Antioxidants And Cardiovascular Disease Developments In Cardiovascular Medicine

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Antioxidants and Cardiovascular Disease R Nath 2004-01-01

This unique book authored by leading investigators in the field of Cardiovascular research and practicing clinicians across the globe details the scientific evidence for the heath effect of vitamins, antioxidants, trace elements and functional food, specifically their role in Cardiovascular system and provides up-to-date recommendations in the area of Cardiovascular nutrition including dietary micronutrients and supplements.Genetics of coronary disease as well as racial differences and risk factors, the role of Homocystine dietary fats, importance of antioxidant trace elements, genetic and racial differences especially in relation to cardiovascular effects, Clinical relevance of trace elements and minerals such as Chromium, Copper, Fluoride, Iron, Iodine, Molybdenum, Manganese, Selenium, Zinc, Calcium, Magnesium and Phosphorous have all been covered in relation to cardiovascular disease.

Focus on Vitamin E Research Matthew H. Braunstein 2006

Vitamin E is a fat-soluble vitamin that exists in eight different forms. Each form has its own biological activity, which is the measure of potency or

functional use in the body. Alpha-tocopherol (-tocopherol) is the name of the most active form of vitamin E in humans. It is also a powerful biological antioxidant. Vitamin E in supplements is usually sold as alpha-tocopheryl acetate, a form that protects its ability to function as an antioxidant. The synthetic form is labelled "D, L" while the natural form is labelled "D". The synthetic form is only half as active as the natural form. Antioxidants such as vitamin E act to protect the cells against the effects of free radicals, which are potentially damaging by-products of energy metabolism. Free radicals can damage cells and may contribute to the development of cardiovascular disease and cancer. Studies are underway to determine whether vitamin E, through its ability to limit production of free radicals, might help prevent or delay the development of those chronic diseases. Vitamin E has also been shown to play a role in immune function, in DNA repair and other metabolic processes. This new book presents leading research on this important topic.

Pharmacology and Therapeutics in the New Millennium S.K. Gupta 2001-09-30 During the past several years tremendous advancements have been made in the field of pharmacology and therapeutics. While new

therapeutic strategies are coming up, old ones are being improved by modifications, or being replaced with newer ones. The major topics covered in this book include: endothelins, current topics in cardiovascular research, molecular pharmacology, recent developments in cancer research, antioxidants, oxidants and human disease, herbal drugs, developments in neuropharmacology, myelin biology and demyelinating disease, pharmacovigilance, role of cytokines in health and disease, ocular pharmacology, detoxification of xenobiotics-biotransformation and transport, and several other topics of current interest. The aim of this book is to fulfill the needs of the basic and clinical researchers as well as the students, particularly related to areas of current interest in pharmacology and therapeutics.

The Role of Antioxidants in Longevity and Age-Related Diseases Bee Ling Tan 2021-11-19 The average life expectancy has increased worldwide in the recent decades. This has presented new challenges as old age brings the onset of diseases such as cancer, neurodegenerative disorders, cardiovascular disease, type 2 diabetes, arthritis, osteoporosis, stroke, and Alzheimer's

disease. Studies and research have shown the potential preventive and therapeutic roles of antioxidants in aging and age-related diseases by inhibiting the formation or disrupting the propagation of free radicals and thus increasing healthy longevity, enhancing immune function, and decreasing oxidative stress. This has made an antioxidant rich diet of increasing importance in battling the detrimental effects of the aging process. “The Role of Antioxidants in Longevity and Age-Related Diseases” is the book that compiles research on antioxidants and their biological mechanisms that mediate age-related diseases. This book covers the major issues linked to antioxidants, aging, and age-related diseases, including changes in organ systems over the lifespan, age-related oxidative stress-induced redox imbalance, inflammaging, implications of inflammation in aging and age-related diseases, and the important role of antioxidant-rich foods in their prevention and treatment of various age-related diseases. For researchers seeking a comprehensive single source on antioxidants and their roles in aging and age-related diseases, this novel text provides an up-to-date overview.

Antioxidants and Cardiovascular

Disease J.C. Tardif 2012-12-06 Generation of oxidants or reactive oxygen species is a natural process of human biology. Mitochondrial respiration, phagocytic activity and cyclooxygenase activation are all essential processes of life, which also generate oxidative species. In humans, chronic oxidative stress often coupled with deficiency of antioxidant defenses is associated with the aging process and can lead to the development of disorders such as cancer and arterial disease. Major cardiovascular conditions in which oxidative damage has been strongly implicated include atherosclerosis, myocardial ischemia and reperfusion, coronary restenosis and congestive heart failure. Compelling evidence points to oxidative stress as an important trigger in the complex chain of events leading to atherosclerosis. The expression of chemotactic factors and adhesion molecules is modified by oxidative stress. Exposure to superoxide ions activates the NF-kappa B regulatory complex and triggers the transcription of several atherosclerosis related genes. These events lead to the accumulation of macrophages in the arterial wall. Macrophages avidly incorporate oxidized low-density lipoproteins (LDL) to form foam cells. The

activity of matrix metalloproteinases is also regulated by oxidative stress. This activity appears to be closely coupled with smooth muscle cell activation and migration. Matrix metalloproteinases have also been implicated in the pathophysiology of plaque rupture. Antioxidant supplementation including vitamin E decreases susceptibility ofLDL to oxidation and retards the progression of atherosclerosis in animal models.

Diabetes Joydeep Das 2013-10-29 Diabetes mellitus (DM) is the outcome of an absolute or relative deficiency of insulin characterized by persistent hyperglycemia and disturbances in carbohydrate, fat, and protein metabolism. DM is one of the leading causes of morbidity and mortality worldwide, predominantly from vascular complications such as atherothrombosis in the coronary vessels. Hyperglycemia-induced oxidative stress plays an important role in the development and progression of diabetes and its associated complications in cardiovascular disease, as is evident from increased levels of oxidized DNA, proteins and lipids. Therefore, treatment with antioxidants in diabetic patients

may benefit cardiac dysfunction by attenuation of myocardial oxidative stress. Taurine is found in large concentrations in all mammalian tissues, particularly in heart, and it possesses both hypoglycemic and antioxidant properties. This chapter summarizes the mechanism of the induction of oxidative stress in diabetic heart, its effect on cardiac dysfunction and the prophylactic role of taurine against diabetic-cardiac oxidative stress.

Oxidative Stress and Diseases Volodymyr Lushchak 2012-04-25 The development of hypothesis of oxidative stress in the 1980s stimulated the interest of biological and biomedical sciences that extends to this day. The contributions in this book provide the reader with the knowledge accumulated to date on the involvement of reactive oxygen species in different pathologies in humans and animals. The chapters are organized into sections based on specific groups of pathologies such as cardiovascular diseases, diabetes, cancer, neuronal, hormonal, and systemic ones. A special section highlights potential of antioxidants to protect organisms against deleterious effects of reactive species. This book should appeal to many researchers,

who should find its information useful for advancing their fields.

The Truth About Heart Disease Mark Houston 2022-08-05 You can prevent coronary heart disease in yourself, but you need to have the knowledge of the risk factors, the presenting symptoms and take early actions with aggressive and proper diagnostic testing. Start a prevention program for your heart health with The Truth About Heart Disease. In this book, Dr. Mark Houston provides you with scientific prevention and treatment programs to reduce your risk of coronary heart disease and myocardial infarction. These programs include optimal and proper nutrition, nutritional supplements, vitamins, antioxidants, anti-inflammatory agents, minerals, exercise, weight and body fat management, and other lifestyle changes. The Truth About Heart Disease will be of great value to all health care practitioners, cardiologists, and dietitians.

Strawberry Bioactives on Indices of Cardiovascular Disease Risk Amanda Marie Linares 2008

Antioxidants and Cardiovascular Disease R. Nath 2004 Authored by leading investigators in the field of cardiovascular research and practicing clinicians across the globe, this book details the scientific evidence for the heath

effect of vitamins, antioxidants and functional food, specifically, their role in the cardiovascular system and provides recommendations in cardiovascular nutrition. Nutritional Health Ted Wilson 2001-02-23 An authoritative and comprehensive collection of cutting-edge reviews by leading authorities detailing the scientific evidence for the health effects of vitamins, minerals, functional foods, and other classes of foods. The authors provide readers with updated recommendations on a wide range of significant nutritional questions, including the cardiovascular effects of homocysteine and dietary fats; the importance of antioxidants and soy isoflavones with respect to heart disease and cancer; and the use of dietary modifications in the prevention and/or treatment of blood pressure, obesity, diabetes, and osteoporosis. Richly insightful and up-to-date, Nutritional Health: Strategies for Disease Prevention offers sound advice on optimizing our nutritional habits, as well as a valuable guide to the growing body of literature that shows how nutritional interventions have become essential to reducing the risk of chronic disease. *Antioxidants and Cardiovascular Disease* Martial G. Bourassa 2006-03-10 Chronic oxidative

stress is associated with the aging process and often leads to the development of disorders such as cancer and arterial disease. Cardiovascular conditions in which oxidation damage has been strongly implicated include atherosclerosis, myocardial ischemia and reperfusion, coronary restenosis, diabetes mellitus, and congestive heart failure. Antioxidants and Cardiovascular Disease, Second Edition covers three major topics: 1) the first seven chapters review the oxidative modifcation hypothesis and its close relationship to lipid metabolism and to the pathogenesis of atherosclerosis; 2) the next four chapters describe the different compounds, nutrients and supplements with antioxidant properties and their mechanisms of action; 3) and finallly, the last ten chapters discuss the potential benefits of antioxidants in overall cardiovascular prevention, including hypertension, diabetes mellitus, dyslipidemias, and in the treatment and prevention of specific conditions such as chronic coronary artery disease, restenosis after percutaneous coronary intervention, and chronic heart failure. Antioxidants and Cardiovascular Disease, Second Edition is written by recognized experts in

the fields of atherosclerosis, heart failure and antioxidants. It should be of interest to medical students and fellows, researchers, and practicing physicians. There has been rapid progress in our knowledge in this field during the last two to three years. Thus the current reedition appears timely. For instance, this second edition captures several recently reported and published clinical trials as welll as new information on diabetic and hypertensive cardiovascular disease.

Antioxidants and Cardiovascular Disease Martial G. Bourassa 2008-11-01 Chronic oxidative stress is associated with the aging process and often leads to the development of disorders such as cancer and arterial disease. Cardiovascular conditions in which oxidation damage has been strongly implicated include atherosclerosis, myocardial ischemia and reperfusion, coronary restenosis, diabetes mellitus, and congestive heart failure. Antioxidants and Cardiovascular Disease, Second Edition covers three major topics: 1) the first seven chapters review the oxidative modifcation hypothesis and its close relationship to lipid metabolism and to the pathogenesis of atherosclerosis; 2) the next four chapters

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Saving Women's Hearts Martha Gulati 2011-02-11 Mention the term "heart disease" and most people picture an overweight, middle-aged man. Yet the

reality is that heart disease is the number one killer of women in North America, accounting for a third of all deaths in women and far surpassing the prevalence of breast cancer. Cardiologist Dr. Martha Gulati and holistic pharmacist Sherry Torkos separate the facts from the many myths surrounding heart disease and offer the latest information on both the conventional medical approach and the role of natural medicine in understanding this illness. Saving Women's Hearts examines the unique gender differences for women and provides valuable insight into the screening procedures, diagnosis, treatment options, and most importantly, prevention of heart disease. Written by the leading experts in this field, this practical guide covers: How the heart works and the various types of heart disease Why heart disease is different and unique for women The known and emerging risk factors for heart disease What you need to know about tests and screening procedures Medications - the good, the bad, the ugly, the noteworthy Nature's Pharmacy - the role of vitamins and other supplements Nutritional strategies for better heart health The latest exercise guidelines for women The impact of stress and practical tips on managing stress The

role of sleep and heart health And much more...

Reverse and Prevent Heart Disease Kim Hilton 2018-07-30 How to Prevent and Reverse Heart Disease Heart disease is one of the biggest killer diseases on the planet. Health complications that can arise from heart disease are heart failure, sudden cardiac arrest, heart attack, peripheral artery disease, stroke and aneurysm, a condition that leads to internal bleeding. Reverse and Prevent Heart Disease is a comprehensive handbook that provides information on the risks, prevention and reversal techniques of heart disease using natural means. Even if you are genetically predisposed to this disease, the lifestyle changes instructed in this book will help prevent heart disease from developing. On the Reverse Heart Disease section, the best foods and diet plans to improve the health of your heart and your whole body at large are elaborated. For example, the orange juice mixture described is proven to cut the risk of heart disease by reducing the levels of homocysteine—an amino acid that triggers a heart attack These natural methods are guaranteed to improve the heart function: -TO prevent the development of atherosclerosis by inhibiting the buildup of

plaques in the arteries, thereby preventing hardening or obstruction of the arteries. -TO eliminate excess fats from the body, reducing the levels of glucose and cholesterol in the body -TO stop the aggregation of platelets, thus, reducing the risk of blood clots obstructing the blood vessels which can lead to strokes and heart attacks -TO increase the flow of blood to the heart. Strengthen weak muscles of the heart and help its contractions, thereby leading to optimum pumping and functions of the heart. And much more… If you want to have a healthy heart and live a long life, this book is for you. Take the chance towards a healthy and optimum circulatory system. Tags: healthy heart, herbal healing, heart disease diet, heart disease cookbook, heart diseases symptoms heart disease and obesity, sudden cardiac arrest, heart attack, heart failure, how to prevent and reverse heart disease, natural healing

Antioxidants and Cardiovascular Disease Martial G. Bourassa 2008-11-01 Chronic oxidative stress is associated with the aging process and often leads to the development of disorders such as cancer and arterial disease. Cardiovascular conditions in which oxidation damage has been strongly implicated include

atherosclerosis, myocardial ischemia and reperfusion, coronary restenosis, diabetes mellitus, and congestive heart failure. Antioxidants and Cardiovascular Disease, Second Edition covers three major topics: 1) the first seven chapters review the oxidative modifcation hypothesis and its close relationship to lipid metabolism and to the pathogenesis of atherosclerosis; 2) the next four chapters describe the different compounds, nutrients and supplements with antioxidant properties and their mechanisms of action; 3) and finallly, the last ten chapters discuss the potential benefits of antioxidants in overall cardiovascular prevention, including hypertension, diabetes mellitus, dyslipidemias, and in the treatment and prevention of specific conditions such as chronic coronary artery disease, restenosis after percutaneous coronary intervention, and chronic heart failure. Antioxidants and Cardiovascular Disease, Second Edition is written by recognized experts in the fields of atherosclerosis, heart failure and antioxidants. It should be of interest to medical students and fellows, researchers, and practicing physicians. There has been rapid progress in our knowledge in this field during the last two

to three years. Thus the current reedition appears timely. For instance, this second edition captures several recently reported and published clinical trials as welll as new information on diabetic and hypertensive cardiovascular disease.

New Developments in Antioxidants Research Harold V. Panglossi 2006 In biological systems, the normal processes of oxidation (plus a minor contribution from ionising radiation) produce highly reactive free radicals. These can readily react with and damage other molecules. In some cases the body uses free radicals to destroy foreign or unwanted objects, such as in an infection. However, in the wrong place, the body's own cells may become damaged. Should the damage occur to DNA, the result could be cancer. Antioxidants decrease the damage done to cells by reducing oxidants before they can damage the cell. Virtually all studies of mammals have concluded that a restricted calorie diet extends the life-span of mammals by as much as 100%. This remarkable finding suggests that food is actually more damaging than smoking. As food produces free radicals (oxidants) when metabolised, antioxidant-rich diets are thought to stave off

the effects of aging significantly better than diets lacking in antioxidants. The reduced levels of free radicals, resulting from a reduction in their production by metabolism, is thought to be a major cause of the success of caloric restriction in increasing life span. Antioxidants consist of a group of vitamins including vitamin C, vitamin E, selenium and carotenoids, (such as beta-carotene, lycopene, and lutein). This new book brings together the latest research in this dynamic field.

Novel Therapeutic Approaches Targeting Oxidative Stress

Pawan Kumar Maurya

2022-02-18 Novel Therapeutic Approaches Targeting Oxidative Stress investigates the role of oxidative stress in disease and explores the latest methods and approaches to targeting oxidative stress for treatment and diagnosis. The book begins with an introduction to oxidative stress and its significance. Subsequent sections cover biochemical methods for detecting free radicals and novel therapeutic approaches for targeting oxidative stress in a number of different diseases. This includes age-related illnesses, neuropsychiatric disorders such as schizophrenia and bipolar disorder, and neurodegenerative diseases like Alzheimer's and Parkinson's disease. Novel approaches for

targeting oxidative stress in cancer and cardiovascular diseases are also explored. The book then moves on to discuss advances in drug delivery systems and detecting oxidative stress biomarkers using biosensors. It concludes with case studies that illustrate the targeting of oxidative stress and future perspectives. Explores oxidative stress in a variety of diseases, including neurological disorders, cardiovascular diseases, age-related diseases, and cancer Covers a range of therapeutic approaches to target oxidative stress Includes chapters on the application of novel drug delivery systems and diagnostic biosensors to oxidative stress Features case studies illustrating the targeting of oxidative stress

Prevention of Coronary Heart Disease: Diet, Lifestyle and Risk Factors in the Seven Countries Study Daan Kromhout 2012-12-06 In the 1940s I was struck by reports about many apparently healthy middle-aged men who dropped dead instantly from heart attacks. The causes of these sudden deaths were unknown. I was interested to discover physio-chemical characteristics of individuals with predictive value for the occurrence of these fatal heart attacks. The discovery ofpreventive variables would point ways to prevent this

disease. In order to find relationships between mode of life and susceptibility to heart disease contrasting populations had to be studied. Variety - not a high degree of homogeneity in culture and habits - must be sought. After exploratory surveys in countries with supposed differences in dietary patterns, lifestyle and heart disease rates in the early 1950s, the Seven Countries Study took off in 1958. This study established relationships between risk factors and development of heart disease in middle-aged men in health examined in countries with cultures we demonstrated to contrast in diet and lifestyle. The results obtained in the Seven Countries Study from its inception till now are presented in this book entitled: "Prevention ofcoronary heart disease. Diet, lifestyle and risk factors in the Seven Countries Study. " Long ago I realized that our concern should not be restricted to the prevention of coronary heart disease but should be extended to all diseases and premature death.

Oxygen Radicals in the Pathophysiology of Heart Disease Pawan K. Singal 2012-12-06 Over two centuries ago, oxygen was discovered as "air vital": the component of the earth's atmosphere necessary for life. Less than five years

after this discovery, it was found that oxygen was both a life-sustaining and life threatening inhalant as it plays a role in the two extremes of the animal kingdom: life and death. In the subse quent years, we have made major strides in understanding the role of oxygen in maintaining life and volumes of information are now available on this topic. Our knowledge of the contribution of oxygen in cellular dysfunction and cell death which for the most part had lagged behind has begun to catch up. The deleterious ef fects of oxygen radicals and activated oxygen species on a variety of biological systems have now been described. Recently attention has also been focused on the toxic effects of oxygen on the cardiovascular system. The major aim of the present treatise is to offer an integrated view of the pathophysiological aspects of oxygen toxicity in the heart and blood vessels coupled with a review of therapeutic approaches (hopes?) with free radical scavengers and antioxidants. Internationally known expert investigators provide a concise and critical review on the topic of their expertise which also contains data from their own research.

Cardiac Development Bohuslav Ost'ádal 2002-08-31 The

importance of the developmental approach for experimental and clinical cardiology is indisputable. Clinical-epidemiological studies have clearly shown that the risk factors of serious cardiovascular diseases, such as atherosclerosis and ischemic heart disease, are already present during the early phases of ontogenetic development. Furthermore, congenital cardiovascular malformations remain the single largest cause of infant mortality from congenital defects in industrial countries. It is therefore not surprising that the interest of theoretical and clinical cardiologists in the developmental approach keeps increasing. Advances in molecular biology accelerated this trend substantially. This book is based on contributions presented at the international symposium The Developing Heart in Prague in May 2000. It is our contention that the biological, electrophysiological, morphological, functional, biochemical and functional approaches employed by distinguished scientists worldwide will provide the reader with a global picture for changes characterizing the developing heart. It should stimulate the curiosity of cardiovascular scientists in gaining insight into the

mechanisms of normal and pathological development. *Studies on Cardiovascular Disorders* Heinrich Sauer 2012-11-07 The role of reactive oxygen species (ROS) in the cardiovascular system is Jan-faced. Whereas low concentrations of ROS are involved in variety of physiological signalling events, oxidative stress resulting from deregulated overproduction of ROS and/or impaired antioxidant defences contributes to cardiovascular disease. The actions of ROS in the cardiovascular system are a fascinating topic, not only for the basic science researcher but also for the clinician who is interested in seeking new therapies for his patients suffering from cardiovascular disease. The current book provides a comprehensive overview of the molecular mechanisms and pathoph-iological settings in which chronic and detrimental oxidative stress arises within the heart and vasculature. The book also considers currently discussed strategies in avoiding chronic redox stress resulting from exposure to risk factors or various cardiovascular interventions. The series starts with an overview by Denise de Castro Fernandes, Diego Bonatto and Francisco Laurindo of redox signaling models that

could underlie the dev- opment of redox-associated cardiovascular disorders. The interactions of proteins within signalling cascades with ROS and the regulation of such interactions by the anti-oxidative capacity of the cell are discussed. Rebecca Charles, Joseph Burgoyne and Philip Eaton report on redox-mediated modi cations of proteins under ph- iological and pathophysiological conditions and the variety of post-translational oxidative modi cations that explain redox sensing and signal transduction by proteins at the molecular level. ROS are generated during embryogenesis and may be involved in the proper development of the cardiovascular system.

Cardioprotective Natural Products: Promises And Hopes Brahmachari Goutam 2017-10-27 Cardioprotective Natural Products: Promises and Hopes focuses on the recent advances in the research of bioactive natural products with cardioprotective potential against various cardiovascular diseases/disorders. The aim of this book is to underline the promise and future hope in bioactive natural molecules, herbal formulations, natural dietary supplements and related materials in the prevention and cure of cardiovascular diseases

in a scientific way. This book, which comprises a variety of about 9 chapters written by active researchers and leading experts, brings together an overview of current discoveries and trends in this field. This volume is also an outstanding source of information with regard to the industrial application of natural products for medicinal purposes. The broad interdisciplinary approach adopted in this book ensures that it is much more interesting to scientists deeply engaged in the research and/or use of bioactive natural products. It will serve not only as a valuable resource for researchers in their own fields to predict promising leads for developing pharmaceuticals to prevent and treat disease manifestations, but will hopefully also motivate young scientists to engage in the dynamic field of natural products research. Contents: Cardioprotective Natural Products: Promises and Hopes – An Overview (Goutam Brahmachari) Naturally Occurring Matrix Metalloproteinase Inhibitors: A Group of Promising Cardioprotective Agents (Tayebeh Anajafi, Abbas Sedigh and Sanku Mallik) Promising Natural Cardioprotective Agents in Drug- and Toxin-Induced Pathophysiology (Semantee Bhattacharya and Parames C

Sil) Natural Products Against Drug-Induced Cardiotoxicity (Meghana Koneru, Nasiruddin Nalban, Bidya Dhar Sahu and Ramakrishna Sistla) Cardioprotective Potential of Medicinal Plants in Attenuating Doxorubicin-Induced Cardiotoxicity (Sameer N Goyal, C R Patil, Nimisha Mishra, Rajesh Mohanraj and Shreesh Ojha) The Role of Dietary Supplements in Cardiovascular Diseases (Essam Abdel-Sattar, Soheir M El Zalabani and Manal M Sabry) Beneficial Role of Antioxidant Molecules with Therapeutic Potential in Cardiac Disease (Jyotirmoy Ghosh, Krishnendu Sinha and Parames C Sil) Small Molecule Phytocompounds as Promoters of LDL-Receptor and PCSK9 Inhibition: Potential Role as Non-Statin Based Cardio-Protective Agents (Ajoy Basak, Paul O'Reilly, Bethel Ozed Williams and Sarmistha Basak) 7,8-Dihydroxy-3-methylisochroman-4-one: A Promising Anti-Hypertensive Lead-Molecule from Banana (Musa sapientun L) Peel (Goutam Brahmachari) Readership: Phytochemists; combinatorial chemists; pharmacologists; institutes for drug research (drug discovery and development); industrial research groups developing drugs from medicinal plants; pharmaceutical companies;

manufacturers of herbal and ayurvedic medicines and cosmetic products; manufacturers of natural products; advanced and research students. Keywords: Cardioprotective Natural Products;Cardiovascular Diseases and Related Symphtoms;Protection and Therapies;Ayurvedic/Herbal Formulations;Medicinal Compounds of Natural Origins;Therapeutic Targets;Mode of Actions;Pharmacokinetics;Drug Discovery and DevelopmentsReview: Key Features: Contains a variety of 10-12 chapters with written by active researchers and leading experts deeply engaged in the research field with medicinal natural products and herbal formulations Recent cutting-edge advances on medicinal natural products as the preventives and therapies against deadly cardiovascular diseases in a single volume Exhaustive and authoritative presentations of research outcomes on medicinal natural product

Diabetic Cardiomyopathy Belma Turan 2014-01-08 Diabetes has long been recognized as a disease of high blood sugar, and there has been a continuous search of the exact reason for its development and effective treatment. In 2005, the

World Health Organization had estimated that more than 180 million people worldwide suffer from diabetes mellitus and indicated that this figure is likely to double within the next 20 years. Among the 3.8 million deaths each year associated with diabetes, about two thirds are attributable to cardiovascular complications, and diabetes is now considered to be a major metabolic risk factor for the occurrence of heart disease. Diabetic Cardiomyopathy: Biochemical and Molecular Mechanisms is a compilation of review articles devoted to the study on the topic with respect to biochemical and molecular mechanisms of hyperglycaemia. The wide range of areas covered here is of interest to basic research scientists, clinicians and graduate students, who are devoted to study the pathogenesis of diabetes-induced cardiovascular dysfunction. Furthermore, some chapters are directed towards increasing our understanding of novel ways for the prevention/treatment of cardiomyopathy. Twenty five articles in this book are organized in three sections. The first section discusses general aspects of the metabolic derangements in diabetic cardiomyopathy including metabolic alterations and

substrate utilization as well as cardiac remodelling in the heart; role of diet in the development of metabolic syndrome in the heart; effect of hyperglycaemia in terms of biochemical and structural alterations in heart. In the second section, several cellular and molecular mechanisms are discussed indicating that diabetic cardiomyopathy is a multifactorial and complex problem. The third section discusses the prevention and treatment of diabetes using appropriate diet, proper supplements including antioxidants, angiotensin inhibitors and some other drugs. All in all, this book discusses the diverse mechanisms of diabetic cardiomyopathy with some information on new therapeutic approaches for finding solutions to prevent or reverse the development of cardiac dysfunction.

Antioxidants in Science, Technology, Medicine and Nutrition G. Scott 1997-05-01

The use of antioxidants is widespread throughout the rubber, plastics, food, oil and pharmaceutical industries. This book brings together information generated from research in quite separate fields of biochemical science and technology, and integrates it on a basis of the common mechanisms of peroxidation

and antioxidant action. It applies present knowledge of antioxidants to our understanding of their role in preventing and treating common diseases, including cardiovascular disease, cancer, rheumatoid arthritis, ischemia, pancreatitis, hemochromatosis, kwashiorkor, disorders of prematurity and disease of old age. Antioxidants deactivate certain harmful effects of free radicals in the human body due to biological peroxidation, and thus prevent protection against cell damage. The book is of considerable interest to scientists working in the materials and foodstuff industries, and to researchers seeking information on the connection between diet and health, and to those developing new drugs to combat diseases associated with oxidative stress. It is important also throughout the non-medical world, especially to the work force within the affected industries. Examines research in separate fields of biochemical science and technology and integrates it on a basis of the common mechanisms of peroxidation and antioxidant action Applies present knowledge of antioxidants to our understanding of their role in preventing and treating common diseases, including cardiovascular disease, cancer,

rheumatoid arthritis and others

Studies on Alzheimer's Disease Domenico Pratic 2013-09-21 This volume systematically reviews the basic science and clinical knowledge of the role of free radicals and antioxidants, collectively known as “oxidative stress,” in the pathology of Alzheimer’s disease. It describes the most current diagnostic tools, laboratory methods and technology, and suggests ways of prevention and treatment to emphasize the concept of the bench-to-bedside approach. Studies on Alzheimer’s Disease provides thorough coverage of emerging technology and medical applications including discussions of biomarkers and antioxidants as therapeutic agents, and several more relevant aspects. In addition, this book promotes the concept of using biomarkers representative of oxidative stress reactions and free-radical damageand describes the effects of antioxidants in treating disease in clinical trials. This content is invaluable to both researchers and clinicians studying the development of and treating patients with Alzheimer’s Disease.

Multiple Risk Factors in Cardiovascular Disease Antonio M. Gotto Jr. 2012-12-06 This volume is a collection of the most significant contributions to

the 4th International Symposium on MULTIPLE RISK FACTORS IN CARDIOVASCULAR DISEASE: STRATEGIES OF PREVENTION OF CORONARY HEART DISEASE, CARDIAC F AILURE, AND STROKE held in Washington, D. C. in April 1997. The meeting focused on the risk factors for cardiovascular disease and their interactions. The need for this symposium is based on the epidemiological, clinical, and biological evidence that individuals from industrialized countries often possess two or more risk factors which synergistically increase the global risk profile. This has become more evident in recent years with the increase in life expectancy of populations in the industrialized countries. The evidence that a combination of risk factors confers a very high risk of developing cardiovascular diseases, is of pivotal interest in the process of detection of patients who will benefit the most from pharmacological treatment. Many recent epidemiological data identifying the intrinsic and environmental factors contributing to the development of atherosclerosis are discussed. These results, in parallel with basic and clinical research, underline atherosclerosis as a complex and multifactorial process involving the influences of lipids,

including lipoprotein subfractions, blood pressure rheologic forces, carbohydrate tolerance, and thrombogenic factors, including fibrinogen, tissue factor, PAI-I, and homocysteine. Furthennore, the risk associated with anyone of these risk factors varies widely depending on the level of the associated atherogenic risk factors. Hyper cholesterolemia and hypertriglyceridemia, for instance, are more common than would be expected by chance among hypertensive patients.

Atherothrombosis and Coronary Artery Disease Valentin Fuster 2005 Written by the world's foremost authorities, this volume provides comprehensive coverage of current approaches to the prevention, diagnosis, and management of atherothrombosis and its coronary and noncoronary complications. This edition has been thoroughly updated, sharply focused on clinical information, and trimmed to one manageable volume. Coverage begins with a review of risk factors and prevention, emphasizing lipid abnormalities, hypertension, smoking, diabetes, and obesity. Subsequent sections examine the pathogenesis of atherosclerosis, markers and imaging, acute coronary syndromes, chronic stable

angina, and noncoronary atherothrombosis. Clinical presentations, medical management, and the latest interventional strategies are included.

Critical Coronary Stenosis 1997 Coronary arterial stenosis causes impairment of cardiac function and is the major contributor of mortality in cardiovascular disease. The data to date suggest that coronary stenosis greater than 50% is considered significant. Consequently, stenotic conditions of less than 50% are usually disregarded by the medical profession. However, myocardial ischemia may occur with less than 50% occlusion to the coronary artery. Ischemia leads to the accumulation of xanthine oxidase and xanthine. The conversion of xanthine into uric acid in the presence of xanthine oxidase leads to the production of oxygen free radicals (OFRs) which causes oxidative damage. Increase in levels of OFRs may affect the levels of antioxidants and could damage cell membranes, thereby producing malondialdehyde (MDA). It is hypothesized that ischemia would produce changes in the antioxidant reserve and the production of MDA. Critical coronary stenosis would be defined as the degree of stenosis at which significant

changes in ischemia-related oxidative stress (antioxidant reserve and/or MDA) will first be apparent. To verify this hypothesis, experiments were conducted to investigate the effects of various degrees of stenosis (0, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79 and 100%) of the anterior descending branch of the left coronary artery on the antioxidant reserve (an increase in antioxidant reserve suggests a decrease in tissue chemiluminescence and vice-versa), activities of various enzymatic antioxidants (superoxide dismutase, glutathione peroxidase and catalase), and MDA levels in cardiac muscle in anaesthetized dogs. ECGs were also monitored for comparison purposes. A significant increase in tissue chemiluminescence was observed with as little as 20-29% stenosis of the coronary artery. This increase in tissue chemiluminescence suggests that the myocardium was undergoing oxidative stress and it was reflected by a decrease in the antioxidant reserve. The initial decrease in the antioxidant reserve w.

Endothelium and Cardiovascular Diseases

Protasio Lemos Da Luz 2018-02-03 Endothelium and Cardiovascular Diseases: Vascular Biology and Clinical

Syndromes provides an in-depth examination of the role of endothelium and endothelial dysfunction in normal vascular function, and in a broad spectrum of clinical syndromes, from atherosclerosis, to cognitive disturbances and eclampsia. The endothelium is a major participant in the pathophysiology of diseases, such as atherosclerosis, diabetes and hypertension, and these entities are responsible for the largest part of cardiovascular mortality and morbidly. Over the last decade major new discoveries and concepts involving the endothelium have come to light. This important reference collects this data in an easy to reference resource. Written by known experts, and covering all aspects of endothelial function in health and disease, this reference represents an assembly of recent knowledge that is essential to both basic investigators and clinicians. Provides a complete overview of endothelial function in health and diseases, along with an assessment of new information Includes coverage of groundbreaking areas, including the artificial LDL particle, the development of a new anti-erectile dysfunction agent, a vaccine for atherosclerosis, coronary calcification associated with red wine, and the interplay

of endoplasmic reticulum/oxidative stress Explores the genetic features of endothelium and the interaction between basic knowledge and clinical syndromes

Fight Heart Disease with Vitamins and Antioxidants

Kedar N. Prasad 2014-11-20 The most complete and up-to-date resource on the powerful benefits of micronutrients for heart disease prevention and treatment • Provides an easy-to-follow program of nutritional supplements to halt the progression of heart disease and prevent its onset despite family history • Shows how merely changing your diet and activity level cannot fully counteract the chronic inflammation and free radical damage at the source of heart disease • Debunks flawed conclusions of the medical community that show vitamins and antioxidants to be ineffective for treatment of heart disease and high blood pressure In this practical scientific guide, leading researcher in cancer, heart disease, and diabetes prevention Kedar N. Prasad, Ph.D., reveals the latest revolutionary discoveries on the use of antioxidants and micronutrients to treat heart disease. He details how the proper combinations of vitamin and antioxidant supplements

can greatly increase the effectiveness of standard medical treatments for heart disease as well as help balance cholesterol levels and blood pressure, minimize plaque and clot formation, reduce angina and atherosclerosis, and prevent onset of heart disease despite family history. Prasad shows how chronic inflammation, oxidative stress, homocysteine levels, and free radical damage are the chief culprits in the progression of heart disease and that merely changing your diet and activity level and regulating cholesterol and blood pressure cannot fully counteract an unhealthy internal state. He provides an easy-to-follow daily supplement regime for multiple age groups to target free radical damage and cell injury and stop the progression of heart disease and its related complications. Sharing the scientific data on familial heart disease and antioxidant use, he debunks the flawed conclusions of the medical community that vitamins and antioxidants are ineffective for heart disease, revealing how their studies focused on specific micronutrients rather than synergistic combinations. Offering the missing complement to the standard care of medications, diet, exercise, and lifestyle changes promoted by mainstream

medicine, this guide provides a powerful approach to heart disease prevention, treatment, and care.

Antioxidants and Cardiovascular Disease Martial G. Bourassa 2006 Antioxidants and Cardiovascular Disease, Second Edition addresses a complex but very timely and fascinating problem in cardiovascular medicine. It is written by recognized experts in the fields of atherosclerosis and antioxidants. It should be of interest not only to academicians but also to practicing physicians. The first five chapters review the general concepts of oxidative stress and their relationship to lipid metabolism, endothelial dysfunction, genetics and transcriptional factors. The next seven chapters describe recently defined markers of oxidative stress, pharmacological compounds with antioxidant activity, natural antioxidants found in micronutrients and in nutrient-rich diets, and reviews the recent evidence for their efficacy or lack of efficacy in patients with cardiovascular disease or cardiovascular risk factors. The last seven chapters discuss the potential therapeutic benefits of antioxidants in a number of cardiovascular conditions which include atherosclerosis, restenosis after

percutaneous coronary intervention, major cardiovascular risk factors such as hypertension, diabetes mellitus and dyslipidemia, and left ventricular dysfunction and congestive heart failure. Martial G. Bourassa, M.D. and Jean-Claude Tardif, M.D. are affiliated with the Montreal Heart Institute, Research Center and Department of Medicine, Faculty of Medicine, University of Montreal, Montreal, Quebec, Canada.

Vitamin E Matthew H. Braunstein 2006 Vitamin E is a fat-soluble vitamin that exists in eight different forms. Each form has its own biological activity, which is the measure of potency or functional use in the body. Alpha-tocopherol (-tocopherol) is the name of the most active form of vitamin E in humans. It is also a powerful biological antioxidant. Vitamin E in supplements is usually sold as alpha-tocopheryl acetate, a form that protects its ability to function as an antioxidant. The synthetic form is labelled 'D, L' while the natural form is labelled 'D'. The synthetic form is only half as active as the natural form. Antioxidants such as vitamin E act to protect the cells against the effects of free radicals, which are potentially damaging by-products of energy metabolism. Free radicals can damage cells and may

contribute to the development of cardiovascular disease and cancer. Studies are underway to determine whether vitamin E, through its ability to limit production of free radicals, might help prevent or delay the development of those chronic diseases. Vitamin E has also been shown to play a role in immune function, in DNA repair and other metabolic processes. This book presents leading research on this important topic.

Studies on Atherosclerosis Martin Rodriguez-Porcel 2018-07-12 This volume explores the role free radicals and antioxidants within the development of vascular disease, examining fundamental research and translating preclinical knowledge to clinical trials. The expertly authored chapters describe the relationship of oxidative stress to atherosclerosis and the cardiovascular system, exploring its role in cardiac fibrosis, renovascular disease, hypertension, and regulation of blood pressure and cerebral vascular tone. The concluding chapter discusses the current state of clinical research, contextualizing clinical trials within the existing theoretical framework and analyzing attempts to preserve oxidant stress under various conditions. With its concise and authoritative analysis of pre-

clinical research and clinical results, Studies in Atherosclerosis – part of the bestselling Oxidative Stress in Basic Research and Clinical Practice series – is essential for researchers and clinicians focusing in cardiology, nephrology, or oxidative stress.

Multiple Risk Factors in Cardiovascular Disease

Fondazione Giovanni Lorenzini 1998 This volume is a collection of the most significant contributions to the 4th International Symposium on MULTIPLE RISK FACTORS IN CARDIOVASCULAR DISEASE: STRATEGIES OF PREVENTION OF CORONARY HEART DISEASE, CARDIAC FAILURE, AND STROKE held in Washington, D. C. in April 1997. The meeting focused on the risk factors for cardiovascular disease and their interactions. The need for this symposium is based on the epidemiological, clinical, and biological evidence that individuals from industrialized countries often possess two or more risk factors which synergistically increase the global risk profile. This has become more evident in recent years with the increase in life expectancy of populations in the industrialized countries. The evidence that a combination of risk factors confers a very high risk of developing cardiovascular

diseases, is of pivotal interest in the process of detection of patients who will benefit the most from pharmacological treatment. Many recent epidemiological data identifying the intrinsic and environmental factors contributing to the development of atherosclerosis are discussed. These results, in parallel with basic and clinical research, underline atherosclerosis as a complex and multifactorial process involving the influences of lipids, including lipoprotein subfractions, blood pressure rheologic forces, carbohydrate tolerance, and thrombogenic factors, including fibrinogen, tissue factor, PAI-I, and homocysteine. Furthennore, the risk associated with anyone of these risk factors varies widely depending on the level of the associated atherogenic risk factors. Hyper cholesterolemia and hypertriglyceridemia, for instance, are more common than would be expected by chance among hypertensive patients.

Natural Antioxidants in Human Health and Disease Balz Frei 1994-09-22 This book serves as a comprehensive overview of the current scientific knowledge on the health effects of dietary and supplemental antioxidants (such as vitamins C and E). Chapters integrate information from basic research and animal

studies, epidemiologic studies, and clinical intervention trials. The popular media has taken great interest in antioxidants, with numerous articles emphasizing their role in preventing disease and the possible slowing of the aging process. These antioxidant vitamins may be important in preventing not only acute deficiency symptoms, but also chronic disorders such as heart disease and certain types of cancer. This book, therefore, is not only for scientists and doctors, but also for health writers, journalists, and informed lay people. The text focuses on several human conditions for which there is now good scientific evidence that oxidation is an important etiological component. Specifically, antioxidants may prevent or slow down the progression of: Cancer, Cardiovascular disease, Immune system disorders, Cataracts, Neurological disorders, Degeneration due to the aging process.

Food Cure, The: Clinically Proven Antioxidant Foods To Prevent And Treat Chronic Diseases And Conditions Lai Monte 2020-01-22 Modern medicine has done much in the field of acute conditions, such as trauma, infections, burns and bone fractures, but it has limited success in treating chronic

diseases, such as Alzheimer's disease, Parkinson's disease, and diabetes, among others. At present, the root causes of most chronic diseases are still unknown. It is well known in the medical communities that at least 50% of all chronic diseases are preventable by dietary changes.The Food Cure presents the groundbreaking antioxidant food remedies to prevent and treat chronic diseases that to this day have been hidden in the vast scientific literature that is not accessible to the public.In this book, you will discover a treasure trove of dietary habits of tens of millions of people worldwide; unlock the secrets of the healing power of antioxidants in plant-based whole foods; how to safely and effectively prevent and treat major illnesses and cancers with antioxidant rich foods; why fish are important to brain health; seven disease-causative foods on your dining table that can kill you; why eating just one egg a day can be detrimental to your health; and science-based food remedies to prevent and treat hypertension, high blood cholesterol, diabetes, chronic kidney disease, and more.Meta-analysis is a statistical procedure for combining data from multiple studies. When the treatment effect (or effect size) is consistent from one study to

the next, meta-analysis can be used to identify this common effect.The search using medical data bases reveals that hundreds of meta-analysis papers conducted with tens of millions of people worldwide confirmed that the efficacies of thirty antioxidant-rich food remedies in preventing or treating many chronic diseases. Meta-analysis is the most reliable statistical method for assessing the efficacy of food items in preventing or treating chronic diseases.The Food Cure will bring these clinically proven remedies in the general public and book consumers.Related Link(s) *NO More Heart Disease* Louis Ignarro 2006-01-24 Dr. Louis Ignarro discovered "the atom" of cardiovascular health--a tiny molecule called Nitric Oxide. NO, as it is known by chemists, is a signaling molecule produced by the body, and is a vasodilator that helps control blood flow to every part of the body. Dr. Ignarro's findings led to the development of Viagra. Nitric Oxide has a beneficial effect on the cardiovascular system as well. NO relaxes and enlarges the blood vessels, prevents blood clots that trigger strokes and heart attacks, and regulates blood pressure and the accumulation of plaque in the blood vessels. Dr. Ignarro's current research indicates that

Nitric Oxide may help lower cholesterol by facilitating the actions of statin drugs like Lipitor. The goal of the regimen presented in NO More Heart Disease is to age proof the cardiovascular system, keeping the vascular network clean and elastic through enhanced NO productivity. The plan is easy-to-follow without extreme lifestyle adjustments, involving taking supplements to stimulate Nitric Oxide production, incorporating NO friendly food into the diet, and a moderate exercise program.

Metabolic Syndrome and Cardiovascular Disease T. Barry Levine 2012-07-05 Trends indicate that the metabolic syndrome will become theleading risk factor for heart disease. Now more than ever you needan all-in-one reference that provides the tools and practicaladvice you need to: Identify at-risk patients Explain individual contributing factors Aid in patient education and motivation Direct comprehensive care and Choose the most appropriate interventions Comprehensively revised to reflect leading-edge research and noworganized to facilitate easy access to essential information andclinically-relevant guidance, Metabolic Syndrome andCardiovascular Disease, 2e offers this and more. Not

onlywill you receive a solid understanding of the pathophysiologyunderlying the metabolic syndrome and cardiovascular disease butalso the rationale for today's most effectivetreatments. What's new? Filled with timely new content, this updated edition covers: New discoveries that have changed our understanding of thepathogenesis and interrelationship of metabolic syndrome,cardiovascular disease (CHD), and type 2 diabetes mellitus(DM) The relevance of mitochondria and telomeres Sleep and its impact on cardiometabolic health The pivotal interplay between insulin and forkheadtranscriptionfactors Calorie restriction research Bariatric surgery experiences and outcomes In addition, each chapter includes essential information oncomorbidities, interventions, and pharmacotherapeutic options–an exclusive feature found only in the second edition!

Antioxidants in Food Jan Pokorny 2001-04-12

Antioxidants are an increasingly important ingredient in food processing. Their traditional role is, as their name suggests, in inhibiting the development of oxidative rancidity in fat-based foods, particularly meat and dairy products and fried foods. However, more recent research

has suggested a new role in inhibiting cardiovascular disease and cancer. Antioxidants in Food: Practical Applications provides a review of the functional role of antioxidants and discusses how they can be effectively exploited by the food industry. The first part of the book looks at antioxidants and food stability with chapters on the development of oxidative rancidity in foods, methods for inhibiting oxidation, and ways of measuring antioxidant activity. Part 2 looks at antioxidants and health, including chapters on antioxidants and cardiovascular disease, their antitumour properties, and bioavailability. A major trend in the food industry, driven by consumer concerns, has been the shift from the use of synthetic to natural ingredients in food products. Part 3 looks at the range of natural antioxidants available to the food manufacturer. The final section of the book looks at how these natural antioxidants can be effectively exploited, covering such issues as regulation, preparation, antixoxidant processing functionality and their use in a range of food products from meat and dairy products, frying oils and fried products, to fruit and vegetables and cereal products.