Anti Diabetic And Other Pharmacological Activities Of

All practitioners and pharmacists interested in treatment with herbal remedies should have this book at their disposal. It is the definitive practice-oriented introduction - now in its fifth edition - to phytotherapy. Methodically classified by organic systems and fields of application, the text provides a quick insight into dosage, form of application and effects of the most important herbal remedies. Only those herbal remedies that are of pharmacological and clinical efficiency have been considered. The authors are highly experienced in the field of postgraduate medical education, and, with this work, present an indispensable reference book for the medical practice.

Obesity and type 2 diabetes are increasing worldwide problems. In this book we reviewed factors that contribute to glucose homeostasis and the pathogenesis of Type 2 diabetes. In addition the book addresses current strategies for treatment of Type 2 Diabetes.

METABOLIC SYNDROME A comprehensive look at the fight against the metabolic syndrome epidemic Increasing risk of cardiovascular disease and diabetes, the metabolic syndrome is a world health problem that demands attention from all levels of the health care industry. Metabolic Syndrome: Underlying Mechanisms and Drug therapies extensively covers the metabolic syndrome with an emphasis on drug discovery efforts, providing a context of molecular mechanisms and drug pharmacology for pharmaceutical scientists. The book starts by examining the physiology of metabolic tissues under normal and disease states, followed by

discussions of metabolic diseases and clinical complications. The development of drug therapies based on emerging science is then covered extensively. In addition, there is an in-depth look into the metabolic pathways and dysfunctions in metabolic disease, especially type 2 diabetes and lipid disorders. Finally, a chapter is devoted to past successes and failures in metabolic drug discovery as well as an outlook on future development and challenges. Divided into four parts, the book: Addresses important metabolic syndrome basics at the psychological level and metabolic abnormalities at the tissue and pathway levels Covers the identification of pathways and molecular targets for the development of anti-diabetic therapies Details pharmaceutical industry approach to solving metabolic and obesity related problems Describes drug therapies and their limitations and complications, offering a “lessons learned” from existing treatments With a clear organization and extensive collection of references, the book is a user-friendly and unique tool for scientists in a variety of scientific disciplines in the pharmaceutical and biotechnology industries.

The final volume of this new innovative and informative three-volume set explains and explores the essential basic and advanced concepts from various areas within the nanosciences. This volume primarily focuses on increasing awareness of sustainable nanochemistry, meaning the social and economic impact of nanochemistry, in order to mitigate ecological resource depletion and to promote the exploration of nature as a resource for future benefits. This volume adopts a pharmacological lens, examining the multitude of ways in which nano-research can contribute to the development of pharmaceutical drugs and paying particular attention to toxicology and

renewable energy within nanochemistry. Under the vast expertise of the editor, the volume contains 34 entries contributed by renowned international scientists and scholars. The content in this volume covers topics such as anti-HIV agents, ecotoxicology, solar cells and photovoltaic phenomena, spectral-SAR, and more—alphabetically organized and accompanied by equations figures, and brief letters in order to emphasize the potential applications of the concepts discussed.

Anti-diabetes and Anti-obesity Medicinal Plants and Phytochemicals

Safety, Efficacy, and Action Mechanisms

The Chemical and Pharmacological Basis of their Action

Natural Product Drug Discovery

Hepatotoxicity

Metabolic Syndrome

Diabetes is an endocrine disease characterised by a chronic increase in blood sugar levels caused by a deficiency of insulin production, which leads to type 1 diabetes, or by a loss of tissue response to insulin, which leads to type 2 diabetes. The disease leads to disruption of metabolism, vascular damage and damage to the nervous system, as well as damage to other organs and systems. Type 2 diabetes is

becoming more common throughout the world, due to poor nutrition and lifestyle, and genetic background. Efforts have accordingly been increased towards developing and refining treatments as well as to addressing the underlying causes of the disease. Many parts of the world have a documented history of the use of plants to treat diabetes, and these can be an attractive, local, alternative to expensive pharmaceutical medicines. Accordingly there is an increasing interest in identifying new phytochemicals with proven pharmacological effects on diabetes. The tree Moringa peregrina is commonly found throughout the Middle East and the oil from its seeds has been used for thousands of years. Other members of the Moringa family have recorded anti-diabetic family and Moringa peregrina was chosen for investigation in this work with the aim of characterising anti-diabetic activity from its leaves. Six extracts were prepared using solvents water, methanol, butanol, ethyl acetate, chloroform and hexane, based on standard extraction techniques. The study was designed to assess the effect of

these six extracts on the uptake of glucose in a human hepatoma cell line (HepG2) using a well-studied fluorescent derivative of glucose, 2-2-[N-(7-nitrobenz-2-oxa-1, 3-diazol-4-yl) amino glucose (2-NBDG). The cells can take up 2-NBDG instead of glucose via glucose transporters and its uptake is indicative of the capacity of cells to take up glucose, i.e. of the number of active glucose transporters on the cell surface. The results revealed that the extracts prepared with ethyl acetate and chloroform increased glucose uptake significantly more than the other extracts. Moreover the effects of the extracts were rapid, with a one hour treatment producing a similar stimulation to a 24 hour treatment. These data were confirmed in a second method of investigation of the hypoglycaemic effect of the extracts, by measuring consumption of glucose from cell culture medium. A preliminary assessment of the effect of active extracts on expression of the main glucose transporter of HepG2 cells, GLUT1, by western blotting indicated no large changes in expression. Dietary phytoestrogens have been

shown to play a beneficial role in obesity and diabetes, so the second part of this study investigated the effect of phytoestrogens on glucose uptake. Three phytoestrogens (daidzein, formonontein and genestin, which are naturally occurring isoflavones) were chosen. HepG2 cells showed a significant increase in glucose uptake after treatment with phytoestrogens compared to the control. In an attempt to identify the active phytochemicals that could account for the observed effects, extensive purification and characterisation of components from the ethyl acetate fraction was undertaken. Seven components were identified: (1) OEthyl 4-[(?-L-rhamnosyloxy)benzyl] thiocarbamate (E), (2) O-Butyl 4-[(?-Lrhamnosyloxy)benzyl] thiocarbamate (E), (3) 4-(?-L-Rhamnosyloxy)benzyl isothiocyanate, (4) -Sitosterol, (5) Daucosterol, (6) ??-methyl-quercetin-3-Orutinoside (also known as isorhamnetin-3-O-rutinoside), (7) Rutin. In a final analysis an attempt was made to assess the effect of a representative set of three out of the seven components on basic metabolic activity of

HepG2 cells using a Seahorse XF-24 analyser. The three components chosen were O-ethyl 4-[(?-L-rhamnosyloxy) benzyl] thiocarbamate (E), -sitosterol from the phytosterols family and Rutin. Real-time monitoring of cell metabolism by a Seahorse XF-24 auto analyser after two hours incubation with the three chosen compounds revealed that maximal respiration, non-mitochondrial respiration and spare respiratory capacity have trended towards an increase with -sitosterol and3-O-ethyl 4-[(?-Lrhamnosyloxy) benzyl] thiocarbamate (E) treatments compared to control. As no similar trends were observed in ATP production, the increased maximal respiration could increase metabolic activity at higher concentrations of glucose and account, in part for the effects observed on glucose consumption.

The discovery of insulin at the University of Toronto in 1921-22 was one of the most dramatic events in the history of the treatment of disease. Insulin was a wonder-drug with ability to bring patients back from the very brink of death, and it was no surprise that in 1923 the Nobel Prize for

Medicine was awarded to its discoverers, the Canadian research team of Banting, Best, Collip, and Macleod. In this engaging and award-winning account, historian Michael Bliss recounts the fascinating story behind the discovery of insulin - a story as much filled with fiery confrontation and intense competition as medical dedication and scientific genius. Originally published in 1982 and updated in 1996, The Discovery of Insulin has won the City of Toronto Book Award, the Jason Hannah Medal of the Royal Society of Canada, and the William H. Welch Medal of the American Association for the History of Medicine.

Mangiferin is a natural polyphenolic antioxidant and xanthone widely distributed in higher plants. Mangiferin has been reported to be present in various parts of the plant mangifera indica linn, mainly in leaves, fruits, stem, bark, heartwood and roots. The plant and its parts have number of medicinal properties against various diseases. The main active principle of the mangifera indica linn plant is mangiferin. Other than the antioxidant, anti radical, anti

lipid peroxidative and cardiotonic activities, mangiferin possesses number of other pharmacological properties such as immunomodulatory, anti-tumor, antiviral, anti-diabetic, diuretic, cholerectic and anti-inflammatory actions. Due to the antioxidant, cardio-tonic and other properties, mangiferin isolated from Mangifera indica leaves, was chosen as a prophylactic agent against isoproterenol induced experimental myocardial infarction in rats were studied. Based on the literature and the scientific interest in the possible use of natural plant products as a prophylactic / therapeutic measure, an attempt has been made in the present investigation to evaluate the role of mangiferin on experimental myocardial infarction in rats.

Drug repurposing or drug repositioning is a new approach to presenting new indications for common commercial and clinically approved existing drugs. For example, chloroquine, an old antimalarial drug, showed promising results for treating COVID-19, interfering with MDR in several types of cancer, and chemosensitizing human leukemic

cells.This book focuses on the hypothesis, risk/benefits, and economic impacts of drug repurposing on drug discovery in dermatology, infectious diseases, neurological disorders, cancer, and orphan diseases. It brings together up-to-date research to provide readers with an informative, illustrative, and easy-to-read book useful for students, clinicians, and the pharmaceutical industry.

Rongo Rkau

Drug Development for Cancer and Diabetes

The Adverse Effects of Drugs and Other Chemicals on the Liver

Actions of Thymoquinone

A New Approach in Type 2 Diabetes Mellitus Treatment: Evaluation of the Beneficial Effect of L-cysteine in the Treatment of Type 2 Diabetes Mellitus

Molecular and Therapeutic actions of Thymoquinone

In recent years various controlled drug delivery systems are gained popularity and acceptance among consumers.Drug delivery systems needs to be targeted, spatial, temporal and site specific. It is very much the ask of the time for successful re-patenting of proved formulations. In present study

controlled formulations like micro-capsules and trandermal patches were made out of Eugenia jambolana Lam. and the same was compared with anti-diabetic drug Glibeclamide Here the author shows the significant formulation of anti-diabetic plant and the number of plant list may be varied in future. The scientific data reveals that various evaluation parameters like SEM study, P-XRD study, FTIR study, DSC study, dissolution study, in-vivo study are gaining better result. The author is confident that this book would definitely be a milestone for researchers, scientists, faculties and will provide ample of opportunities for discovering new marker molecules for better activities in future era.

Alpha-glucosidase Inhibitors: Clinically Promising Candidates for Anti-diabetic Drug Discovery presents information that researchers can use to address a whole host of promising leads for the development of novel, oral, anti-diabetic drugs with improved efficacy and fewer side effects. Beginning with a discussion of the huge potential of α -glucosidase inhibitor leads and adaptations, and highlighting their importance within the field of anti-diabetic drug discovery, the book provides chemical structures, detailed background information and in vivo and in vitro biological activity data, and more economical adaptations of these structures. Drawing on the author's expert research in the field, this book highlights promising leads for development and helps researchers select the most appropriate inhibitors for their own work. It is a useful tool not only for anti-diabetic drug development researchers, but also for those whose research may be enhanced by an understanding of α -glucosidase inhibitor chemistry and activity. Identifies and presents promising α-glucosidase inhibitors of natural and synthetic origin that belong to a variety of chemical classes Compiles

chemical structures and detailed in vivo and in vitro biological activity data that will help researchers select inhibitors for further work Discusses promising avenues and potential challenges in the development of new α-glucosidase inhibitors based on their activity data

Over the late years, there has been quick development of various classes of antihyperglycemic drugs. These medications have various toxicological profiles in light of the fact that each has a one-of-a-kind pharmacological system of activity and correspondingly. The antidiabetic drugs can possibly impact on patient ordinarily require for the clinical appraisal and treatment. So many varieties of anti-diabetic meds are used for the curation of diabetic Mellitus type -II disease. This article is a concise overview of the drugs which are used as oral hypoglycemic, administration and the other comparison and substitute medication to cure and to control the levels of sugar in the human body and also gives information regarding their pharmacokinetics and pharmacodynamics properties.

Drug Development for Cancer and Diabetes: A Path to 2030 focuses on new developments in the discovery of drugs for the treatment of cancer and diabetes. This new book presents important recent advances, emerging trends, and novel innovations for these two world-leading diseases. It is structured in two parts. Part I consists of chapters that explores cancer cell cycle checkpoints, cancer biomarkers, essential drug properties, stages in anti-cancer drug development, and various bioactives that are effective against cancer. Part II presents a complete coverage of important advances and research discoveries in antidiabetic drugs. It details the potentials of medicinal plants and phytocompounds as sources for antidiabetic drugs and highlights the ethnobotanical basis of the

compounds. With chapters written by professionals in the field of phytochemistry and pharmacology from key institutions around the world, this volume provides a wide coverage and will be useful especially for scientists in pharmaceutical field.

Effect of Mangiferin on Isoproterenol Induced Cardiotoxicity in Rats

Pharmacological and Molecular Perspectives on Diabetes

Frontiers in Clinical Drug Research - Diabetes and Obesity: Volume 6

Drug Repurposing

New Frontiers in Nanochemistry: Concepts, Theories, and Trends

Controlled Delivery of Anti-diabetic Drug from Medicinal Plant

Discovery and Development of Antidiabetic Agents from Natural Products brings together global research on the medicinal chemistry of active agents from natural sources for the prevention and treatment of diabetes and associated disorders. From the identification of promising leads, to the extraction and synthesis of bioactive molecules, this book explores a range of important topics to support chemists in the discovery and development of safer, more economical therapeutics that are desperately needed in response to this emerging global epidemic. Beginning with an overview of bioactive chemical compounds from plants with anti-diabetic properties, the book goes on to outline the identification and extraction of anti-diabetic agents and antioxidants from natural sources. It then explores anti-diabetic plants from specific regions before looking more closely at the background, isolation, and synthesis of key therapeutic compounds and their derivatives, including

Mangiferin, Resveratrol, natural saponins, and alpha-glucosidase enzyme inhibitors. The book concludes with a consideration of current and potential future applications. Combining the expertise of specialists from around the world, this volume aims to support and encourage medicinal chemists investigating natural sources as starting points for the development of standardized, safe, and effective antidiabetic therapeutics. Contains chapters written by active researchers and leading global experts who are deeply engaged in the research field of natural product chemistry for drug discovery Provides comprehensive coverage of cutting-edge research advances in the design of medicinal natural products with potential as preventives and therapeutics for diabetes and related metabolic issues Presents a practical review of the identification, isolation, and extraction techniques that help support medicinal chemists in the lab

Diabetes mellitus affects approximately 20 million people in the US, or nearly 7% of the population. It is expected to increase by 70% within the next 25 years, and numerous epidemiologic studies have demonstrated that type 2 diabetes increases the risk of cardiovascular morbidity and mortality. It is estimated to cost over $92 billion in health care costs and lost productivity. The increased risk is due to the detrimental vascular effects of prolonged exposure to a hyperglycemic, oxidant-rich environment yielding associated cardiovascular risk factors: atherosclerosis, hypertension and clotting abnormalities. Hypertension and dyslipidemia in diabetic patients produces substantial decreases in cardiovascular and microvascular diseases. Nutritional and Therapeutic

Interventions for Diabetes and Metabolic Syndrome provides an overview of the current epidemic, outlines the consequences of this crisis and lays out strategies to forestall and prevent diabetes, obesity and other intricate issues of metabolic syndrome. The contributing experts from around the world give this book relevant and up-to-date global approaches to the critical consequences of metabolic syndrome and make it an important reference for those working with the treatment, evaluation or public health planning for the effects of metabolic syndrome and diabetes. Scientific discussion of the epidemiology and pathophysiology of the relationship between diabetes and metabolic syndrome Includes coverage of Pre-diabetes conditions plus both Type I and Type II Diabetes Presents both prevention and treatment options

In recent years, there has been a growing awareness of the multiple interrelationships between depression and various physical diseases. The WPA is providing an update of currently available evidence on these interrelationships by the publication of three books, dealing with the comorbidity of depression with diabetes, heart disease and cancer. Depression is a frequent and serious comorbid condition in diabetes, which adversely affects quality of life and the long-term prognosis. Co-occurrent depression presents peculiar clinical challenges, making both conditions harder to manage. Depression and Diabetes is the first book devoted to the interaction between these common disorders. World leaders in diabetes, depression and public health synthesize current evidence, including some previously unpublished data, in a concise, easy-to-read format. They

provide an overview of the epidemiology, pathogenesis, medical costs, management, and public health and cultural implications of the comorbidity between depression and diabetes. The book describes how the negative consequences of depression in diabetes could be avoided, given that effective depression treatments for diabetic patients are available. Its practical approach makes the book ideal for all those involved in the management of these patients: psychiatrists, psychologists, diabetologists, general practitioners, diabetes specialist nurses and mental health nurses.

Throughout history black seeds, Nigella sativa seeds, have been highly revered for its medicinal properties. Thymoquinone (TQ), an active principle component of the volatile oil of black cumin seeds, is an emerging natural compound with a wide range of medical applications, and has several beneficial pharmacological actions i.e anti-oxidant, anti-diabetic, anti-inflammatory, anti-microbial, anti-tumor, anti-mutagenic, anti-epileptic, hepatoprotective, neuroprotective, and nephroprotective. As such, it is important to move TQ from the bench to bedside. This book illustrates the therapeutic importance of TQ, offering a detailed account of some of its molecular and therapeutic properties, and discussing in depth its anti-diabetic, anti-cancer, anti-oxidant, anti-inflammatory, anti-microbial, anti-epileptic and hepatoprotective actions. Lastly, the book examines the future prospects of TQ research and its use as a pharmaceutical.

The American Diabetes Association/JDRF Type 1 Diabetes Sourcebook

Nutritional and Therapeutic Interventions for Diabetes and Metabolic Syndrome

Natural Products Pharmacology and Phytochemicals for Health Care
Isolation and Characterisation of Anti-diabetic Pharmacological Activities of Phytoestrogens and Components of Moringa Peregrina (Forssk) Fiori
Underlying Mechanisms and Drug Therapies
Clinical Management

Frontiers in Clinical Drug Research – Diabetes and Obesity is a book series that brings updated reviews to readers interested in advances in the development of pharmaceutical agents for the treatment of two metabolic diseases – diabetes and obesity. The scope of the series covers a range of topics including the medicinal chemistry, pharmacology, molecular biology and biochemistry of natural and synthetic drugs affecting endocrine and metabolic processes linked with diabetes and obesity. Reviews in this series also include research on specific receptor targets and pre-clinical / clinical findings on novel pharmaceutical agents. Frontiers in Clinical Drug Research – Diabetes and Obesity is a valuable resource for pharmaceutical scientists and postgraduate students seeking updated and critically

important information for developing clinical trials and devising research plans in the field of diabetes and obesity research. The sixth volume of this series features 6 reviews which are informative guides to therapy and drug administration in diabetes and metabolic syndrome, for both the medical specialist and the pharmacologist. - The failing heart in diabetes with special emphasis on prevention - Flavonoids as prominent anti-diabetic agents - Chemosensor in glucose monitoring, advances and challenges - Synergistic drugs and polyherbal formulations for obesity: current status and future prospectives - Urge for herbal anti-diabetic medicines towards clinical and therapeutic implications - Curcuma longa as dietary supplement and diabetes mellitus: evidence from experimental studies Featuring more than 4100 references, Drug-Induced Liver Disease will be an invaluable reference for gastroenterologists, hepatologists, family physicians, internists, pathologists, pharmacists, pharmacologists, and clinical toxicologists, and graduate and medical school

students in these disciplines.
Medicinal chemistry and pharmacology are closely associated fields, and the use of natural products for their medicinal properties is ever-growing. The study of drugs from natural products and their effects on the living body are explored in this volume. The book looks into the research, discovery, and characterization of chemicals that exhibit biological effects. Providing an informative compilation of research, valuable case studies, and reviews of existing literature in the area, the book focuses on the ethnobotanical uses of natural products and phytochemicals for health care, including applications for diabetes, ulcers, wound healing, chronic alcoholism, hemorrhoidal treatment, cancer mitigation, pain management, immunotherapy, and more. Pharmacological and Molecular Perspectives on Diabetes is a compilation of reviews on clinical and scientific aspects of diabetes mellitus. It presents 11 contributions by eminent scholars that give the reader rational pharmacological and genetic perspectives of the disease and its treatment. The

reviews approach diabetes from different angles, and highlight research that has been done to understand some questions about the molecular biology of diabetes in experimental settings. Topics of clinical significance such as the use of different hypoglycemic agents, and diabetic complications in clinical settings are also covered. Topics included in this book are: · Epigenetic alterations and type 2 diabetes mellitus · Responses to nutritional chromium supplements for type 2 diabetes mellitus · Endocrine role of osteocalcin in homeostatic regulation of glucose metabolism · Effect of diabetes on memory · Osteoarthritis in relation to type 2 diabetes mellitus: prevalence, etiology, symptoms and molecular mechanism · Infection of novel coronavirus in patients with diabetes mellitus · Role of an anti-inflammatory agent in the management of type 2 diabetes mellitus · Role of antidiabetic agents which helps regulates TCF7L2 variations in type 2 diabetes mellitus · Relationship between type 2 diabetes mellitus, PCOD and neurological disorders: role of antidiabetic drugs · Comparison of

different types of insulin available for type 1 diabetes treatment · Circadian rhythm disruption: special reference to type 2 diabetes mellitus · Type 2 diabetes mellitus and its complications: pharmacogenetics based correlations and circulating microRNA as biomarkers Pharmacological and Molecular Perspectives on Diabetes should prove to be of interest to all pharmaceutical and molecular biology scientists who are involved in research in anti-diabetic drug design and discovery, and practicing endocrinologists who wish to keep abreast of recent developments in the field.

Clinically Promising Candidates for Anti-diabetic Drug Discovery

Ginger Cultivation and Its Antimicrobial and Pharmacological Potentials

Pharmacological and Therapeutic Applications

A Path to 2030

The Discovery of Insulin

Drug Repurposing for COVID-19 Therapy

Donna Kerridge compiled this 68pg workbook for her rongoa Maori students. However due to public requests for copies of the workbook she has decided to make it available to a wider audience. The workbook should be read in conjunction with the beautiful book written by Rob McGowan - Rongoa Maori, a practical guide to traditional Maori medicine

Diabetes and hypertension have evolved as two of the modern day epidemics affecting millions of people around the world. These two common co-morbidities lead to substantial increase in cardiovascular disease, the major cause of morbidity and mortality of adults around the world. In Diabetes and Hypertension: Evaluation and Management, a panel of renowned experts address a range of critical topics -- from basic concepts in evaluation and management of diabetes and hypertension, such as dietary interventions, to evaluation and management of secondary hypertension in clinical practice. Other chapters focus on high cardiovascular risk populations such as those with coronary heart disease, chronic kidney disease and minority patients. In addition, evolving concepts and new developments in the field are presented in other chapters, such as prevention of type 2 diabetes and the epidemic of sleep apnea and its implication for diabetes and hypertension evaluation and management. An important title covering two of the most troubling disorders of our time, Diabetes and Hypertension: Evaluation and Management will provide the busy practitioner with

cutting edge knowledge in the field as well as practical information that can translate into better care provided to the high-risk population of diabetics and hypertensive patients.

Written by the foremost authority in the field, this volume is a comprehensive review of the multifaceted phenomenon of hepatotoxicity. Dr. Zimmerman examines the interface between chemicals and the liver; the latest research in experimental hepatotoxicology; the hepatotoxic risks of household, industrial, and environmental chemicals; and the adverse effects of drugs on the liver. This thoroughly revised, updated Second Edition features a greatly expanded section on the wide variety of drugs that can cause liver injury. For quick reference, an appendix lists these medications and their associated hepatic injuries. Also included are in-depth discussions of drug metabolism and factors affecting susceptibility to liver injury.

Medicinal Foods as Potential Therapies for Type-2 Diabetes and Associated Diseases: The Chemical and Pharmacological Basis of their Action focuses on active pharmacological principles that modulate diabetes, associated risk factors, complications and the mechanism of action of widely used anti-diabetic herbal plants—rather than just the nutritional composition of certain foods. The book provides up-to-date information on acclaimed antidiabetic super fruits, spices and other food ingredients. Sections cover diabetes and obesity at the global level, the physiological

control of carbohydrate and lipid metabolism, the pathophysiology of type-2 diabetes, the chemistry and pharmacology of a variety of spices, and much more. This book will be invaluable for research scientists and students in the medical and pharmaceutical sciences, medicinal chemistry, herbal medicine, drug discovery/development, nutrition science, and for herbal practitioners and those from the nutraceutical and pharm industries. Provides background knowledge on type-2 diabetes and its pathophysiology and therapeutic targets down to the molecular level Explores, in detail, the chemistry or secondary metabolites of the indicated foods that potentially modify diabetes and/or associated diseases Examines the pharmacological findings on medicinal foods, including available clinical trials

Pharmacological Assays of Plant-Based Natural Products

Drug-Induced Liver Disease

Treatment of Type 2 Diabetes

The First 30 Years

A Reference Guide for Physicians and Pharmacists

Volume 3: Sustainable Nanochemistry

Ginger is well known as a spice and flavor. It has been a traditional medical plant in many cultures for thousands of years. To uncover the miraculous plant, this book not only gives

you the plant's origins, where the plant is grown now, but also provides current studies on its utilization, cultivation, breeding, and therapeutic benefits.
Key features include: Details the role of plants for the treatment and management of cancer and diabetes Discusses the role of phytocompounds as ligands for cancer and diabetic targets Reviews plants and the potential of phytochemicals as antidiabetic and anticancer drugs Explores the green biosynthesis of nanoparticles and their treatment efficiency
This work presents a systematic review of traditional herbal medicine and their active compounds, as well as their mechanism of action in the prevention and treatment of diabetes and obesity. The side effects and safety of herbal-derived anti-diabetic and anti-obesity phytochemicals are detailed in depth, and the text has a strong focus on current and future trends in anti-diabetic medicinal plants. This unique and comprehensive text is the only current book on the market focusing exclusively on medicinal plants used to combat obesity and diabetes. An introductory chapter focuses on diabetes and obesity and introduces the major causes and main treatments of this

increasing epidemic in modern society. Readers are then introduced to medicinal plants, including details on their therapeutic aspects, plus side effects and safety. Following chapters focus on anti-diabetic and anti-obesity medicinal plants, as well as phytogenic natural products in the treatment of each. The text closes by focusing on present and future trends and challenges in these medicinal plants. Anti-diabetes and Anti-obesity Medicinal Plants and Phytochemicals: Safety, Efficacy, and Action Mechanisms is a much-needed and truly original work, finally presenting in one place all the necessary information on medicinal plants used in conjunction with obesity and diabetes prevention.

The American Diabetes Association/JDRF Type 1 Diabetes Sourcebook serves as both an evidence-based reference work and consensus report outlining the most critical components of care for individuals with type 1 diabetes throughout their lifespan. The volume serves not only as a comprehensive guide for clinicians, but also reviews the evidence supporting these components of care and provides a perspective on the critical areas of research that are needed to improve our understanding

of type 1 diabetes diagnosis and treatment. The volume focuses specifically on the needs of patients with type 1 diabetes and provides clear and detailed guidance on the current standards for the optimal treatment of type 1 diabetes from early childhood to later life. To accomplish the book's editorial goals, Editors-in-Chief, Drs. Anne Peters and Lori Laffel, assembled an editorial steering committee of prominent research physicians, clinicians, and educators to develop the topical coverage. In addition, a Managing Editor was brought on to help the authors write and focus their chapters.

Evaluation and Management

Depression and Diabetes

Diabetes

Plants with Anti-Diabetes Mellitus Properties

Hypothesis, Molecular Aspects and Therapeutic Applications

Investigation of Pharmacological Anti-diabetic Effect on Selected Traditional Chinese Herbs

This volume provides information on how to select and screen plants for their medicinal properties. It describes phytopharmacological techniques for extracting and

qualitatively and quantitatively analyzing a plant's phytochemicals. After a detailed in vitro investigation including nutritional and anti-nutritional analyses, medicinal properties were tested with various in vivo models for anti-inflammatory, analgesic, anti-pyretic, anticancer and anti-diabetic properties, as well as wound healing, neurodegenerative diseases, etc. Compound identification and purification techniques include, among others, TLC and column chromatography, as well as molecular docking with specific proteins.

The incidence and severity of diabetes mellitus is increasing worldwide, presenting a significant burden to society both in economic terms and overall well-being. Fortunately, time-tested anti-diabetes mellitus plant foods exist that are safe and could be effective in addressing this condition when consumed judiciously with a concomitant change in lifestyle. Plants with Anti-Diabetes Mellitus Properties presents an exhaustive compilation of the anti-diabetes mellitus activities of more than 1000 plants

occurring worldwide. The author provides a brief botanical description, distribution, pharmacological properties, and phytochemicals, where appropriate. A list of traditional medicinal plants used to treat diabetes, but not tested for anti-diabetic activity, is also given. This unique reference highlights anti-diabetes mellitus plant foods along with a list of the edible parts of plants with anti-diabetes mellitus properties. Anti-diabetes mellitus nutraceuticals are described with guidelines for the development of food supplements and formulations of diets appropriate for diabetic patients. This is a valuable source of information for researchers, students, doctors, diabetic patients, and other individuals wanting to learn more about plant-based treatments for diabetes mellitus.

Type 2 diabetes mellitus (T2DM) is a chronic, progressive metabolic disease characterized by chronic hyperglycemia. Although its main physiological abnormalities are insulin resistance and impaired insulin secretion, the specific underlying determinants of these metabolic defects remain

uncertain. There are complex interactions between genetic, epigenetic, environmental and behavioral factors that contribute to the development of diabetes. Non-pharmacological and pharmacological interventions have been used for diabetic management. Over the past few years, research has started to focus on the use of novel adjuvant drugs as antioxidants and anti-inflammatory drugs for better management, as it was revealed that both oxidative stress and inflammation play a critical role in the disease pathogenesis. Thus, the development of antidiabetic drugs that can reverse insulin resistance is a potential therapeutic target. Although antidiabetic drugs may be effective in improving glycemic control, they do not appear to be effective in entirely preventing the progression of pancreatic ß-cells damage mediated by chronic hyperglycemia-induced decline in intracellular antioxidants. Therefore, antioxidant and anti-inflammatory therapy should be considered as an adjunct to the commonly used oral antidiabetics

Black Seeds (Nigella sativa) is a comprehensive resource covering all aspects of this medicinal plant, well-known for its positive effects in many human ailments. It has been used to promote health and fight diseases, and has been found to have antioxidant, antihypertensive, anti-diabetic, anti-inflammatory, and analgesic effects. It has also been known to have antimicrobial, anticancer, neuro-protectant, cardio protectant, immunomodulator, hepatic protectant characteristics. Thymoquinone, the active compound of the plant, also exhibits these protective qualities against many disorders. This book summarizes the effect of this plant on all the organ systems of the body. Black Seeds (Nigella sativa) is a comprehensive resource for researchers working in pharmacology, food chemistry and pharmaceutical chemistry, both in industry and academia. Contains global coverage of the latest research on the pharmacological properties of Nigella sativa Includes the medicinal effects of Nigella sativa: antioxidant, antihypertensive, anti-diabetic, anti-inflammatory, antimicrobial, and anticancer

effects among many others Features many figures with mechanisms and tables to illustrate key details about Nigella sativa

Rational Phytotherapy

Biotechnology of Anti-diabetic Medicinal Plants

Medicinal Foods as Potential Therapies for Type-2 Diabetes and Associated Diseases

Profiles of Antidiabetics

Mori Herbal Medicine

Diabetes and Hypertension