is applicable to the disparate biological niches and systems that receptors occupy. As demonstrated in this dissertation, it has the potential to be a powerful tool for mapping receptor-ligand interactions and understanding receptor biochemistry.

Advances in Adrenergic Receptor Biology 2011-08-03 This volume of Current Topics in Membranes focuses on adrenergic receptor biology, beginning with a review of past successes

and historical perspectives then further discussing current general trends in adrenic receptor studies in various contexts. This publication also includes discussions of the role and relationship of adrenergic receptors to different systems and diseases, establishing adrenergic receptor biology as a needed, practical reference for researchers.

Muscarinic Receptors Allison D. Fryer 2012-01-06 Muscarinic acetylcholine receptors have played a key role in the advancement of knowledge of pharmacology and neurotransmission since the inception of studies in these fields, and the effects of naturally occurring drugs acting on muscarinic receptors were known and exploited for both therapeutic and non-therapeutic purposes for hundreds of years before the existence of the receptors themselves was recognized. This volume presents a broad yet detailed review of current knowledge of muscarinic receptors that will be valuable both to long-time muscarinic investigators and to those new to the field. It describes the detailed insights that have been obtained on the structure, function, and cell biology of muscarinic receptors. This volume also describes physiological analyses of muscarinic receptors and their roles in regulating the function of the brain and of a variety of peripheral tissues. This volume shows how the study of muscarinic receptors continues to provide new and surprising insights not just to the cholinergic system but to the broad areas of neurobiology, cell biology, pharmacology, and therapeutics.

Receptors P. Michael Conn 1993 Receptors initiate the means by which cellular regulators exert their actions on targets. Because of the central role of cell-cell communication and signal transduction, receptors are of intrinsic interest to neuroscientists. Receptor studies utilize both traditional methods of analysis and modern molecular techniques. Key Features * Methods presented for easy adaptation to new systems * Comprehensive protocols included for molecular techniques (PCR, cloning, transfection, coupling); techniques for the determination of receptor

subclasses; techniques for localization (in situ hybridization, immunocytochemistry); ligand design (radioactive techniques, biotinylated techniques); receptor-associated kinase * Methodology described for the following receptors: acetylcholine, angiotensin II, bombesin/GRP, dopamine, GABA, G protein-coupled receptors, neurotensin, NGF, NPY, serotonin, somatostatin, tachykinin
The Journal of Cell Biology 1999 No. 2, pt. 2 of November issue each year from v. 19-47; 1963-70 and v. 55- 1972- contain the Abstracts of papers presented at the annual meeting of the American Society for Cell Biology, 3d-10th; 1963-70 and 12th- 1972- .
The Adrenergic Receptors Dianne M. Perez 2007-10-28 An authoritative review of the current state-of-the-art understanding of the structure and function of the adrenergic receptor subtypes, as well as of the role played by these receptors in physiological and pathophysiological settings. Topics range from structure-function studies and the imaging of adrenergic receptors to the use of genetically altered mouse models and pharmacogenomics. Highlights include a survey of the knockout and overexpressed mouse models, a review of the new ways that adrenergic receptors can signal, and the effects of polymorphisms on clinical outcomes and on potential gene therapy applications. The side-by-side comparison of all the adrenergic receptors (a1, a2, and b) provides the reader with an excellent survey of the field, including the rationale for designing better drugs to control blood pressure and heart function.
Molecular Biology of the Cell 2000
DNA and Cell Biology 2009
First International Symposium on Cell Biology and Cytopharmacology, Venice, Italy Francesco Clementi 1971
The Serotonin Receptors Bryan L. Roth 2008-08-17 A comprehensive, state-of-the-art review of our current understanding of the molecular and structural biology of 5-HT receptors and their

potential use for drug discovery. The authors describe the anatomical, cellular, and subcellular distribution of 5-HT receptors and demonstrate a powerful approach to elucidating their physiological role using knockout mice in which the 5-HT receptors were deleted. They also review our understanding of the physiological role(s) of 5-HT receptors based mainly on studies performed in genetically engineered mice. Highlights include discussions of the behavioral phenotypes of 5-HT receptor knockout animals, the molecular biology and pharmacology of 5-HT receptors, and insights into the complexity of 5-HT receptor signal transduction.
Aldosterone-Mineralocorticoid Receptor Brian Harvey 2019-09-25 This book is an open access dissemination of the EU COST Action ADMIRE in Aldosterone/Mineralocorticoid Receptor (MR) physiology and pathophysiology. Aldosterone is the major hormone regulating blood pressure. Alterations in blood levels of aldosterone and genetic mutations in the MR receptor are major causes of hypertension and comorbidities. Many of the drugs in clinical use, and in development for treating hypertension, target aldosterone and MR actions in the kidney and cardiovascular system. The ADMIRE book assembles review chapters from 16 European ADMIRE laboratories providing the latest insights into mechanisms of aldosterone synthesis/secretion, aldosterone/MR physiology and signaling, and the pathophysiological roles of aldosterone/MR activation.
Receptor Biology Michael F. Roberts 2016-03-07 This book is geared to every student in biology, pharmacy and medicine who needs to become familiar with receptor mediated signaling. The text starts with explaining some basics in membrane biochemistry, hormone biology and the concept of receptor based signaling as the main form of communication between cells and of cells with the environment. It goes on covering each receptor superfamily in detail including their structure and evolutionary context. The last part focusses exclusively on examples where thorough knowledge of receptors is critical: pharmaceutical research, developmental biology, neurobiology and

evolutionary biology.Richly illustrated, the book is perfectly suited for all courses covering receptor based signaling, regardless whether they are part of the biology, medicine or pharmacology program.

Molecular Biology of G-Protein-Coupled Receptors M. Brann 2012-04-18 LESLIE L. IVERSEN The present series of volumes is well timed, as the impact of molecular genetics on pharmacology has been profound, and a comprehensive review of the rapid advances of the past decade is much needed. Since the pioneering work of Dale, Ariens, and others in the early years of this century, much of pharmacology has been founded on the concept of receptors. To begin with, the receptor was conceived of as a "black box," which recognized and transduced the biological effects of neurotransmit ters, hormones, or other biological messengers-and which could also represent a target for man-made drugs. It is only in the last two decades that "molecular pharmacology" has blossomed, first with the advent of radioligand binding techniques and second messenger studies which greatly facilitated the biochemical study of drug-receptor interactions, and latterly with increasing knowledge of the molecular architecture of the receptor proteins themselves. This started with the traditional biochemical approach of isolating and purifying the receptor molecules. This proved to be a task of immense technical difficulty because of the low density of receptors in most biological source tissues, although there were some notable successes, e. g. , the purification of the nicotinic acetylcholine receptor from the electric organ of Torpedo. It was the ap plication of molecular genetics technology during the 1980s, however, which really accelerated progress in this field.

G Protein-Coupled Receptors 2019-01-05 G-Protein-Coupled Receptors, Part B, 2nd Edition, Volume 149, the latest release in the Methods in Cell Biology series, continues the legacy of this premier serial with quality chapters authored by leaders in the field. This volume covers Optical

Approaches for Visualization of Arrestin Binding to Muscarinic Receptors, Luciferase Reporter Assay for Unlocking Ligand-mediated Signaling of GPCRs, Assays to Measure GPCR Dependent Cellular Migration, Characterization of the Frizzled GPCRs, Binding Assays for Bradykinin and Angiotensin Receptors, Detection of Misfolded Rhodopsin Aggregates in Cells, Measuring GPCR Ubiquitination and Trafficking, Culture of Primary Neurons and its Use in Studying GPCR Trafficking, and much more. Covers the increasingly appreciated cell biology field of G-protein-coupled receptors Includes both established and new technologies Contributed by experts in the field

Molecular Biology of Steroid and Nuclear Hormone Receptors Leonard Freedman 2012-12-06 Intracellular Receptors: New Instruments for a Symphony of Signals In the late eighteenth century, it was proposed on theoretical grounds that each of the body's organs, beginning with the brain, must be "a factory and laboratory of a specific humor which it returns to the blood", and that these circulating signals "are indispensable for the life of the whole" (Bordeu 1775). During the nineteenth cen tury, some remarkable physiological experiments revealed the actions of humoral factors that affected the for and function of multiple tissues, organs and organ sys tems within the body (Berthold 1849); much later, the chemical and molecular na ture of some of those factors was determined. Against this deep historical backdrop of the founding studies of intercellular signaling, molecular biology sprang into existence a mere forty years ago, rooted in the revelation of regulable gene expression in bacteria. But contemporaneous with those classical analyses of transcriptional regulation of the lactose operon, the mod em era of signal transduction was inaugurated by the identification of cAMP as a second messenger -- an intracellular mediator of hormonal activation of glycogen catabolism (Sutherland and RaII 1960). Later in that same decade, it emerged that cAMP is a critical signal not only in metazoans, but even in bacteria,

where it serves an analogous function as a critical switch that activates expression of genes re quired for catabolism of complex carbon sources, including those of the lactose operon.
Journal of Experimental Biology 2004
The Dynamic Synapse Josef T. Kittler 2006-03-27 Exploring the diverse tools and technologies used to study synaptic processes, The Dynamic Synapse: Molecular Methods in Ionotropic Receptor Biology delineates techniques, methods, and conceptual advances for studying neurotransmitter receptors and other synaptic proteins. It describes a broad range of molecular, biochemical, imaging, and electrophysiological approaches for studying the biology of synapses. Specific topics include the use of proteomics to study synaptic protein complexes, the development of phosphorylation state specific antibodies, post-genomic tools applied to the study of synapses and RNA interference in neurons. In addition, several chapters focus on methods for gene and protein delivery into neuronal tissue. The use of biochemical, electrophysiological and optical tagging techniques to study the movement and membrane trafficking of neurotransmitter receptors in the membrane of live nerve cells are also discussed. To complement these approaches, the application of approaches for achieving long-term alterations in the genetic complement of neurons in vivo using viral vectors or homologous recombination of ES cells are also described.
Steroid Receptor Methods Benjamin A. Lieberman 2001-08-10 This volume of the Methods in Molecular Biology series is entirely devoted to the study of steroid receptor biology. Steroid hormone receptors represent a powerful system for the study of both the most fundamental molecular mec- nisms of gene regulation and control and the gross physiological responses of organisms to steroid hormones. Research in this field has brought forth advances in the treatment of cancer, endocrine disorders, and reproductive biology, and allowed elucidation of the

fundamental biological mechanisms of gene expr- sion. In Steroid Receptor Methods: Protocols and Assays, the reader will find a collection of methods and protocols submitted by many fine steroid receptor researchers from throughout the world. These authors have been instructed to create a highly informative cross-section of the latest research techniques ava- able. The resulting work is timely, useful, and approachable for both the ex- rienced researcher and the novice to the field. Because the steroid receptor family is represented by a wonderfully diverse, yet strongly interrelated set of steroid receptor proteins, Steroid Receptor Methods contains protocols for the prod- tion and purification of a variety of receptor forms, including the progesterone, glucocorticoid, and androgen receptors. These procedures provide the raw ma- rial needed to conduct sophisticated biochemical analysis of receptor properties. Other techniques presented allow the reader to perform biochemical experiments on DNA binding characteristics, hormone binding assays, and protocols using combinatorial chemistry for drug discovery.

Steroid Receptor Methods Benjamin A. Lieberman 2001-08-10 A distinguished team of principal investigators and their associates describe in step-by-step detail a cross-section of the latest research techniques available for studying the endocrine system. As a basis for sophisticated biochemical analysis of receptor properties, the contributors provide methods for the production and purification of a variety of receptors, including progesterone, glucocorticoid, and androgen. Other protocols allow the reader to experiment with DNA binding characteristics, hormone binding assays, and the use of combinatorial chemistry for drug discovery. A series of novel methods utilizing the latest advances in immunochemistry, yeast two-hybrid screening, and fluorescence are included for the detection and analysis of a variety of cellular proteins that influence steroid receptor effectiveness.

Biology of the NMDA Receptor Antonius M. VanDongen 2008-10-29 The NMDA receptor plays a

critical role in the development of the central nervous system and in adult neuroplasticity, learning, and memory. Therefore, it is not surprising that this receptor has been widely studied. However, despite the importance of rhythms for the sustenance of life, this aspect of NMDAR function remains poorly studied. Written by one of the world's leading authorities on NMDA receptors, Biology of the NMDA Receptor brings together virtually all the players in this important field.
Hormonal Biology of Endometrial Cancer George S. Richardson 1978
Molecular Biology of the Cell Bruce Alberts 2004
Fc Receptors Marc Daeron 2014-08-12 This volume provides a state-of-the-art update on Fc Receptors (FcRs). It is divided into five parts. Part I, Old and New FcRs, deals with the long-sought-after Fc?R and the recently discovered FCRL family and TRIM21. Part II, FcR Signaling, presents a computational model of Fc?RI signaling, novel calcium channels, and the lipid phosphatase SHIP1. Part III, FcR Biology, addresses major physiological functions of FcRs, their glycosylation, how they induce and regulate both adaptive immune responses and inflammation, especially in vivo, FcR humanized mice, and the multifaceted properties of FcRn. Part IV, FcRs and Disease, discusses FcR polymorphism, FcRs in rheumatoid arthritis and whether their FcRs make macaques good models for studying HIV infection. In Part V, FcRs and Therapeutic Antibodies, the roles of various FcRs, including Fc?RIIB and Fc?RI, in the immunotherapy of cancer and autoimmune diseases using monoclonal antibodies and IVIg are highlighted. All 18 chapters were written by respected experts in their fields, offering an invaluable reference source for scientists and clinicians interested in FcRs and how to better master antibodies for therapeutic purposes.
Sigma Receptors: Their Role in Disease and as Therapeutic Targets Sylvia B. Smith 2017-03-16
Originally confused with opioid receptors and then orphan receptors with no biological function,

Sigma Receptors are now recognized as relevant to many degenerative diseases with remarkable potential as therapeutic targets. In this text, new information about the structure of sigma 1 receptor, its binding sites are provided as well as its expression in many cell types. It’s putative role in degenerative neuronal diseases including amyotrophic lateral sclerosis, Alzheimer’s disease, Parkinson’s disease, Huntington’s disease, pain, drug addiction and locomotor activity. Their roles in possible treatments for blinding retinal diseases emphasize the tremendous far-reaching potential for ligands for these receptors. Exciting breakthroughs in this dynamic field in the last decade are reported herein, which will guide future investigators in determining the full potential of this unique, yet abundantly expressed protein.
The Journal of Steroid Biochemistry and Molecular Biology 1993-10