Angiogenesis in Adipose Tissue - Yihai Cao 2013-09-05 Angiogenesis has recently played a critical role in regulation of adipose tissue expansion and regression. Like most other tissues in the body, adipose expansion and regression is accompanied by alteration of blood vessel density and structures. The vascular alteration plays an active role in regulation of adipose tissue size and functions. Targeting blood vessels in the adipose tissue have demonstrated to be a novel approach for possibly treatment of cancer, obesity and other metabolic diseases. This book provides the most updated information on this type research and discusses future opportunities for therapy.

The Organ-like Nature of Adipose Tissue in the Chicken - Robert Arthur Liebelt 1952

Adipose Tissue 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, physiologists, biochemists, pharmacologists, and those working in the pharmaceutical industry.

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

Adipose Tissue and Inflammation - Atif B. Awad 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 corollary relation with obesity; that in fact, obesity itself manifests a low-grade, m

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 triacylglycerol, and the process of thermogenesis. It is also involved in the secretion of highly active biomolecules such as steroid hormones, prostaqlandsins, 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 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. In 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: biopsies 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.”

**Adipose Tissue**-Hans Hauner 2000

**The Adipose Organ**-Saverio Cinti 1999

**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 activities in white adipose tissue; hormonal control of lipid degradation; and plasma membrane properties and receptors in white adipose tissue. Subsequent chapters cover topics such as lipoproteins and adipose tissue; brown adipose tissue thermogenesis and energy balance in animals and man; methodological approaches to the study of the adipose tissues; adipose tissue growth following lpectomy; 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.

**Adipose Tissue as an Immunological Organ**-2013

**Neutron Organ Dose and the Influence of Adipose Tissue**-Robert W. Simpkins 2002

**Histology and Cell Biology**-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! The 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 tissues types, and organs 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: Thoroughly revised Q&A Completely updated text and practice questions to reflect current knowledge Information added to each chapter regarding relevant pathology/clinical 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-Choice Questions: Connective Tissues Nerve Tissue, Muscle Tissue, Integrative Multiple-Choice Questions: Basic Tissue Types, ORGANS & ORGAN SYSTEMS: Circulatory System, Peripheral Blood, Hematopoiesis, Lymphoid System, Digestive Tract, Glands Associated with the Digestive Tract, Integrative Multiple-Choice Questions: Digestive System, Respiratory System, Skin, Urinary System, Pituitary & Hypothalamus, Adrenals, Islets of Langerhans, Thyroid, Parathyroids, & Pineal Body, Male Reproductive System, Female Reproductive System, Integrative Multiple-Choice Questions: Endocrine System, Sense Organs, Diagnostic Final Examination

**Role of Adipose Tissue as an Endocrine Organ in Systemic Inflammation**-Anna Kosicka 2014
Books

*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 processes. Focusing on metabolic 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 liver, communication systems (endocrine and neurological), blood and vascular system, muscle and adipose tissue and renal biochemistry. Targeted at non-biochemistry majors who need to get to grips with key biochemical concepts and ideas, this textbook is an essential guide for all undergraduate biomedical science, sports science, nutrition and other allied health students. Key features: A fresh, accessible primer that adopts a unique, organ-system based approach to human metabolism. Assumes only a basic understanding of chemistry. Chapters are arranged specifically to enable readers to grasp key concepts and to aid understanding. Some chapters include ‘Case Notes, illustrating key aspects of metabolism in cells, tissues and organs.

*Physiology and Physiopathology of Adipose Tissue* - Jean-Philippe Bastard 2012-11-28

The scientific advances in the physiology and pathophysiology of adipose tissue over the last two decades have been considerable. Today, the cellular and molecular mechanisms of adipogenesis are well known. In addition, adipose tissue is now recognized as a real endocrine organ that produces hormones such as the leptin acting to regulate food intake and energy balance in the central nervous system, a finding that has completely revolutionized the paradigm of energy homeostasis. Other adipokines have now been described and these molecules are taking on increasing importance in physiology and pathophysiology. Moreover, numerous works have shown that in obesity, but also in cases of lipodystrophy, adipose tissue was the site of a local low-grade inflammation that involves immune cells such as macrophages and certain populations of lymphocytes. This new information is an important step in the pathophysiology of both obesity and related metabolic and cardiovascular complications. Finally, it is a unique and original work focusing on adipose tissue, covering biology and pathology by investigating aspects of molecular and cellular biology, general, metabolic, genetic and genomic biochemistry.

*Multidisciplinary Approach to Obesity* - Andrea Lenzi 2014-11-18

This book describes in detail the multidisciplinary management of obesity, providing readers with a thorough understanding of the rationale for a multidisciplinary approach and with the tools required to implement it effectively. The emphasis is on a translational approach, starting from basic concepts and fundamental mechanisms of the pathology and clinical morbidity. Experts in the field discuss the full range of relevant topics, including the significance of physical exercise, psychological issues, nutritional strategies, pharmacological options and bariatric surgery. Put another way, the book covers all aspects from the bench to the bedside. Physicians, scientists and postgraduate students will all find it to be invaluable in understanding the causes and optimal management of obesity, which has rapidly become a major public health problem.

**The Role of Adipose Tissue as an Endocrine Organ in Systemic Inflammation** - Anna Kosicka 2014

*Adipose Tissue as an Endocrine Organ* - Hannah Xiaoyan 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 controlled and coordinated by physiological and pathophysiological conditions. In multiple physiological conditions, such as obesity, cold adaptation, exercise training, expression and secretion of adipokines are altered accordingly, which in turn modulate the metabolism of the whole body in endocrine, paracrine and autocrine manners. The varied changes in adipose tissues are pivotal mediators that aid the body to adapt to various physiological and pathological conditions, whereas almost all obesity-associated diseases are attributable to dysregulation of adipokines.

**The Secret Life of Fat: The Science Behind the Body's Least Understood Organ and What It Means for You** - Sylvia Tara 2016-12-27

A biochemist shows how we can finally control our fat—by understanding how it works. Fat is not just excess weight, but actually a dynamic, smart, and self-sustaining organ that influences everything from aging and immunity to mood and fertility. With cutting-edge research and riveting case studies—including the story of a girl who had no fat, and that of a young woman who couldn’t stop eating—Dr. Sylvia Tara reveals the surprising science behind our most misunderstood body part and its incredible ability to defend itself. Exploring the unexpected ways viruses, hormones, sleep, and genetics impact fat, Tara uncovers the true secret to losing weight: working with your fat, not against it.

**Organ-on-Chip Systems Integrating Human Adipose Tissues** - Julia Rogal 2021

Adipose tissue constitutes about one fourth of a healthy adult human’s body mass and is involved in a large variety of (patho-)physiological processes. Especially in the era of ‘diabesity’, a thorough understanding of human adipose tissue has become more important than ever. Yet, research on human adipose biology is hampered by the lack of predictive model systems. Even though many valuable insights could be gained from animal models, they often fall short of predicting human physiology. Then again, unusual characteristics of mature adipocytes, such as buoyancy, fragility, and large size, make conventional cell culture approaches challenging. In recent years, organ-on-chip (OoC) technology has emerged from a synergy of tissue engineering and microfluidics approaches. OoC systems integrate engineered tissues into physiological microenvironments supplied by a vasculature-like perfusion. Yet even
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. Different physiological parameters such as metabolism (lipolysis and thermogenesis) and secretory activity (leptin and other adipokines) are reviewed. 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.

Novel Insights into Adipose Cell Functions-Karine Clément 2010-09-14 Obesity is a disease of society and economic transition spreading at an epidemic pace throughout the world. According to the World Health Organization, obesity is defined as an increased or abnormal accumulation of body fat mass to the extent that individual’s health will be negatively affected. Overweight is thus being considered as top at risk condition in the world and it is mandatory to identify the physiopathological causes involved in adipose tissue enlargement and related metabolic and cardiovascular health disorders. This volume provides the most up to date insights into the biology of a complex endocrine organ: the adipose tissue.

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 unresolvable 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.

Novel Insights Into Adipose Cell Functions-Karine Clement 2016-05-01 Obesity is considered as top at risk condition in the world and it is mandatory to identify the physiopathological causes involved in adipose tissue enlargement. This volume provides insights into the biology of a complex endocrine organ: the adipose tissue.

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 e modern light microscopic techniques for by the great microscopists of that era including Palade, electron microscopy, because it is less technically Porter, Fawcett, Sjostrand, Rhodin and many others. At 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.
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

Adipose Tissue as an Endocrine Organ - Henrike Sell 2007
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