

In Vitro Antioxidant And Anti Proliferative Activity Of

Designing Sustainable Technologies, Products and Policies
 Methods in Actinobacteriology
 Phytochemistry: An in-silico and in-vitro Update
 Cosmeceuticals
 Plant Lectins
 Plants as a Source of Natural Antioxidants
 Free Radicals in Biology and Medicine
 New Advances in the Research of Antioxidant Food Peptides
 Phytochemicals
 Postharvest Biochemistry of Plant Food-Materials in the Tropics
 Antioxidants in Foods and Its Applications
 Antioxidant Methodology
 Measurement of Antioxidant Activity and Capacity
 Lignocellulosic Biorefining Technologies
 Marine Anti-inflammatory and Antioxidant Agents 2021
 Handbook of Antioxidant Methodology
 Indian Medicinal Plants
 Antioxidant Activity of Polyphenolic Plant Extracts
 Marine Anti-inflammatory and Antioxidant Agents 2.0
 Antioxidants Effects in Health
 Cosmetic Dermatology
 A guide to medicinal plants in North Africa
 Agricultural Chemistry
 Oxidative Stress and Chronic Degenerative Diseases
 Processing and Impact on Antioxidants in Beverages
 Plants in Human Health and Nutrition Policy
 In Silico Methods for Drug Design and Discovery
 Plant Antioxidants and Health
 Bioprospecting of Plant Biodiversity for Industrial Molecules
 Food Antioxidants
 Antioxidant Nutraceuticals
 Antimutagenesis and Anticarcinogenesis Mechanisms II
 Antioxidant-Antidiabetic Agents and Human Health
 Free Radical Damage and its Control
 Antioxidants in Cocoa
 Inflammation and Cancer
 Leung's Encyclopedia of Common Natural Ingredients
 Antioxidant Properties of Spices, Herbs and Other Sources
 Antioxidant and Anti-aging Action of Plant Polyphenols
 Advances in Computational and Bio-Engineering

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NATALIE DIAZ

Designing Sustainable Technologies, Products and Policies
 Springer

Allergenic proteins in rice; Isolation and properties of concanavalin a-like lectin in sword bean; Major proteins in seeds of several tropical legumes; Polyphenol oxidase in banana fruit and buds; Biochemical studies on microbial linamarase production; Polyphenols and tannins in selected tropical vegetables; Search for new natural antioxidants in select tropical plant; Comparative study of antioxidative assays of plant materials; Occurrence and characteristics of stress melabolites in cassava; Alcohol fermentation from cassava and rejected banana; Biochemical basis for stress responses of harvested perishables in the tropics; Comparative morpho-anatomy and physiology of the banana and mango; Some biochemical changes in ethylene- and ethanol-treated banana; Biochemical study on taro corms with special reference to physiological disorders; Astringency and polyphenols in banana; Odor compounds produced in peel of mature-green banana fruit; Physiochemical properties and utilization of starches from tropical root crops; Evaluation of sweetpotato varieties for food uses in the tropics; Novel natural antioxidants for the utilization in food and biological systems.

Methods in Actinobacteriology Elsevier

The present volume includes a series of studies on edible wild plants and their impact on human health. Today the diet of developed societies is limited to a few cultivated vegetables while the developing countries often lack an adequate supply of micronutrients. Wild plants contain antioxidant, omega-3 fatty acid and micronutrient components that contribute to both a decrease in the risk for chronic diseases as well as the reduction of nutritional deficiencies. Thus they address many diet-related problems at both ends of the socioeconomic spectrum. Results from research provide data on the composition of indigenous plants from various areas of the world and show that consumption of green leafy vegetables corrects deficiencies successfully. The book also deals with nutrition policy integrating indigenous foods against micronutrient deficiency. Implementation of scientific evidence is an essential precondition for improving nutrition policy. Nutritionists, food producers, botanists, agronomists, food technologists, pharmacologists as well as all professionals involved with food policy and human development will find in this book a valuable and updated basis for their work.

Phytochemistry: An in-silico and in-vitro Update Springer Science & Business Media

Processing and Impact on Antioxidants in Beverages presents

information key to understanding how antioxidants change during production of beverages, how production options can be used to enhance antioxidant benefit, and how to determine the production process that will result in the optimum antioxidant benefit while retaining consumer acceptability. In the food industry, antioxidants are added to preserve the shelf life of foods and to prevent off-flavors from developing. These production-added components also contribute to the overall availability of essential nutrients for intake. Moreover, some production processes reduce the amount of naturally occurring antioxidants. Thus, in terms of food science, it is important to understand not only the physiological importance of antioxidants, but what they are, how much are in the different food ingredients, and how they are damaged or enhanced through the processing and packaging phases. This book specifically addresses the composition and characterization of antioxidants in coffee, green tea, soft drinks, beer, and wine. Processing techniques considered here include fermentation and aging, high-pressure homogenization, enzymatic debittering, and more. Lastly, the book considers several selective antioxidant assays, such as Oxygen Radical Absorbance Capacity (ORAC) and Trolox Equivalent Antioxidant Capacity (TEAC) assays. Provides insights into processing options for enhanced antioxidant bioavailability Presents correlation potentials for increased total antioxidant capacity Includes methods for the in situ or in-line monitoring of antioxidants to reduce industrial loss of antioxidants in beverages Proposes processing of concentrated fractions of antioxidants that can be added to foods

Cosmeceuticals Springer

Antioxidants Effects in Health: The Bright and the Dark Side examines the role that antioxidants play in a variety of health and disease situations. The book discusses antioxidants' historical evolution, their oxidative stress, and contains a detailed approach of 1) endogenous antioxidants, including endogenous sources, mechanisms of action, beneficial and detrimental effects on health, in vitro evidence, animal studies and clinical studies; 2) synthetic antioxidants, including sources, chemistry, bioavailability, legal status, mechanisms of action, beneficial and detrimental effects on health, in vitro evidence, animal studies and clinical studies; and 3) natural antioxidants, including sources, chemistry, bioavailability, mechanisms of action, possible prooxidant activity; beneficial and detrimental effects on health, in vitro evidence, animal studies and clinical studies. Throughout the book, the relationship of antioxidants with different beneficial and detrimental effects are examined, and the current controversies and future perspectives are addressed and explored. *Antioxidants Effects in Health: The Bright and the Dark Side* evaluates the current scientific evidence on antioxidant

topics, focusing on endogenous antioxidants, naturally occurring antioxidants and synthetic antioxidants. It will be a helpful resource for pharmaceutical scientists, health professionals, those studying natural chemistry, phytochemistry, pharmacognosy, natural product synthesis, and experts in formulation of herbal and natural pharmaceuticals. Introduces recent information on antioxidants in a systematic way Provides an overview of the history and function of antioxidants Contains discussion of antioxidants including their chemistry, sources and main effects

Plant Lectins Springer

This open access book provides insight into the implementation of Life Cycle approaches along the entire business value chain, supporting environmental, social and economic sustainability related to the development of industrial technologies, products, services and policies; and the development and management of smart agricultural systems, smart mobility systems, urban infrastructures and energy for the built environment. The book is based on papers presented at the 8th International Life Cycle Management Conference that took place from September 3-6, 2017 in Luxembourg, and which was organized by the Luxembourg Institute of Science and Technology (LIST) and the University of Luxembourg in the framework of the LCM Conference Series.

Plants as a Source of Natural Antioxidants IUCN

The Special Issue "Marine Anti-Inflammatory and Antioxidants Agents 2021" collected the latest research, both in vitro and in vivo, on natural compounds from a variety of deep-sea organisms with anti-inflammatory and/or antioxidant properties as potential candidates for new drug discovery, and more generally for the field of marine biotechnology. The research presented here discusses the potential benefits of certain peptides and proteins derived from oysters, blue mussels, and cyanobacteria, as well as the carotenoid pigment astaxanthin, which is found in a variety of marine organisms. This Special Issue has carved out an important space for crude extracts from marine products, such as microalgae and green algae, highlighting their potential benefits to human health. Finally, the Special Issue includes a review of the benefits of some natural compounds derived from the algal biome against inflammatory bowel diseases, as well as a research article identifying the presence of the OvoA gene in arthropods for the first time. Through an excursus of high-quality research, this Special Issue provides the entire scientific community with new tools and insights to catch a molecular treasure for human health from the sea.

Free Radicals in Biology and Medicine John Wiley & Sons

This volume examines in detail the role of chronic inflammatory processes in the development of several types of cancer. Leading experts describe the latest results of molecular and cellular

research on infection, cancer-related inflammation and tumorigenesis. Further, the clinical significance of these findings in preventing cancer progression and approaches to treating the diseases are discussed. Individual chapters cover cancer of the lung, colon, breast, brain, head and neck, pancreas, prostate, bladder, kidney, liver, cervix and skin as well as gastric cancer, sarcoma, lymphoma, leukemia and multiple myeloma.

New Advances in the Research of Antioxidant Food Peptides Springer

Antioxidants are present naturally in virtually all food commodities, providing them with a valuable degree of protection against oxidative attack. When food commodities are subjected to processing, such natural antioxidants are often depleted, whether physically, from the nature of the process itself, or by chemical degradation. In consequence, processed food products usually keep less well than do the commodities from which they originated. Ideally, food producers would like them to keep better. This objective can often be achieved by blending natural products rich in antioxidants with processed foods, or by using well recognised antioxidants as food additives. In order to understand their action, and hence to apply antioxidants intelligently in food product formulation, some knowledge of the mechanisms by which they function is necessary. This is complex and of antioxidative may rely on one or more of several alternative forms intervention. Accordingly, the various mechanisms that may be relevant are discussed in Chapter 1, in each case including the 'intervention' mechanism. When present in, or added to, foods antioxidants are functional in very small quantities, typically, perhaps, at levels of 0.01 % or less.

Phytochemicals MDPI

This volume surveys the chemistry, biochemistry, biosynthesis, metabolism and pharmacological properties of lectins. Lectins, which are most commonly found in plants, are widespread natural products with striking biological activities. Their specific ability to recognise and bind to simple or complex saccharides facilitates their role as effective information protein molecules. As agents of cell-to-cell recognition, lectins promote symbiosis between plants and specific nitrogen-fixing soil bacteria. As natural defensive molecules, they can protect plants against predators such as bacteria, fungi and insects. As part of our diet, lectins are powerful exogenous growth factors in the small intestine and influence our health, the digestive function and the bacterial ecology of the alimentary tract. Lectins are also important research tools in preparative biochemistry and cell science.

Postharvest Biochemistry of Plant Food-Materials in the Tropics Karger Medical and Scientific Publishers

This Special Issue comprises articles related to the effects of genotype and processing conditions on the phenolic compound profile and antioxidant activity of cocoa-derived products, isolation and characterization of antioxidant compounds such as polyphenols and melanoidins from cocoa beans, and assessment of the antioxidant, antioxidative stress and anti-inflammatory effects of cocoa beans and cocoa-derived products. The results of these studies show that it is possible to maintain or increase the biological activity of cocoa beans and their derived products (cocoa powder and chocolate) by choosing appropriate processing conditions and cocoa genotype and origin. The papers published in this Special Issue confirm that cocoa beans and cocoa by-products can be considered as an attractive source material for manufacturing of functional foods and nutraceuticals. This is because they contain many bioactive compounds, mainly polyphenols, including flavonoids (proanthocyanidins, monomeric flavan-3-ols, and anthocyanins) and phenolic acids, as well as melanoidins. Finally, the in vitro and in vivo studies demonstrate the importance of cocoa antioxidants for the prevention of oxidative stress and inflammation.

Antioxidants in Foods and Its Applications BoD - Books on Demand

This work responds to the need to find, in a sole document, the affect of oxidative stress at different levels, as well as treatment with antioxidants to revert and diminish the damage. Oxidative Stress and Chronic Degenerative Diseases - a Role for Antioxidants is written for health professionals by researchers at diverse educative institutions (Mexico, Brazil, USA, Spain, Australia, and Slovenia). I would like to underscore that of the 19 chapters, 14 are by Mexican researchers, which demonstrates the commitment of Mexican institutions to academic life and to the prevention and treatment of chronic degenerative diseases.

Antioxidant Methodology Karger Medical and Scientific Publishers

This volume details techniques on the study of Isolation, characterization, and exploration of actinobacteria in industrial, food, agricultural, and environmental microbiology. Chapters cover a wide range of basic and advanced techniques associated with research on isolation, characterization and identification of actinobacteria in soil, sediment, estuarine, water, Saltpan, Mangroves, plants, lichens, sea weeds, sea grass, animals-crab, snail, shrimp. Authoritative and cutting-edge, Methods in Actinobacteriology aims to be a useful practical guide to researchers to help further their study in this field.

Measurement of Antioxidant Activity and Capacity BoD - Books on Demand

The field of antioxidant research has grown rapidly over the last

30 years and shows no sign of slowing down. In order to understand how antioxidants work, it is essential to understand how their activity is measured. However, antioxidant activity measurements are controversial and their value has been challenged. This book addresses a number of the controversies on antioxidant testing methods. Specifically, the book highlights the importance of context, helping the reader to decide what methods are most appropriate for different situations, how the results can be interpreted and what information may be inferred from the data. There are a multiplicity of methods for measuring activity, with no standardized method approved for in vitro or in vivo testing. In order to select an appropriate method, a thorough knowledge of the processes associated with reduction-oxidation is essential, leading to an improved understanding and use of activity measurements and the associated data. The book presents background information, in a unique style, which is designed to assist readers to grasp the fundamentals of redox processes, as well as thermodynamics and kinetics, which are essential to later chapters. Recovery and extraction of antioxidants from diverse matrices are presented in a clear and logical fashion along with methods used to determine antioxidant activity from a mechanistic perspective. Other chapters present current methodologies used for activity testing in different sample types ranging from foods and plants, to body fluids and even to packaging, but always with a strong emphasis on the nature of the sample and the underlying chemistry of the method. A number of emerging techniques for assessing antioxidant behaviour, namely, electrochemical methods, chip technology exploiting microfluidic devices, metabolomics plus studies of gene and protein expression, are examined. Ultimately, these techniques will be involved in generation of "big data" for which an understanding of chemometrics will be essential in drawing valid conclusions. The book is written to appeal to a wide audience, but will be particularly helpful for any researchers who are attempting to make sense of the vast literature and often conflicting messages on antioxidant activity.

Lignocellulosic Biorefining Technologies CRC Press

The scientific world and modern society today is experiencing the dawning of an era of herbal medicine. Extensive research has shown that aromatic plants are important anti-inflammatory, antioxidant, anti aging and immune boosting delectable foods, with the magic and miracle to boost our immune system providing us with extended and an improved quality of life. Apart from making bland recipes into welcoming or interesting victories, herbs and spices have stirred the minds of the research community to look deeper into its active components from a functional perspective. It is essential to present the scientific and medicinal aspect of herbs and spices together with the analysis of constituents, its medicinal application, toxicology and its physiological effects. Herbs and spices with high levels of antioxidants are in great demand as they tend to promote health and prevent diseases naturally assuring increased safety and reliability for consumers. Herbs and spices are not only known for taste and flavor, but today research has opened up a new realm in which the antioxidant properties of these aromatic plants provide preservation for foods and health benefits for consumers who look forward to concrete scientific research to guide them further and explore herbal medicine. The aim of this book is to create awareness in society about the reliability of medicinal properties of certain herbs and spices through scientific and scholarly research.

Marine Anti-inflammatory and Antioxidant Agents 2021 Springer Science & Business Media

This book provides a comprehensive reference guide to plant-derived antioxidants, their beneficial effects, mechanisms of action, and role in disease prevention and improving general health (anti-ageing effect). The content is divided into three main parts, the first of which covers various antioxidants (such as polyphenols, carotenoids, tocopherols, tocotrienols, glutathione, ascorbic acid), their origins, plant biochemistry and industrial utilization. In turn, the book's second, main part focuses on antioxidants' beneficial health effects, explains biochemical fundamentals such as the free radical theory and oxidative stress, and discusses antioxidants' role in e.g. cancer, cardiovascular diseases, inflammation, degenerative diseases and ageing. The third part reviews general laboratory methods for antioxidant screening, preservation and determination. Written by an international team of experts, this highly interdisciplinary book will benefit a broad range of health professionals and researchers working in biochemistry, biotechnology, nutrition, plant science and food chemistry. It offers an indispensable, up-to-date guide for anyone interested in antioxidants and the role of a plant-based diet in disease prevention and control

Handbook of Antioxidant Methodology Frontiers Media SA

This book provides a comprehensive treatise on the chemical and biochemical consequences of damaging free radical reactions, the implications for the pathogenesis of disease and how this might be controlled endogenously and by radical scavenging drugs. Oxidative stress may be influenced by exogenous agents of oxidative stress, radiation, trauma, drug activation, oxygen excess, or by exogenous oxidative stress which is associated with many pathological states including chronic inflammatory

disorders, cardiovascular disease, injury to the central nervous system, and connective tissue damage. This and many other such aspects are presented clearly and in depth. The development of antioxidant drugs depends on the understanding of the mechanisms underlying the generation of excessive free radicals in vivo, the factors controlling their release and the site of their action. This excellent volume presents an up-to-date account of the current state of knowledge in these areas.

Indian Medicinal Plants Oxford University Press

Cosmeceuticals are ingredients or products that provide cosmetic and therapeutic benefits and which can be obtained without a prescription. They are one of the fastest growing segments in the personal care product market. Even in the worst economic climate, sales of cosmetics remain robust. Beauty enhancers are our best means of feel-good escapism, and we are not about to give them up. The ingredients, sales locations, and the regulation of sales are dynamic aspects of the industry. Here we give you a heads-up on where the market is going so you can make strategic decisions for your practice. This book will give you an understanding of facial cosmeceuticals examining the needs of the face, moisturizer formulation, noninvasive testing, and clinical evaluation to establish efficacy. It sheds light on topics such as the delivery mechanisms of active ingredients, vitamin A and C and other antioxidants, growth factors and stem cells, peptides, or amino acids. Topics also include the use of cosmeceuticals for the treatment of acne, rosacea, and hair loss and for hair care as well as the treatment of scars and cosmeceuticals for sun protection and protection from pollution. It also covers aspects of nutraceuticals and diets for healthy skin.

Antioxidant Activity of Polyphenolic Plant Extracts MDPI

BIOPROSPECTING OF PLANT BIODIVERSITY FOR INDUSTRIAL MOLECULES A comprehensive collection of recent translational research on bioresource utilization and ecological sustainability Bioprospecting of Plant Biodiversity for Industrial Molecules provides an up-to-date overview of the ongoing search for biodiverse organic compounds for use in pharmaceuticals, bioceuticals, agriculture, and other commercial applications. Bringing together work from a panel of international contributors, this comprehensive monograph covers natural compounds of plants, endophyte enzymes and their applications in industry, plant bioprospecting in cosmetics, marine bioprospecting of seaweeds, and more. Providing global perspectives on bioprospecting of plant biodiversity, the authors present research on enzymes, mineral micro-nutrients, biopesticides, algal biomass, and other bioactive molecules. In-depth chapters assess the health impacts and ecological sustainability of the various biomolecules and identify existing and possible applications ranging from ecological restoration to production of essential oils and cosmetics. Other topics include, bio-energy crops as alternative fuel resources, the role of plants in phytoremediation of industrial waste, and the industrial applications of endophyte enzymes. This comprehensive resource: Includes a through introduction to plant biodiversity and bioprospecting Will further the knowledge of application of different plants and improve research investigation techniques. Summarizes novel approaches for researchers in food science, microbiology, biochemistry, and biotechnology Bioprospecting of Plant Biodiversity for Industrial Molecules is an indispensable compendium of biological research for scientists, researchers, graduate and postgraduate students, and academics in the areas of microbiology, food biotechnology, industrial microbiology, plant biotechnology, and microbial biotechnology.

Marine Anti-inflammatory and Antioxidant Agents 2.0 John Wiley & Sons

This eBook is a collection of articles from a Frontiers Research Topic. Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact.

Antioxidants Effects in Health The American Oil Chemists Society A text to the advances and development of novel technologies in the production of high-value products from economically viable raw materials Lignocellulosic Biorefining Technologies is an essential guide to the most recent advances and developments of novel technologies in the production of various high-value products from economically viable raw materials. Written by a team of experts on the topic, the book covers important topics specifically on production of economical and sustainable products such as various biofuels, organic acids, enzymes, biopigments, biosurfactants, etc. The book highlights the important aspects of lignocellulosic biorefining including structure, function, and chemical composition of the plant cell wall and reviews the details about the various components present in the lignocellulosic biomass and their characterizations. The authors explore the various approaches available for processing lignocellulosic biomass into second generation sugars and focus on the possibilities of utilization of lignocellulosic feedstocks for the

production of biofuels and biochemicals. Each chapter includes a range of clear, informative tables and figures, and contains relevant references of published articles. This important text: Provides cutting-edge information on the recent developments in lignocellulose biorefinery Reviews production of various

economically important and sustainable products, such as biofuels, organic acids, biopigments, and biosurfactants Highlights several broad-ranging areas of recent advances in the utilization of a variety of lignocellulosic feedstocks Provides a valuable, authoritative reference for anyone interested in the topic Written

for post-graduate students and researchers in disciplines such as biotechnology, bioengineering, forestry, agriculture, and chemical industry, Lignocellulosic Biorefining Technologies is an authoritative and updated guide to the knowledge about various biorefining technologies.