Bioactive Components Of Milk

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Handbook of Milk of Non-Bovine Mammals
Understanding and improving the functional and nutritional properties of milk
Bioactive Components of Human Milk
Food Science and Nutrition: Breakthroughs in Research and Practice
Milk: Bioactive Components and Role in Human Nutrition
Bioactive Components in Milk
Dairy Processing: Advanced Research to Applications

JADA CANTRELL

Functional Foods Burleigh Dodds Science Publishing
The major emphasis in this book is a compilation and definition of what is known about components of human milk, including glycoconjugates, that inhibit common pathogens of the infant. Also discussed are other bioactive constituents whose relevant biological roles are also beginning to be defined. Hormonal and cytokine activity, immunomodulating and autoinflammatory agents, xenobiotics, and conditionally essential nutrients in milk could have roles in the protection of the infant, but may also participate in digestive processes, maternal--infant communication, maturation of the gut, central nervous system, and other components of infant growth and development. Like the protective activities, these are discussed in terms of their presence in milk, structures, potential functions, and structure/function relationship. Components whose role is nutritional support during early development of the infant are also included.

Human Milk Biochemistry and Infant Formula Manufacturing Technology CRC Press
Everything you ever wanted to know about the substance that binds all mammals together. After drawing its first breath, every newborn mammal turns his or her complete attention to obtaining milk. This primal act was once thought to stem from a basic fact: milk provides the initial source of calories and nutrients for all mammalian young. But it turns out that milk is a much more complicated biochemical cocktail and provides benefits beyond nutrition. In this fascinating book, biologists Michael L. Power and Jay Schulkin reveal this liquid's evolutionary history and show how its ingredients have changed over many millions of years to become a potent elixir. Power and Schulkin walk readers through the early origins of the mammary gland and describe the incredible diversification of milk among the various mammalian lineages. After revealing the roots of lactation, the authors describe the substances that naturally occur in milk and discuss their biological functions. They reveal that mothers pass along numerous biochemical signals to their babies through milk. The authors explain how milk boosts an infant's immune system, affects an infant's metabolism and physiology, and helps inoculate and feed the baby's gut microbiome. Throughout the book, the authors weave in stories from studies of other species, explaining how comparative research sheds light on human lactation. The authors then turn their attention to the fascinating topic of cross-species milk consumption—something only practiced by certain humans who evolved an ability to retain lactase synthesis into adulthood. The first book to discuss milk from a comparative and evolutionary perspective, Power and Schulkin's masterpiece reveals the rich biological story of the common thread that connects all mammals.

Bioactive Compounds in Foods BoD – Books on Demand
Functional foods are foods which contain bioactive components, either from plant or animal sources, which can have health benefits for the consumer over and above their nutritional value. Foods which have antioxidant or cancer-combating components are in high demand from health conscious consumers: much has been made of the health-giving qualities of fruits and vegetables in particular. Conversely, foods which have been processed are suffering an image crisis, with many consumers indiscriminately assuming that any kind of processing robs food of its "natural goodness". To date, there has been little examination of the actual effects – whether positive or negative – of various types of food processing upon functional foods. This book highlights the effects of food processing on the active ingredients of a wide range of functional food materials, with a particular focus on foods of Asian origin. Asian foods, particularly herbs, are becoming increasingly accepted and demanded globally, with many Western consumers starting to recognize and seek out their health-giving properties. This book focuses on the extraction of ingredients which from materials which in the West are seen as "alternative" - such as flour from soybeans instead of wheat, or bran and starch from rice – but which have long histories in Asian cultures. It also highlight the incorporation of those bioactive compounds in foods and the enhancement of their bioavailability.
Functional Foods and Dietary Supplements: Processing Effects and Health Benefits will be required reading for those working in companies, research institutions and universities that are active in the areas of food processing and agri-food environment. Food scientists and engineers will value the new data and research findings contained in the book, while environmentalists, food regulatory agencies and other food industry personnel involved in functional food production or development will find it a very useful source of information.

Bioactive Components of Milk John Wiley & Sons
An authoritative guide to microbiological solutions to common challenges encountered in the industrial processing of milk and the production of milk products Microbiology in Dairy Processing offers a comprehensive introduction to the most current knowledge and research in dairy technologies and lactic acid bacteria (LAB) and dairy associated species in the fermentation of dairy products. The text deals with the industrial processing of milk, the problems solved in the industry, and those still affecting the processes. The authors explore culture methods and species selective growth media, to grow, separate, and characterize LAB and dairy associated species, molecular methods for species identification and strains characterization, Next Generation Sequencing for genome characterization, comparative genomics, phenotyping, and current applications in dairy and non-dairy productions. In addition, Microbiology in Dairy Processing covers the Lactic Acid Bacteria and dairy associated species (the beneficial microorganisms used in food fermentation processes): culture methods, phenotyping, and proven applications in dairy and non-dairy productions. The text also reviews the potential future exploitation of the culture of novel strains with useful traits such as probiotics, fermentation of sugars, metabolites produced, bacteriocins. This important resource: Offers solutions both established and novel to the numerous challenges commonly encountered in the industrial processing of milk and the production of milk products Takes a highly practical approach, tackling the problems faced in the workplace by dairy technologists Covers the whole chain of dairy processing from milk collection and storage though processing and the production of various cheese types Written for laboratory technicians and

researchers, students learning the protocols for LAB isolation and characterisation, Microbiology in Dairy Processing is the authoritative reference for professionals and students.
Bioactive Components in Milk and Dairy Products Springer
Inherent toxicants and processing contaminants are bothnon-essential, bioactive substances whose levels in foods can bedifficult to control. This volume covers both types of compound forthe first time, examining their beneficial as well as theirundesirable effects in the human diet. Chapters have been writtenas individually comprehensive reviews, and topics have beenselected to illustrate recent scientific advances in understandingof the occurrence and mechanism of formation, exposure/riskassessment and developments in the underpinning analyticalmethodology. A wide range of contaminants are examined in detail,including pyrrolizidine alkaloids, glucosinolates, phycotoxins, andmycotoxins. Several process contaminants (eg acrylamide and furan),which are relatively new but which have a rapidly growingliterature, are also covered. The book provides a practical reference for a wide range ofexperts: specialist toxicologists (chemists and food chemists),hygienists, government officials and anyone who needs to be awareof the main issues concerning toxicants and process contaminants infood. It will also be a valuable introduction to the subject forpost-graduate students.
Oil and Oilseed Processing Elsevier
Oil and Oilseed Processing The latest information available on oil and oilseed processing Oil and Oilseed Processing offers a comprehensive text that explores both the conventional and novel “green” extraction methods used to extract oils from seeds. The authors—noted experts on the topic—examine the positive aspects of operations in processing oil and oilseeds and present the processing concepts, principles, effects on quality, as well as the stability characteristics, limitations, and challenges. Due to the economic implications associated with the overproduction of seed oils, the book includes pertinent information on vegetable and animal-derived oils for industrial applications. The authors also explore recent applications and future perspectives for vegetable and animal oils use in the food and non-food industry. Safety concerns regarding oil and oilseed processing and waste valorisation are also covered in-depth. This important guide: Explores the traditional and new extraction methods used to extract oils from seeds Contains the most up-to-date insight into oil and oilseed processing Focuses on the areas of oil processing, safety, quality, and nutritional evaluation Written for food scientists and professional food technologists, Oil and Oilseed Processing is the only book on the market that contains the most recent information on all aspects of oil and oilseed processing.
Milk and Dairy Products as Functional Foods Springer Science & Business Media
Comprehensive coverage of the latest research in isolating and analysing the diverse range of compounds in milk Reviews the genetic factors that affect milk composition, as well as the ways milk chemistry can affect sensory quality Explores the importance of milk as a valuable commodity
Milk John Wiley & Sons
The first edition of Functional foods: Concept to product quickly established itself as an authoritative and wide-ranging guide to the functional foods area. There has been a remarkable amount of research into health-promoting foods in recent years and the market for these types of products has also developed. Thoroughly revised and updated, this major new edition contains over ten additional chapters on significant topics including omega-3 polyunsaturated fatty acids, consumers and health claims and functional foods for obesity prevention.Part one provides an overview of key general issues including definitions of functional foods and legislation in the EU, the US and Asia. Part two focuses on functional foods and health investigating conditions such as cardiovascular disease, diabetes, cancer, obesity and infectious diseases as well as and the impact of functional foods on cognition and bone health. Part three looks at the development of functional food products. Topics covered include maximising the functional benefits of plant foods, dietary fibre, functional dairy and soy products, probiotics and omega-3 polyunsaturated fatty acids (PUFAs).With its distinguished editors and international team of expert contributors, Functional foods: Concept to product is a valuable reference tool for health professionals and scientists in the functional foods industry and to students and researchers interested in functional foods. - Provides an overview of key general issues including definitions of functional foods and legislation in the EU, the US and Asia - Focuses on functional foods and health investigating conditions such as cardiovascular disease, diabetes, cancer, obesity and infectious diseases - Examines the development of functional food products featuring maximising the functional benefits of plant foods, dietary fibre, functional dairy and soy products
Handbook of Mineral Elements in Food John Wiley & Sons
"Bioactive Food Peptides in Health and Disease" highlights recent developments on bioactive food peptides for the promotion of human health and the prevention/management of chronic diseases. The book provides a comprehensive revision of bioactive peptides obtained from both animal and plant food sources. Aspects related to their bioactivity, mechanism of action, and bioavailability are extensively described along the different chapters. Also, the chapters describe the impact of bioactive peptides on the physiological absorption, regulation and disease prevention. The book also covers the recent technological advances for the production of food peptides. Bioactive Food Peptides in Health and Disease provides updated and interesting information, being a good reference book for nutritional and food scientists, biochemists, industry producers, and consumers.
Protecting Infants through Human Milk Springer Science & Business Media
Health and nutrition has become a global focal point as the population continues to grow exponentially. While providing food for the global population is crucial, it is also necessary to provide options that are nutritious in order to promote healthier lifestyles around the world. Food Science and Nutrition: Breakthroughs in Research and Practice is an innovative reference source for the latest academic material on how dietary nutrition can impact people’s lives, prevent disease, and maintain an overall healthier lifestyle. Highlighting a range of topics, such as health preservation, functional foods, and herbal remedies, this publication is ideally designed for researchers, academics, students, policy makers, government officials, and technology developers.
Milk Proteins - From Structure to Biological Properties and Health Aspects S. Karger
Bioactive compounds play a central role in high-value product development in the chemical industry. Bioactive compounds have been identified from diverse sources and their therapeutic benefits, nutritional value and protective effects in human and animal healthcare have underpinned their application as pharmaceuticals and functional food ingredients. The orderly

study of biologically active products and the exploration of potential biological activities of these secondary metabolites, including their clinical applications, standardization, quality control, mode of action and potential biomolecular interactions, has emerged as one of the most exciting developments in modern natural medicine. Biotechnology of Bioactive Compounds describes the current stage of knowledge on the production of bioactive compounds from microbial, algal and vegetable sources. In addition, the molecular approach for screening bioactive compounds is also discussed, as well as examples of applications of these compounds on human health. The first half of the book comprises information on diverse sources of bioactive compounds, ranging from microorganisms and algae to plants and dietary foods. The second half of the book reviews synthetic approaches, as well as selected bioactivities and biotechnological and biomedical potential. The bioactive compounds profiled include compounds such as C-phycocyanins, glycosides, phytosterols and natural steroids. An overview of the usage of bioactive compounds as antioxidants and anti-inflammatory agents, anti-allergic compounds and in stem cell research is also presented, along with an overview of the medicinal applications of plant-derived compounds. Biotechnology of Bioactive Compounds will be an informative text for undergraduate and graduate students of bio-medicinal chemistry who are keen to explore the potential of bioactive natural products. It also provides useful information for scientists working in various research fields where natural products have a primary role.

Applied Food Protein Chemistry John Wiley & Sons

Food proteins are of great interest, not only because of their nutritional importance and their functionality in foods, but also for their detrimental effects. Although proteins from milk, meats (including fish and poultry), eggs, cereals, legumes, and oilseeds have been the traditional sources of protein in the human diet, potentially any proteins from a biological source could serve as a food protein. The primary role of protein in the diet is to provide the building materials for the synthesis of muscle and other tissues, and they play a critical role in many biological processes. They are also responsible for food texture, color, and flavor. Today, food proteins are extracted, modified, and incorporated into processed foods to impart specific functional properties. They can also have adverse effects in the diet: proteins, such as walnuts, pecans, almonds, and cashews, soybean, wheat, milk, egg, crustacean, and fish proteins can be powerful allergens for some people. Applied Food Protein Chemistry is an applied reference which reviews the properties of food proteins and provides in-depth information on important plant and animal proteins consumed around the world. The book is grouped into three sections: (1) overview of food proteins, (2) plant proteins, and (3) animal proteins. Each chapter discusses world production, distribution, utilization, physicochemical properties, and the functional properties of each protein, as well as its food applications. The authors for each of the chapters are carefully selected experts in the field. This book will be a valuable reference tool for those who work on food proteins. It will also be an important text on applied food protein chemistry for upper-level students and graduate students of food science programs.

Biologically Active Peptides Springer Science & Business Media

An up-to-date overview of the dynamic field of whey protein utilization Whey Protein Production, Chemistry, Functionality and Applications explores the science and technology behind the rapidly increasing popularity of this most versatile of dairy by-products. With its richly nutritious qualities, whey protein has been widely used in the food industry for many years. The last decade has, however, seen manufacturers develop many innovative and exciting new applications for it, both in food and other areas. Taking account of these advances, this insightful work offers a full explanation of the technological and chemical breakthroughs that have made whey protein more in-demand than ever before. Topics covered include manufacturing technologies, thermal and chemical modifications, non-food uses, denaturation and interactions, and more. In its broad scope, the book encompasses: An up-to-date overview of recent developments and new applications Breakdowns of the chemical, nutritional, and functional properties of whey protein Commentary on the current and future outlooks of the whey protein market Examinations of the methods and manufacturing technologies that enable whey protein recovery A full guide to the numerous applications of whey protein in food production and other industries Whey Protein Production, Chemistry, Functionality and Applications is an unparalleled source of information on this highly adaptable and much sought-after commodity, and is essential reading for food and dairy scientists, researchers and graduate students, and professionals working in the food formulation and dairy processing industries.

Whey Protein Production, Chemistry, Functionality, and Applications Springer Science & Business Media

Protecting Infants through Human Milk: Advancing the Scientific Evidence provides a forum in which basic scientists, clinicians, epidemiologists, and policy makers exchange the latest findings regarding the effects of human milk and breastfeeding on infant and maternal health, thereby fostering new and promising collaborations. This volume also integrates data from animal and in vitro laboratory studies with clinical and population studies to examine human milk production and composition, the mechanisms of infant protection and/or risk from human milk feeding, and proposed interventions related to infant feeding practices. Additionally, it stimulates critical evaluation of, and advances in, the scientific evidence base and research methods, and identifies the research priorities in various areas.

Goat Science John Wiley & Sons

In the recent years, considerable research has been carried out evaluating natural substances as antioxidative additives in food products, leading to novel combinations of antioxidants and the development of novel food products. In addition to their antioxidative capacity, these natural additives have positive effects on the human body with documented health benefits. This valuable new book provides an overview of natural antioxidants, their sources, methods of extraction, regulatory aspects, and application techniques, specifically focusing on different foods of animal origin to improve their oxidative stability.

Bioactive Food Peptides in Health and Disease BoD – Books on Demand

Human Milk Biochemistry and Infant Formula Manufacturing Technology, Second Edition covers the history of bottle feeding, its advantages and disadvantages when compared with breast-feeding, human milk biochemistry, trends and new developments in infant formula formulation and manufacturing, and best practices in infant formula processing technology and quality control. The book also covers human milk proteomics as a new, separate chapter and provides additional information on infant formula clinical trial guidelines. In addition, the book includes information about the formulation and processing of premature

and low birth weight infant formula. This book is sure to be a welcome resource for professionals in the food and infant formula industry, academics and graduate students in fields like nutrition, food sciences, or nursing, nutritionists and health professionals, government officials working in relevant departments, and finally, anyone interested in human milk and infant formula. - Reviews both human milk biochemistry and infant formula processing technology for broad coverage - Features a comprehensive review on the human milk protein profile using proteomics technology - Contains information on infant formula processing technology - Provides guidelines on infant formula clinical trials and related topics

Milk, Mucosal Immunity and the Microbiome: Impact on the Neonate John Wiley & Sons

The chemistry and physico-chemical properties of milk proteins are perhaps the largest and most rapidly evolving major areas in dairy chemistry. Advanced Dairy Chemistry-1B: Proteins: Applied Aspects covers the applied, technologically-focused chemical aspects of dairy proteins, the most commercially valuable constituents of milk. This fourth edition contains most chapters in the third edition on applied aspects of dairy proteins. The original chapter on production and utilization of functional milk proteins has been split into two new chapters focusing on casein- and whey-based ingredients separately by new authors. The chapters on denaturation, aggregation and gelation of whey proteins (Chapter 6), heat stability of milk (Chapter 7) and protein stability in sterilised milk (Chapter 10) have been revised and expanded considerably by new authors and new chapters have been included on rehydration properties of dairy protein powders (Chapter 4) and sensory properties of dairy protein ingredients (Chapter 8). This authoritative work describes current knowledge on the applied and technologically-focused chemistry and physico-chemical aspects of milk proteins and will be very valuable to dairy scientists, chemists, technologists and others working in dairy research or in the dairy industry.

Advanced Dairy Chemistry IGI Global

There continues to be strong interest within the food industry in developing new products which offer functional health benefits to the consumer. The premium prices that can be charged make these added-value products lucrative for manufacturers, and they are also commercially popular. Dairy foods are central to this sector: they are good delivery systems for functional foods (yoghurts, milk drinks, spreads) and are also rich in compounds which can be extracted and used as functional ingredients in other food types. Milk and Dairy Products as Functional Foods draws together a wealth of information regarding the functional health benefits of milk and dairy products. It examines the physiological role and the claimed health effects of dairy constituents such as proteins, bioactive peptides, conjugated linoleic acid (CLA), omega 3 fatty acids vitamin D and calcium. These constituents have been shown to be, for example, anticarcinogenic, anti-inflammatory, antihypertensive, hypocholesterolemic, immune-modulating and antimicrobial. This book examines the evidence for these claims, and investigates practical approaches for utilising these attributes. The book is aimed at dairy scientists and technologists in industry and academia, general food scientists and technologists, microbiologists and nutritionists together with all those involved in the formulation and production of functional food products.

Infant Formula John Wiley & Sons

Although bioactive compounds in milk and dairy products have been extensively studied during the last few decades – especially in human and bovine milks and some dairy products – very few publications on this topic are available, especially in other dairy species' milk and their processed dairy products. Also, little is available in the areas of bioactive and nutraceutical compounds in bovine and human milks, while books on other mammalian species are non-existent. Bioactive Components in Milk and Dairy Products extensively covers the bioactive components in milk and dairy products of many dairy species, including cows, goats, buffalo, sheep, horse, camel, and other minor species. Park has assembled a group of internationally reputed scientists in the forefront of functional milk and dairy products, food science and technology as contributors to this unique book. Coverage for each of the various dairy species includes: bioactive proteins and peptides; bioactive lipid components; oligosaccharides; growth factors; and other minor bioactive compounds, such as minerals, vitamins, hormones and nucleotides, etc. Bioactive components are discussed for manufactured dairy products, such as caseins, caseinates, and cheeses; yogurt products; koumiss and kefir; and whey products. Aimed at food scientists, food technologists, dairy manufacturers, nutritionists, nutraceutical and functional foods specialists, allergy specialists, biotechnologists, medical and health professionals, and upper level students and faculty in dairy and food sciences and nutrition, Bioactive Components in Milk and Dairy Products is an important resource for those who are seeking nutritional, health, and therapeutic values or product technology information on milk and dairy products from the dairy cow and speciesbeyond. Areas featured are: Unique coverage of bioactive compounds in milks of the dairy cow and minor species, including goat, sheep, buffalo, camel, and mare Identifies bioactive components and their analytical isolation methods in manufactured dairy products, such as caseins, caseinates, and cheeses; yogurt products; koumiss and kefir; and whey products Essential for professionals as well as biotechnology researchers specializing in functional foods, nutraceuticals, probiotics, and prebiotics Contributed chapters from a team of world-renowned expert scientists

Bioactive Components of Human Milk MDPI

Nutrients in Dairy and Their Implications for Health and Disease addresses various dairy products and their impact on health. This comprehensive book is divided into three sections and presents a balanced overview of the health benefits of milk and milk products. Summaries capture the most salient points of each chapter, and the importance of milk and its products as functional foods is addressed throughout. - Presents various dairy products and their impact on health - Provides information on dairy milk as an important source of micro-and macronutrients that impact body functions - Addresses dietary supplements and their incorporation into dairy products