Adipose Tissue and Adipokines in Health and Disease-Giandomenico Fantuzzi 2007-11-06 This book presents a comprehensive survey of adipose tissue, its physiological functions, and its role in disease. The volume spans the entire range of adipose tissue studies, from basic anatomical and physiological research to epidemiology and clinical studies. Groundbreaking recent studies are incorporated into traditional models of adipose tissue properties. A description of the role of macrophages in obesity and metabolism in included.

Adipose Tissue as an Organ-Laurance Wilkie Kinsell 1962

The Cellular Secretome and Organ Crosstalk:Jürgen Eckel 2018-06-12 The Cellular Secretome and Organ Crosstalk focuses on the release of peptides and proteins from different organs and their specific functions in metabolic regulation and cell- and organ crosstalk. The book is written for experts in the field, however, for each topic, helpful references are included. The book also includes technical sections that summarize the state-of-the-art of secretome and crosstalk analysis. This book fulfills the need for a resource that comprehensively describes the current knowledge of secretome biology in health and disease. Communication between different organs involves lipids and other small molecules and a host of proteins and peptides comprising the secretome of different organs (organokinome). More than 600 adipokines have been identified, and an increasing number of hepatokines and myokines have recently been discovered with mostly unknown physiological impact. Importantly, an aberrant signature of the organokinome may be critically underlining a variety of metabolic diseases and may determine the individual susceptibility to disease development. Summarizes our current knowledge on the secretome of different cells and tissues (Dissescto-, para- and endocrine functions of major secreted peptides and proteins) Analyzes the secretary malfunction of different cells and its impact for disease development Authored by a leader in the field, presenting a coherent view on this very complex topic.

Obesity, Type 2 Diabetes and the Adipose Organ-Saverio Cinti 2018-02-22 This richly illustrated book provides a detailed description of the gross anatomy, light microscopy, immunohistochemistry, and electron microscopy of the adipose organ, which comprises subcutaneous and visceral fat depots. Findings in mice of differing genetic backgrounds (obesity prone and resistant) and maintained in standard and various physiologic and pathologic conditions are presented. The latter conditions include chronic cold exposure, warm exposure, fasting, pregnancy-lactation, and obesity. Features of the fetal adipose organ are described in a separate chapter, and results from transgenic mice are also presented when relevant. The human adipose organ is addressed in several chapters that include magnetic resonance and fetal findings. Most of the results regarding the adipose organ anatomy in different physiologic conditions are new, and the story of pink adipocytes (white-to-pink transdifferentiation) is quite innovative. The concept of using brown adipose as a therapeutic tool for obesity must take into consideration the anatomic and morphologic aspects described here, and the study of pink adipocytes could lead to a better comprehension of breast cancer tumor biology. This book will be of interest to all scientists who deal with obesity and related disorders.

Special issue: Adipose tissue: 2000

Health, United States 2014-Health and Human Services Department 2015-07-27 This annual report assesses the nation's health by presenting trends and current information on selected measures of morbidity, mortality, health care utilization and access, health risk factors, prevention, health insurance, and personal health care expenditures.

Adipose Tissue: Which Role in Aging and Longevity?-Antonello Lorenzini 2020-09-18

Adipose Tissue and Adipokines in Health and Disease-Todd Leff 2010-03-19 This timely and most comprehensive reference available on the topic covers all the different aspects vital in the fight against the global obesity epidemic. Following a look at adipose tissue development and morphology, the authors go on to examine its metabolic and endocrine functions and its role in disease. The final section deals with comparative and evolutionary aspects of the tissue. The result is an essential resource for cell and molecular biologists, pathologists, biotechnologists, and those working in the pharmaceutical industry.

Adipose Tissue as an Endocrine Organ-Christoph A. Meier 2005

Adipose Tissue Biology-Michael E. Symonds 2017-04-03 The past decade has seen an exponential increase in our knowledge and understanding of adipose tissue biology. This has coincided with the continued rise in obesity across all generations. Clearly despite substantial advances in research into adipose tissue this still has had limited impact on the on-going obesity epidemic across a majority of countries in the world. This book brings together many leading experts in the field to provide an up to date and comprehensive review of the key aspects of adipose tissue. It therefore includes chapters on evolution, development and inflammation together with a detailed review of brown and beige adipose tissue biology and their potential significance in preventing or combating obesity. These chapters are complemented by those on genetics and gender influences, together with nutrition through the life cycle. Ultimately the book provides an overview of the complexities of adipose tissue biology and the continuing challenge to combat obesity in the 21st century.

Adipose Tissue-2019-11-06 Adipose tissue, a kind of connective tissue, plays different and significant roles in the human body. Its function includes protection against environmental factors, storage of lipids and triglycerides, and the process of thermogenesis. It is also involved in the secretion of highly active biomolecules such as steroid hormones, prostaglandins, as well as proteins called adipokines. On the other hand, disturbances in functions of adipose tissue may cause several pathologies such as obesity and insulin resistance. Obesity is a worldwide health problem, whereas diabetes mellitus due to insulin resistance is defined by the World Health Organization as "a progressive worldwide epidemic. " Especially dangerous is visceral accumulation of adipose tissue. This book describes a series of up-to-date topics about physiological and pathological processes in adipose tissue.

Adipose Tissue and Inflammation-Atif B. Awd 2009-10-08 The American Obesity Association identifies obesity's link to numerous medical conditions, including hypertension, type 2 diabetes, cardiovascular disease, several cancers, and a host of inflammatory disorders. Evidence indicates that inflammation has more than a correlative relation with obesity; that in fact, obesity itself manifests a low-grade, m

Adipose Tissue Biology and Its Role in Organ Crosstalk: 2014

Adipose Tissue Protocols-Gérard Ailhaud 2001 Adipose tissue is now recognized as a widely dispersed secretory organ that exhibits autocrine, paracrine, and endocrine properties, and plays a significant role in obesity, the most common health problem in industrialized countries. Adipose Tissue Protocols, Gerard Ailhaud and a team of laboratory experts and clinicians describe in step-by-step detail the major techniques needed for the study of adipose tissue and cells. Drawn from both in vivo and in vitro studies, these readily reproducible methods cover a broad range of techniques, including the choice of adipose tissue depot and of morphological techniques for work on both brown adipose tissue (BAT) and white adipose tissue (WAT). Major treatment is accorded the isolation, subcellular fractionation, and transfection of low density adipocytes, as well as the metabolic aspects of nutrient uptake and key assays of nutrient and ion fluxes. Also covered are: histories and quantification of lipid-related mRNAs; cultures of adipose precursor cells from WAT and BAT; measurements of adipose secretory products; assessment of WAT metabolism in vivo; and assays of lipid-
related enzymes. Innovative and highly practical, Adipose Tissue Protocols offers endocrinologists, physiologists, cell biologists, and pharmacologists a gold-standard collection of proven methods for effective nutritional, physiological, and molecular-level research on adipose tissue.*

The Adipose Organ: Saverio Cinti 1999

Adipose Tissue as an Immunological Organ: 2013

New Perspectives in Adipose Tissue: A. Cryer 2014-04-24 New Perspectives in Adipose Tissue: Structure, Function and Development reviews the state of knowledge on adipose tissue. The book begins with discussions of the anatomy and morphology of adipose tissue. This is followed by separate chapters on the nervous control of circulation and metabolism in white adipose tissue; hormonal regulation of biosynthetic processes in white adipocyte tissue; and plasma membrane properties and receptors in white adipose tissue. Subsequent chapters cover topics such as lipoproteins and adipose tissue; brown adipose thermogenesis and energy balance in animals and man; methodological approaches to the study of the adipose tissues; adipose tissue growth following lipectomy; the adipocyte precursor cell; and adipose tissue dysfunction and its consequences. In addition to being authoritative source material, the chapters presented in this book are wide in their coverage and appeal.

Neuron Organ Dose and the Influence of Adipose Tissue—Robert W. Simpkins 2002

Role of Adipose Tissue as an Endocrine Organ in Systemic Inflammation—Anna Kosticka 2014

Adipose Tissue as an Endocrine Organ: Hannah Xiaoan Hui 2018 As one of the largest endocrine organs in the body, adipose tissue secretes a number of bioactive hormones, called adipokines. The expression and secretion of adipokines are tightly coupled with the metabolic and physiological pathology of adipose tissue. This volume provides the most up-to-date insights into the biology of a complex endocrine organ: the adipose tissue. This book begins with discussions of the anatomy and morphology of adipose tissue. This is followed by separate chapters on the nervous control of circulation and metabolism in white adipose tissue; hormonal regulation of biosynthetic processes in white adipocyte tissue; and plasma membrane properties and receptors in white adipose tissue. Subsequent chapters cover topics such as lipoproteins and adipose tissue; brown adipose thermogenesis and energy balance in animals and man; methodological approaches to the study of the adipose tissues; adipose tissue growth following lipectomy; the adipocyte precursor cell; and adipose tissue dysfunction and its consequences. In addition to being authoritative source material, the chapters presented in this book are wide in their coverage and appeal.

Essential Physiological Biochemistry: Stephen Reed 2013-04-03 This text provides a fresh, accessible introduction to human metabolism that shows how the physiological actions of selected organs can be explained by their particular biochemical integration, rather than pathways, this book opens with three introductory chapters that explore the principles of metabolism and its control before moving onto ‘themed’ chapters that investigate the metabolic and physiological and pathological consequences, whereas almost all obesity-associated diseases are attributable to dysregulation of adipokines.

Organ-on-Chip Systems Integrating Human Adipose Tissue: Julia Regal 2021 Adipose tissue constitutes about one fourth of a healthy adult human’s mass and is involved in a large variety of patho-physiological processes. Especially in the era of ‘diabetes’, a thorough understanding of human adipose tissue has become more important than ever. Yet, research on human adipose biology is hampered by a lack of predictive model systems. Even though modern in vitro systems can be employed to generate human adipose tissue, they are limited with respect to the physiological and pathological characteristics of human adipose tissue. Here, we present an overview of the current state of the art in adipose tissue research with a focus on adipokines. Our review highlights recent advances in adipose tissue research and identifies key areas for future research.

Adipose Tissue As An Organ Proceedings Of The Deuel Conference On Lipids -Douglas F. Paulsen 2010-07 A complete one-stop review of the clinically important aspects of histology and cell biology—user-friendly, concise, and packed with learning aids! This ideal review for course exams and the USMLE! This popular title in the LANGE series is specifically designed to help you make the most of your study time—whether you’re studying histology and cell biology for the first time or reviewing for course exams or the USMLE. With this focused review you will be able to pinpoint your weak areas, and then improve your comprehension with learning aids especially designed to help you understand and retain even the most difficult material. You will find complete easy-to-follow coverage of all the need-to-know material: fundamental concepts, the four basic tissue types, and organ and organ systems—presented in a consistent, time-saving design. At the conclusion of the book, you will find a Diagnostic Final Exam that has been updated with longer, case-related stems that mimic the USMLE Step 1 examination. Each chapter is devoted to one specific topic and includes learning aids such as: Objectives that point out significant facts and concepts that you must know about each topic; Max Yield(tm) study questions that direct you to key facts needed to master material most often covered on exams A synopsis presented in outline form that reviews all the basic histology and related cell biology covered on exams Multiple-choice questions written in a style most commonly used in medical school NEw to this edition: Thorougly revised Q&A Completely updated text and practice questions to reflect current knowledge Information added to each chapter regarding relevant pathology/clincial issues, possibly as a separate colored box Visit www.LangeTextbooks.com to access valuable resources and study aids. Thorough coverage you won’t find anywhere else! FUNDAMENTAL CONCEPTS: Methods of Study, The Plasma Membrane & Cytoplasm, The Nucleus & Cell Cycle, THE FOUR BASIC TISSUE TYPES: Epithelial Tissue, Connective Tissue, Adipose Tissue, Cartilage, Bone, Integrative Multiple-
Novel Insights into Adipose Cell Functions

Karline Clement 2016-05-01 Obesity is considered as the most pressing health issue of our time and it mandates the identification of the physiopathological causes involved in adipose tissue enlargement. This volume provides insights into the biology of a complex endocrine organ: the adipose tissue.

Adipose Tissue Development

C. Levy-Marchal 2010-06-17 Nowadays, adipose tissue is not only regarded as an organ of storage related to fuel metabolism but also as an endocrine organ involved in the regulation of insulin sensitivity, lipids and energy metabolism. These proceedings cover the nervous regulation of both white and brown adipose tissue mass. The plasticity of adipose tissue (proliferation, differentiation and apoptosis) showing the presence of a neural feedback loop between adipose tissue and the brain, which plays a major role in the regulation of energy homeostasis, is discussed. Merging basic knowledge and various clinical conditions, this thorough review is of great interest to both scientists and physicians, in particular pediatricians, interested in obesity, endocrinology and nutrition.

Tertiary Lymphoid Organs (TLOs): Powerhouses of Disease Immunity

Changjun Yin 2017-05-22 The immune system employs TLOs to elicit highly localized and forceful responses to unresolved peripheral tissue inflammation. Current data indicate that TLOs are protective but they may also lead to collateral tissue injury and serve as nesting places to generate autoreactive lymphocytes. A better comprehension of these powerhouses of disease immunity will likely facilitate development to unprecedented and specific therapies to fight chronic inflammatory diseases.

Functional Ultrastructure

Margit Pavelka 2010-07-16 The period between 1950 and 1980 were the golden unique insights into how pathological processes affect years of transmission electron microscopy and produced cell organization. A plethora of new information on the structure of cells. This information is vital to current work in which that was coupled to and followed by biochemical and the emphasis is on integrating approaches from functional studies. TEM was king and each micrograph proteomics, molecular biology, genetics, genomics, of a new object produced new information that led to molecular imaging and physiology and pathology to novel insights on cell and tissue organization and their understand cell functions and derangements in disease. Functions. The quality of data represented by the images in this current era, there is a growing tendency to of cell and tissues had been perfected to a very high level substitut electron microscopy, because it is less technically demanding and is more readily available to researchers- present, the images that we see in leading journals for this atlas reminds us that the information obtained by the most part do not reach the same technical level and electron microscopy is invaluable and has no substitute.

Clinical Anatomy by Systems

Richard S. Snell 2007 Included CD-ROM contains clinical notes, information on congenital anomalies, radiographic anatomy, and clinical problem-solving exercises, all of which correlate directly with the text.

Adipose Tissue as an Endocrine Organ

Henrike Sell 2007

Metabolic Basis of Obesity

Rexford S. Ahima 2010-11-16 The obesity epidemic has generated immense interest in recent years due to the wide-ranging and significant adverse health and economic consequences that surround the problem. Much attention has been focused on behaviors that lead to obesity, in particular to over consumption of energy-dense food and to sedentary lifestyle. However, obesity is an extremely complex condition with poorly defined pathogenesis. Thanks to greatly enhanced research in the area, the discovery of pathways in the brain and peripheral organs that mediate energy homeostasis has provided a framework for understanding the biological basis of obesity. Metabolic Basis of Obesity adds an important new dimension to the growing literature on obesity by offering a comprehensive review of specifically how metabolic imbalance culminates in obesity. Developed by a team of expert authors, this important title discusses the principles of energy balance, genetics of body weight regulation, hormones and adipokines, and metabolic pathways in the brain, liver, muscle and fat, to name just several of the areas covered. The book also examines the connection between obesity and diabetes, cardiovascular disease and other complications. Current and future diagnostic and treatment strategies are also reviewed. Comprehensive and timely, Metabolic Basis of Obesity is an essential reference for understanding the burgeoning problem of obesity.

Anatomy and Physiology

J. Gordon Betts 2013-04-25
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