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Descrizione fisica	1 online resource (XXXI, 1415 p. 170 illus., 113 illus. in color. eReference.) : online resource
Disciplina	612.34
Soggetti	Medicine - Research Biology - Research Cytology Diseases Social sciences Humanities Bioorganic chemistry Human physiology Biomedical Research Cell Biology Humanities and Social Sciences Bioorganic Chemistry Human Physiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"With 170 figures and 34 tables."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Microscopic Anatomy of the Human Islet of Langerhans -- The Comparative Anatomy of Islets -- Approaches for Imaging Islets: Recent Advances and Future Prospects -- Islet Cell Development -- High Fat Programming of -Cell Failure -- Electrophysiology of Islet Cells -- ATP-Sensitive Potassium Channels in Health and Disease -- Role of Mitochondria in -cell Function and Dysfunction -- Basement Membrane in Pancreatic Islet Function -- Calcium Signaling in the Islets -- Electrical Bursting, Calcium Oscillations, and Synchronization of Pancreatic Islets -- Exocytosis in Islet -Cells -- Proteomics and Islet Research -- Wnt Signaling in Pancreatic Islets -- Mechanisms of

Pancreatic -Cell Apoptosis in Diabetes and Its Therapies -- -Cell Function in Obese-Hyperglycemic Mice [ob/ob Mice] -- Islet Structure and Function in the GK Rat -- The -Cell in Human Type 2 Diabetes -- Clinical Approaches to Preserve -Cell Function in Diabetes -- Immunology of -Cell Destruction -- Prevention of -Cell Destruction in Autoimmune Diabetes: Current Approaches and Future Prospects -- Islet Isolation for Clinical Transplantation -- Human Islet Autotransplantation: The Trail Thus Far and the Highway Ahead -- Modulation of Early Inflammatory Reactions to Promote -- Successes and Disappointments with Clinical Islet Transplantation -- Exercise-induced pancreatic islets adaptations in health and disease -- Role Reg family proteins on islet cell growth and survival -- Circadian control of islet function -- Zinc Transporters in the pancreas -- Making Islets from Human Embryonic Stem Cells -- Chloride channels and Transporters in ß-cell physiology -- Pancreatic beta cells in metabolic syndrome -- Insulin and IGF-1 receptor signalling in insulin secreting cells -- Beta cell store-operated ion channels -- Isolation of Rodent Islets of Langerhans -- Anionic Transporters and Channels in Pancreatic Islet Cells -- Glucose-Induced Apoptosis in Pancreatics Islets -- In Vivo Biomarkers for Detection of Beta Cell Death -- Inflammatory Pathways Linked to Beta Cell Demise in Diabetes -- Islet Encapsulation -- Islet Isolation for Autotransplantation -- Islet Xenotransplantation: recent advances and future prospects -- Molecular basis of cAMP signaling in pancreatic beta cells -- NADPH Oxidase in Beta Cell Dysfunction -- Pancreatic Neuroendocrine Tumors -- Physiological and Pathophysiological Control of Glucagon Secretion by Pancreatic Alpha-Cells -- Reproductive Hormones and Islet Adaptation to Metabolic Stress -- Stem Cells in Pancreatic Islets -- Transcriptional co-Activators in Beta-Cell Function and Disease Pathology.

Sommario/riassunto

This book contains critical background information, and recent advances made in essentially all areas of islet research. It is a major reference book, the first of its kind, for islet researchers, and diabetes researchers. Anybody, including the experts, and the beginners, interested in the study of islet physiology, and diabetes, will find this book extremely useful. The book is robust in its breadth: it deals with anatomy, histology, ultra-structure, evolution and comparative anatomy, imaging, developmental biology, programming, apoptosis, mitochondrial function, metabolism, cellular signaling, electrophysiology, oscillation of hormone secretion, islets of model animals, immunology, proteomics, regenerative medicine, clinical advances, and islet transplantation. Individual chapters contributed by a large number of experts and enthusiasts, not only provide a balanced view of the recent advances made in the respective fields, but also provide directions and thoughts for future research. Thanks to vivid and colorful illustrations, tables and sketches, the book as a whole, and the individual chapters make reading a pleasant experience. If you are interested in diabetes research, you will love to have a personal copy of this book.