

---

# Bioactive Components Of Milk

---

Milk and Dairy Products as Functional Foods

Biotechnology of Bioactive Compounds

Bioactive Components of Milk

Characterization of Bioactive Components in Calf Feeds and Dairy Industry Side Streams

Special Issue Technological and Health Aspects of Bioactive Components of Milk

Bioactive Components of Human Milk

Bioactive Components in Fermented Foods and Food By-Products

Bioactive components in cow's milk

Bioactive Components in Milk and Development of the Neonate

Dairy Chemistry and Biochemistry

An Assessment of Bioactive Components in Bovine Milk

Dairy Industry Production Opportunities Using Alternative Feed, Data Feedback, and Bioactive Components of Milk

Whey Protein Production, Chemistry, Functionality, and Applications

Probiotics

Understanding and Improving the Functional and Nutritional Properties of Milk

Human Milk Biochemistry and Infant Formula Manufacturing Technology

Nutrients in Dairy and Their Implications for Health and Disease

Nutritional Care of Preterm Infants

Milk Proteins - From Structure to Biological Properties and Health Aspects

Bioactive Components in Milk and Dairy Products

Bioactive Components in Milk

Protecting Infants through Human Milk

Cooperative Action of Bioactive Components in Milk Fat with PPARs May Explain Its Anti-diabetogenic Properties

Milk Proteins

Bioactive Compounds and Nutraceuticals from Dairy, Marine, and Nonconventional Sources

Bioactive Components of Milk

Bioactive Compounds in Fermented Foods

Bioactive Components in Colostrum and Milk from Canadian Holsteins Classified as High, Average and Low Immune Responders

Milk: Bioactive Components and Role in Human Nutrition

Formation of Bioactive Peptides from Dairy Products

Human Milk and Lactation

Dairy Fats and Related Products

Designing Foods

Applied Food Protein Chemistry

Milk and Dairy Products in Human Nutrition

Handbook of Mineral Elements in Food

Functional Foods

Bioactive Components of Human Milk: Similarities and Differences Between Human

Milk and Infant Formula  
Handbook of Milk of Non-Bovine Mammals  
Milk Proteins

*Bioactive Components  
Of Milk*

Downloaded from  
<ftp.wtvq.com> by guest

---

## **NOEMI ALICE**

---

*Milk and Dairy Products as Functional  
Foods* Karger Medical and Scientific  
Publishers

This book is a printed edition of the  
Special Issue "Milk: Bioactive  
Components and Role in Human  
Nutrition" that was published in  
Beverages

*Biotechnology of Bioactive Compounds*  
Academic Press

The dairy sector is under increasing  
scrutiny on environmental, welfare and  
health grounds. One way of addressing  
these challenges is to highlight and  
optimise the nutritional and functional  
properties of milk as part of a balanced  
diet. Understanding and improving the  
functional and nutritional properties of  
milk reviews the latest research on the  
remarkable range of functional and  
nutritional properties of milk that make it  
both a key food source and ingredient in  
a wide range of dairy products. The  
collection discusses proteins, lipids,  
carbohydrates and other components of  
milk, as well as how our understanding  
can be used to optimise the quality of  
milk and dairy products such as cheese  
and yoghurt. Edited by two world-  
renowned experts in dairy science,  
Understanding and improving the  
functional and nutritional properties of  
milk will be a standard reference for  
university and other researchers in dairy  
and veterinary sciences, dairy veterinary  
practitioners, as well as governments  
and other regulatory agencies involved  
in milk production.

## **Bioactive Components of Milk**

Woodhead Publishing

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.  
*Characterization of Bioactive  
Components in Calf Feeds and Dairy*

*Industry Side Streams* John Wiley & Sons  
This new volume begins with an overview of bioactive compounds and nutraceuticals along with explanations of their chemical characteristics, profile, and physicochemical aspects. The volume discusses the extraction technologies of active ingredients and the analytical techniques of qualitative and quantitative analysis along with the profiling of functional compounds and nutraceuticals. The volume gives detailed descriptions of the techniques for extraction, isolation, and characterization of active ingredients from food preparations. The volume also discusses important bioactive compounds and nutraceuticals specifically from milk and dairy products as well as from marine algae and seaweeds. From there, the volume explores bioactive compounds and nutraceuticals from nonconventional sources, such as from spices and condiments, and from microbial sources. This volume is the companion volume to the book *Bioactive Compounds and Nutraceuticals from Plant Sources: Extraction Technology, Analytical Techniques, and Potential Health Prospects* by the same editors.

**Special Issue Technological and Health Aspects of Bioactive Components of Milk** Springer Science & Business Media

THE ONLY SINGLE-SOURCE GUIDE TO THE LATEST SCIENCE, NUTRITION, AND APPLICATIONS OF ALL THE NON-BOVINE MILKS CONSUMED AROUND THE WORLD  
Featuring contributions by an international team of dairy and nutrition experts, this second edition of the popular *Handbook of Milk of Non-Bovine Mammals* provides comprehensive coverage of milk and dairy products derived from all non-bovine dairy

species. Milks derived from domesticated dairy species other than the cow are an essential dietary component for many countries around the world. Especially in developing and under-developed countries, milks from secondary dairy species are essential sources of nutrition for the humanity. Due to the unavailability of cow milk and the low consumption of meat, the milks of non-bovine species such as goat, buffalo, sheep, horse, camel, Zebu, Yak, mare and reindeer are critical daily food sources of protein, phosphate and calcium. Furthermore, because of hypoallergenic properties of certain species milk including goats, mare and camel are increasingly recommended as substitutes in diets for those who suffer from cow milk allergies. This book:  
Discusses key aspects of non-bovine milk production, including raw milk production in various regions worldwide  
Describes the compositional, nutritional, therapeutic, physio-chemical, and microbiological characteristics of all non-bovine milks  
Addresses processing technologies as well as various approaches to the distribution and consumption of manufactured milk products  
Expounds characteristics of non-bovine species milks relative to those of human milk, including nutritional, allergenic, immunological, health and cultural factors. Features six new chapters, including one focusing on the use of non-bovine species milk components in the manufacture of infant formula products  
Thoroughly updated and revised to reflect the many advances that have occurred in the dairy industry since the publication of the acclaimed first edition, *Handbook of Milk of Non-Bovine Mammals, 2nd Edition* is an essential reference for dairy scientists, nutritionists, food chemists,

animal scientists, allergy specialists, health professionals, and allied professionals.

**Bioactive Components of Human Milk** John Wiley & Sons

Over the last few decades the prevalence of studies about probiotics strains has dramatically grown in most regions of the world. Probiotics are specific strains of microorganisms, which when served to human or animals in proper amount, have a beneficial effect, improving health or reducing risk of getting sick and the probiotics are used in production of functional foods and pharmaceutical products. This book provides the maximum of information approaching issues as probiotics in food, health, biotechnological aspects and the use of probiotics in aquaculture for all that need them trying with this to help many people at worldwide.

*Bioactive Components in Fermented Foods and Food By-Products* John Wiley & Sons

The volume reviews different types of bioactive components associated with food fermentation and their impact on human health. The diversity of microorganism responsible for the production of different types of fermented foods and beverages includes bacteria, yeasts, and fungi.

Biotransformation of food constituent by microorganisms occurs during fermentation processes for the production of fermented food and in the gastrointestinal tract by gut microorganisms. This biotransformation results in production of specific bioactive compounds that are responsible for a wide range of health benefits. The bioactive compounds discussed in this book includes polyphenols, bioactive peptides, fibrinolytic enzymes, gamma-amino butyric acids (GABA)

exopolysaccharides, probiotic, prebiotic, symbiotic and antinutritional factors.

These bioactive compounds are responsible for health benefits such as antioxidant, antihypertension, antimicrobial, cholesterol lowering, anticancer, obesity and antithrombotic properties. Advanced research in the field of food fermentation and their health benefits have resulted in commercialization of some of the fermented foods as functional foods. The traditional fermented foods consumed in different parts of the world and their health benefits are discussed in detail and the book concludes with recent advances in microbial transformation during gut fermentation and their impact on human health. There has been increasing interest among researchers on the proposed title in the last decade and the book brings updated information on research and advances in different types of health benefits exhibited by bioactive compounds in a wide range of fermented foods.

Bioactive components in cow's milk CRC Press

Milk is nature's most complete food, and dairy products are considered to be the most nutritious foods of all. The traditional view of the role of milk has been greatly expanded in recent years beyond the horizon of nutritional subsistence of infants: it is now recognized to be more than a source of nutrients for the healthy growth of children and nourishment of adult humans. Alongside its major proteins (casein and whey), milk contains biologically active compounds, which have important physiological and biochemical functions and significant impacts upon human metabolism, nutrition and health. Many of these compounds have been proven to have

beneficial effects on human nutrition and health. This comprehensive reference is the first to address such a wide range of topics related to milk production and human health, including: mammary secretion, production, sanitation, quality standards and chemistry, as well as nutrition, milk allergies, lactose intolerance, and the bioactive and therapeutic compounds found in milk. In addition to cow's milk, the book also covers the milk of non-bovine dairy species which is of economic importance around the world. The Editors have assembled a team of internationally renowned experts to contribute to this exhaustive volume which will be essential reading for dairy scientists, nutritionists, food scientists, allergy specialists and health professionals. *Bioactive Components in Milk and Development of the Neonate* John Wiley & Sons

Nowadays, there is an increasing awareness regarding the relationship between food, nutrition, and health. It is obvious that this relation starts from the birth. In the early stage of life, breastfeeding is considered the preferred choice for infant feeding and human milk is the optimal food for an infant to keep its nutritional and health status. Because it contains a large group of bioactive compounds such as proteins, vitamins, nucleotides, oligosaccharides, immunoglobulins, and some of the bioavailable minerals beyond its content of the essential nutrients, human milk is classified as the first functional food in the infant life. The various bioactive components of human milk play a pivotal role in preventing the gastrointestinal and respiratory infections, anemia, and bone-related problems as well as it enhances the immune function and helps in the

maturation of the digestive system. The exclusive breastfeeding pattern during the first 6 months of infant life and introducing complementary foods after this period have a potential role in protecting against certain diseases in the adult stage of life. This chapter is underlying the great potential of breastfeeding for mothers and babies. Moreover, it discusses the functionality of some components of human milk and its similarities and differences between human milk and infant formulas.

### **Dairy Chemistry and Biochemistry**

#### **BoD – Books on Demand**

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.

*An Assessment of Bioactive Components in Bovine Milk* CRC Press

This lively book examines recent trends in animal product consumption and diet; reviews industry efforts, policies, and programs aimed at improving the nutritional attributes of animal products; and offers suggestions for further research. In addition, the volume reviews dietary and health recommendations from major health organizations and notes specific target levels for nutrients.

**Dairy Industry Production Opportunities Using Alternative Feed, Data Feedback, and Bioactive Components of Milk** IntechOpen

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.

*Whey Protein Production, Chemistry, Functionality, and Applications* Springer  
*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.

Probiotics MDPI

*Milk Contains Components That Provide Critical Nutritive Elements, Immunological Protection, And Biologically Active Substances To Both Neonates And Adults. Bioactive Peptides Have Been Identified Within The Amino Acid Sequences Of Native Milk Proteins. The Bioactive Peptides Encrypted In Milk Proteins Can Be Released By Enzymatic*

Proteolysis, Gastrointestinal Digestion, Or Food Processing. Bioactive Milk Peptides Directly Influence Numerous Biological Processes Evoking Behavioural, Gastrointestinal, Hormonal, Immunological, Neurological, And Nutritional Responses. This Book Provides Detailed Information Of The Formation Of Bioactive Peptides From Dairy Products. It Comprehensively Describes The Medicinal And Nutritional Value Of Primary Classes Of Bioactive Milk Peptides. Students And Professionals From The Fields Of Pharmacology, Dairy, Food Science And Biochemistry Will Find This Work Of Utmost Use. Contents Chapter 1: Bioactive Milk Peptides; Chapter 2: Functional Dairy Products; Chapter 3: Dairy Proteins And Bioactive Peptides In Nutrition And Health; Chapter 4: Models Of Bioactive Peptides; Chapter 5: Hypotensive Peptides From Milk Proteins; Chapter 6: Effects Of Milk Peptides On Calcium And Bone Metabolism; Chapter 7: Potentials Of Antimicrobial Peptides; Chapter 8: Medicinal Activity Of Whey Peptides; Chapter 9: Frontier In Soy Bioactive Peptides; Chapter 10: Caseinophosphopeptides And Mineral Bioavailability; Chapter 11: Functional Characterisation Of Protein Hydrolysates; Chapter 12: Therapeutic Proteins And Purification; Chapter 13: Bioactive Factors In Human Milk; Chapter 14: Bioactive Peptides Via Non-Natural, Sequence Specific Peptidomimetic Oligomers.

Understanding and Improving the Functional and Nutritional Properties of Milk John Wiley & Sons

Improved conditions of care for premature infants have led to markedly increased survival rates over the last few decades, particularly in very low and

extremely low birth weight infants. Nutritional measures play a central role in the long-term outcome, health and quality of life of these premature infants. In this publication, leading experts from all 5 continents present the most recent evidence and critical analyses of nutrient requirements and the practice of nutritional care (with the focus on very low birth weight infants) to provide guidance for clinical application. After the introductory chapters, covering nutritional needs and research evidence in a more general manner, topics such as amino acids and proteins, lipids, microminerals and vitamins, parenteral and enteral nutrition as well as approaches to various disease conditions are addressed. Due to its focus on critical appraisals and recommendations, this book is of interest not only for the researcher who wants to keep up to date, but also for the clinician faced with premature infants in his practice.

*Human Milk Biochemistry and Infant Formula Manufacturing Technology* Springer Science & Business Media

Milk proteins have nutritional value and extraordinary biological properties. Research over the last decades has provided new insight into the structure and the function of milk bioactive peptides. Some of these peptides are delivered directly into milk, and some are encrypted in major proteins such as caseins and lactoglobulins. These peptides have antimicrobial functions modulating the gut microflora. Even when milk is undisputedly the first food for mammals, milk proteins sometimes can be a health threat, either because of allergic reaction or because of toxicity. In this regard, in vitro studies showed donkey's casein and major whey proteins to be more digestible than cows' for human consumption. In this

book, readers will find updated research on the major milk proteins' structure, bioactive peptides, milk protein allergy, therapeutic strategies, and chemical markers that can be used to detect cow milk intolerance in infants. This book provides the most current scientific information on milk proteins, from structure to biological properties. It will be of great benefit for those interested in milk production, milk chemistry, and human health.

### **Nutrients in Dairy and Their Implications for Health and Disease**

John Wiley & Sons

Food fermentation is one of the most ancient processes of food production that has historically been used to extend food shelf life and to enhance its organoleptic properties. However, several studies have demonstrated that fermentation is also able to increase the nutritional value and/or digestibility of food. Firstly, microorganisms are able to produce huge amounts of secondary metabolites with excellent health benefits and preservative properties (i.e., antimicrobial activity). Secondly, fermented foods contain living organisms that contribute to the modulation of the host physiological balance, which constitutes an opportunity to enrich the diet with new bioactive molecules. Indeed, some microorganisms can increase the levels of numerous bioactive compounds (e.g., vitamins, antioxidant compounds, peptides, etc.). Moreover, recent advances in fermentation have focused on food by-products; in fact, they are a source of potentially bioactive compounds that, after fermentation, could be used as ingredients for nutraceuticals and functional food formulations. Because of that, understanding the benefits of food

fermentation is a growing field of research in nutrition and food science. This book aims to present the current knowledge and research trends concerning the use of fermentation technologies as sustainable and GRAS processes for food and nutraceutical production.

### **Nutritional Care of Preterm Infants**

Springer Science & Business Media

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-phycoyanins, 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.

Milk Proteins - From Structure to Biological Properties and Health Aspects  
MDPI

*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

**Bioactive Components in Milk and Dairy Products** John Wiley & Sons

*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