

# Effect Of Lactobacillus Acidophilus Bifidobacterium Lactis

Probiotics are living microorganisms that help regulate the gastrointestinal tract. The aim of this project was to investigate the benefits of probiotics and their inhibitory effect on *Listeria monocytogenes* EGD. Three groups of mice were fed for two weeks with three different diets made out of soy protein bar, Control diet with no probiotic, ADH diet with *Lactobacillus acidophilus* ADH, and B6 diet with *Bifidobacterium animalis* B6. Each group was subdivided into two different groups, one of them was challenged with the pathogen and the other group was not (control group). After 14 days of feeding, the mice were challenged intragastrically with  $\sim 10^8$  CFU/ml *L. monocytogenes* EGD. At day 3 post-infection, the colon and cecum were tested for probiotic concentration; the spleen and liver were tested for the presence of *L. monocytogenes*. A reduction of the pathogen was achieved for one or both treatments for all the replications. In addition, collected evidence showed that the probiotics colonized the colon and the cecum with concentrations of  $\sim 10^7$  CFU. According to our results we believe that the probiotic supplemented soy protein bar holds promise to prevent listeriosis.

This book underlines the importance of reciprocal interactions between probiotics and humans in terms of stress induction, epigenetic control of cellular responses, oxidative

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status, bioactive molecules biosynthesis, moonlighting proteins secretion, endogenous toxins neutralization, and several other biological functions. It explores how these responses can affect metabolism and metabolic-related disorders, gutbrain axis balance, mood, inflammatory, allergic and anti-infective reactions, cancer, and ageing. The book explores how probiotics create a dynamic and "fluid" network of signals able to control the balance between healthy and altered human status.

Since the publication of the first edition in 1999, the science of probiotics and prebiotics has matured greatly and garnered more interest. The first handbook on the market, Handbook of Probiotics and Prebiotics: Second Edition updates the data in its predecessor, and it also includes material topics not previously discussed in the first edition, including methods protocols, cell line and animal models, and coverage of prebiotics. The editors supplement their expertise by bringing in international experts to contribute chapters. This second edition brings together the information needed for the successful development of a pro- or prebiotic product from laboratory to market.

In recent years the gastrointestinal microflora has featured strongly in scientific, veterinary and medical research. As a result it has become obvious that the gut microflora is an essential component of the healthy animal. Not only is it involved in digestion of food, it is essential for the optimal resistance to disease. The first part of this book records the research that has been done on the factors affecting colonization of the gut and the effect that the flora has on the host animal. The second part

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discusses the way in which this basic knowledge affects the choice of organism being used as a probiotic. The evidence for the involvement of the gut microflora in the health and well-being of the animal is incontrovertible, but the development of probiotics has been largely empirical, failing to capitalize on the relevant research data. The bringing together of the basic information on gut microecology and the development of probiotic preparations is long overdue. It is hoped that this exercise will result in a more scientific approach to probiotic development and the emergence of new and improved preparations for animals and man. The authors involved are all experts in their field and I am greatly indebted to them for their contributions to the book. R. Fuller Abbreviations used for - generic names Aspergillus A.B. Bacillus Bact. Bacteroides Bifidobacterium Bif. C. Clostridium Cam. Campylobacter Can. Candida Cor. Corynebacterium E. Escherichia Enterobacter Eb. Ent. Enterococcus Fusobacterium F. Fib. Fibrobacter K. Klebsiella 1.

"This book reviews the recent advancements in the dairy industry and includes the latest scientific developments in regard to the 'functional' aspects of dairy and fermented milk products and their ingredients. Since the publication of the first edition of this text, there have been incredible advances in the knowledge and understanding of the human microbiota, mainly due to the development and use of new molecular analysis techniques"--

This book shows the huge impact the gut microbiota has on the gastrointestinal health

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of humans with a particular focus on children. It also highlights the potential use of probiotic microorganisms to protect or improve children's gastrointestinal health. Humans are not single organisms: We are a multi-organism structure composed of ourselves and our microbiota, living in close symbiosis since birth and even before. The huge impact that the billions of microscopic cells living in our gut have on our gastrointestinal and systemic health cannot be overestimated. The enormous progress that has been made in the past decade in our still very incomplete understanding of the gut microbiota is opening the door to potential applications in human health that were simply unthinkable before. One of the most interesting aspects of this new scientific horizon is the fact that we may identify (or even create in the laboratory) and utilize many of these "friendly bacteria" to protect, or improve our health. Thus, strains of probiotic microorganisms are being identified and studied in a vast array of clinical scenarios. Among the most investigated areas for probiotics is the gastrointestinal health of children. The topics addressed in this book are spanning from the development of the gut microbiota in the fetus and newborn all the way to current and potential applications in disparate conditions such as necrotizing enterocolitis, or infectious, or inflammatory conditions affecting the child. The book is written in a rigorous, evidence based manner by an international group of outstanding experts in these fields and is aimed at pediatric gastroenterologists, pediatricians and physician scientists alike.

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The discovery of new and previously unknown organisms that cause foodborne illness makes it essential for scientists, regulators, and those in the food industry to reconsider their traditional approaches to food preservation. A single source reference that can provide the latest practical information on how to deal with the range of probiotic health issues that have recently arisen would be invaluable to have. Probiotics in Food Safety and Human Health is that resource. It presents an in-depth characterization and diagnosis of probiotic strains and their mechanisms of action in humans, explains the role food applications have in the development of new products that guard against gastrointestinal diseases, and addresses the current regulatory environment. The material in each chapter is written in an accessible format by internationally renowned experts and includes citations from scientific literature. Highlights include a thorough discussion of probiotic issues such as pre- and postharvest food safety applications of probiotics, genetic engineering, and probiotic identification. The book also presents information on new regulations and emerging trends in the two major probiotics markets in the world, Europe and Japan. Unique in its depth and breadth of scope, Probiotics in Food Safety and Human Health provides vital information to those who need to be knowledgeable of the functional properties of foods aimed at improving human health. This book discusses the latest research and new techniques in the field of lactic acid bacteria, including comparative genomics, transcriptomics, proteomics and metabolomics. It also introduces the omics and functional evaluation in detail and

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shows the links between lactic acid bacteria and gut health and host immunity. Summarizing the biotechnological advances in lactic acid bacteria for food and health, it is a valuable resource for researchers and graduate students in the fields of food microbiology, bioengineering, food science, nutrition and health. This new edition of Handbook of Dairy Foods and Nutrition presents the latest developments in dairy foods research. It examines the role of dairy products in the diet for cardiovascular health, reducing risk for blood pressure and colon cancer, and enhancing bone and oral health. In addition, the bone health of vegetarians and lactose intolerant individuals are addressed. The importance of milk and milk products in the diet throughout the lifecycle is addressed. WHAT'S NEW IN THE SECOND EDITION? NEW CHAPTERS! "Milk and Milk Products" will include: \*Official recommendations for inclusion of milk and milk products in the diet \*Nutrient contributions of milk and milk products \*Nutrient components (energy, carbohydrate, protein, fat, vitamins, minerals, electrolytes) \*Protection of quality of milk products \*Kinds of milk and milk products "Contributions of Milk and Milk Products to a Healthy Diet Throughout the Life Cycle" will include: \*Unique aspects of each developmental stage in the life cycle \*Nutrient contributions of dairy foods to the diet \*Other non-nutrient components of dairy foods with known health benefits \*Official recommendations for the use of Milk

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Group foods for each age group \*Discussion of strategies to improve dairy food intake PLUS EXTENSIVE REVISIONS TO EXISTING CHAPTERS INCLUDING:  
\*Recent American Heart Association recommendations \*Updated data on fat and cholesterol intake \*Tables of new RDAs/DRIs \*Latest information on the anticarcinogenic effect of dairy food components \*And much more!

Abstract: Objective: To evaluate the nutrition-related effects of prophylactic Lactobacillus acidophilus/Bifidobacterium infantis probiotics on the outcomes of preterm infants 29 weeks of gestation that receive human milk and/or formula nutrition. We hypothesize that human-milk-fed infants benefit from probiotics in terms of sepsis prevention and growth. brMethods: brWe performed an observational study of the German Neonatal Network (GNN) over a period of six years, between 1 January, 2013 and 31 December, 2018. Prophylactic probiotic use of L. acidophilus/B. infantis was evaluated in preterm infants 29 weeks of gestation (n = 7516) in subgroups stratified to feeding type: (I) Exclusively human milk (HM) of own mother and/or donors (HM group, n = 1568), (II) HM of own mother and/or donor and formula (Mix group, n = 5221), and (III) exclusive exposure to formula (F group, n = 727). The effect of probiotics on general outcomes and growth was tested in univariate models and adjusted in linear/logistic regression models. brResults: br5954 (76.5%) infants received L.

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acidophilus/B. infantis prophylactically for the prevention of necrotizing enterocolitis (NEC). Probiotic use was associated with improved growth measures in the HM group (e.g., weight gain velocity in g/day: effect size  $B = 0.224$ ; 95% CI: 2.82-4.35;  $p$

Food science and technology bulletin: Functional foods is designed to meet the current-awareness needs of busy food professionals working in food science and technology.

Proceedings of the Sixth Symposium on Lactic Acid Bacteria: Genetics, Metabolism and Applications 19-23 September 1999, Veldhoven, The Netherlands

R. Fuller 1.1 DEVELOPMENT OF COMMERCIAL PREPARATIONS The history of the probiotic effect has been well documented many times previously (see e.g. Bibel, 1982; Fuller, 1992). The consumption of fermented milks dates from pre-biblical times but the probiotic concept was born at the end of the last century with the work of Metchnikoff at the Pasteur Institute in Paris. In the century that has elapsed since Metchnikoff's work, the probiotic concept has been accepted by scientists and consumers throughout the world. Attempts to refine the practice from the use of traditional soured milks to preparations containing specific micro organisms have occupied the thoughts and endeavours of scientists in many

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different countries. But, in spite of the large amount of effort expended in attempting to explain and define the effect, it has to be admitted that little is known of the way in which probiotics operate. There are likely to be several different mechanisms because it seems highly improbable that a mode of action that explains resistance to microbial infection will also hold true for improved milk production or alleviation of lactose malabsorption.

Yogurt starter and probiotic bacteria have been reported to confer health benefits to the consumer; however, to confer these health benefits yogurt and probiotic bacteria should be live and present at the recommended concentration of 6 to 8 log cfu g<sup>-1</sup>. Cegemett® Fresh (Cognis Nutrition & Health, Monheim, Germany) is a plant extract that possesses antioxidant properties. This research was divided into two experiments. The objective of experiment-I was to investigate the effect of plant extract supplementation on the redox potential (Eh) and the viability of starter cultures (*Streptococcus thermophilus* and *Lactobacillus delbrueckii* ssp. *bulgaricus*) in nonfat yogurt. Five yogurt samples [non-supplemented, supplemented with 0.5 or 1.0% (w/v) plant extract, or supplemented with 0.014 or 0.028% (w/w) L-cysteine. HCl] were prepared, stored at 5°C for 50 days and analyzed weekly. *L. bulgaricus* counts in supplemented yogurts were > 6 log cfu mL<sup>-1</sup> for additional 7 to 21 days compared with non-supplemented yogurt;

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however, *S. thermophilus* counts in all yogurts were  $> 6 \log \text{ cfu mL}^{-1}$  throughout the storage. Overall, Eh of plant extract supplemented yogurts were similar to non-supplemented yogurt during storage; therefore the improvement in *L. bulgaricus* viability cannot be attributed to the Eh alone. The objective of experiment-II was to investigate the effect of plant extract supplementation on the buffering ability of the yogurt mix, and on the viability of starter and probiotic (*Bifidobacterium animalis* ssp. *animalis* and *Lactobacillus acidophilus*) cultures in nonfat yogurt stored at  $5^{\circ}\text{C}$  for 50 days. Nine yogurt samples were prepared with 0.5% (w/v) plant extract, 0.25% (w/v) sodium acetate or no supplement, fermented with starter cultures and *B. animalis*, *L. acidophilus* or both probiotics, and analyzed weekly. The plant extract and sodium acetate supplemented yogurt mixes had greater buffering capacities compared with non-supplemented yogurt mix. *L. bulgaricus* and *L. acidophilus* counts in supplemented yogurts were  $> 6 \log \text{ cfu mL}^{-1}$  for additional 7 to 35 days compared with non-supplemented yogurts. *S. thermophilus* and *B. animalis* counts were not affected by supplementation. These results suggested that greater buffering capacity could improve the viability of *L. bulgaricus* and *L. acidophilus* in yogurt during storage. A high level of serum cholesterol in humans is generally considered to be a risk factor for coronary heart disease, the number one cause of death in the United

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States and also in Malaysia. So, much interest exists to find ways to decrease the level of serum cholesterol. The assimilation of cholesterol by Lactobacillus acidophilus and Bifidobacterium species appears to be a way for a hypocholesterolemic effect. [Authors' abstract].

Nutrition in the Prevention and Treatment of Disease, Second Edition, focuses on the clinical applications and disease prevention of nutrition. This revised edition offers 18 completely new chapters and 50% overall material updated. Foundation chapters on nutrition research methodology and application clearly link the contributions of basic science to applied nutrition research and, in turn, to research-based patient care guidelines. Readers will learn to integrate basic principles and concepts across disciplines and areas of research and practice as well as how to apply this knowledge in new creative ways. Chapters on specific nutrients and health cover topics where data are just beginning to be identified, such as choline, antioxidants, nutrition and cognition, and eye disease.

Established areas of chronic disease: obesity, diabetes, cardiovascular disease, gastrointestinal disease, and bone health are presented each in their own sections, which aim to demonstrate the inter-action of basic science, genetics, applied nutrition research, and research-based patient care guidelines. Given its unique focus and extensive coverage of clinical applications and disease

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prevention, this edition is organized for easy integration into advanced upper-division or graduate nutrition curriculums. Busy researchers and clinicians can use this book as a "refresher course" and should feel confident in making patient care recommendations based on solid current research findings. \* 18 completely new chapters and 50% overall new material \* Unique focus and extensive coverage of clinical applications and disease prevention. \* Clearly links the contributions of basic science to applied nutrition research and, in turn, to research-based patient care guidelines. \* Assimilates a large body of research and applications and serves as a "refresher course for busy researchers and clinicians.

Bentham Briefs in Biomedicine and Pharmacotherapy brings new trends and techniques in pharmacology and medical biochemistry to the forefront through unique volumes. Each volume provides a brief review of selected topics, written by scientific experts. The book series is essential reading for graduate students and researchers in pharmacology and life sciences as well as medical professionals seeking knowledge for research oriented projects. The first volume, Oxidative Stress and Natural Antioxidants, is a compilation of articles about free radicals (which are extremely reactive, short-lived molecules with unpaired electron valency), and antioxidants (which are stabilizing agents of free radicals

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in the body). The volume presents 17 chapters on the biochemistry of free radicals and antioxidants, with contributions from over 60 scientists. Readers will understand the basic and clinical aspects of free radical biomedicine, the role of antioxidants in neutralizing free radicals through physiological homeostasis, as well as the range of natural compounds which can be used to combat oxidative stress. The chapters also cover special topics such as recent advances in preparation methods of antioxidants, and industrial applications of antioxidants. The range of topics in this volume provide a consolidated reference for a broad set of readers on the subject.

Through four editions, Lactic Acid Bacteria: Microbiological and Functional Aspects, has provided readers with information on the how's and why's lactic acid-producing fermentation improves the storability, palatability, and nutritive value of perishable foods. Thoroughly updated and fully revised, with 12 new chapters, the Fifth Edition covers regulatory aspects globally, new findings on health effects, properties and stability of LAB as well as production of target specific LAB. The new edition also addresses the technological use of LAB in various fermentations of food, feed and beverage, and their safety considerations. It features the detailed description of the main genera of LAB as well as such novel bacteria as fructophilic LAB and novel probiotics and

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discusses such new targets as cognitive function, metabolic health, respiratory health and probiotics. Key Features: In 12 new chapters, findings are presented on health effects, properties and stability of LAB as well as production of target specific LAB Covers such novel bacteria as fructophilic LAB and novel probiotics Presents new discoveries related to the mechanisms of lactic acid bacterial metabolism and function Covers the benefits of LAB, both in fermentation of dairy, cereal, meat, vegetable and silage, and their health benefits on humans and animals Discusses the less-known role of LAB as food spoilers Covers the global regulatory framework related to safety and efficacy

Clinical Naturopathy: an evidence-based guide to practice, 2nd edition, E-book by Jerome Sarris and Jon Wardle, articulates evidence-based clinical practice. It details the principles, treatment protocols and interventions at the forefront of naturopathic practice in the 21st century. Clinical Naturopathy: an evidence-based guide to practice 2e E-book, equips you to critically evaluate your patients, analyse treatment protocols, and provide evidence-based prescriptions. This second edition promotes the fundamentals of traditional naturopathy, while pushing the scientific boundaries and driving the steady evolution of the profession of naturopathic medicine. Perfect for: Bachelor of Health Science (Naturopathy) Advanced diploma and Postgraduate students in: • Naturopathy •

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Western Herbal Medicine • Nutrition • Homoeopathy Complementary health therapists General Practitioners Nursing students Pharmacy students Benefits: • Provides an evidence-based, referenced analysis of the treatment protocols underpinning the therapeutic use of CAM interventions. • Emphasizes the treatment of patients not diseases within the systems based structure. • A rigorously researched update of common clinical conditions and their naturopathic treatment according to evidence-based guidelines (over 5,000 references). • Bridges conventional medical and naturopathic paradigms to help clinicians facilitate truly integrative models of care. • Augmented appendices including: herb/drug interaction charts, laboratory reference values, food sources of nutrients, cancer medication interactions and nutraceutical use. • Key Treatment Protocols throughout the text offer an evidence-based referenced critique. • Naturopathic Treatment trees for each condition, with Treatment Aims boxes that are easy to follow and understand. • Scientific and traditional evidence validating treatment protocols. • Decision trees, unique figures, tables and charts are a great aid to visual learners. • Expanded Diagnostics chapter including the emerging field of pharmacogenomics. • New Wellness, lifestyle and preventive medicine chapter to explore in detail the core principles of naturopathic practice. • New Liver dysfunction and disease, Headache and

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migraine, and Pain chapters. • A deepening scientific focus with inclusion of new and emerging naturopathic therapeutics such as injectable nutraceuticals. 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.

Though there is considerable historical and anecdotal record for the use and efficacy of the cancer preventative properties of vegetables, fruits, and herbs, modern healthcare professionals require scientific evidence and verifiable results to make defensible decisions on the benefits, risks, and value of botanicals and their extracts in the prevention and treatment of cancers. Presenting research-based evidence of the role of herbs and bioactive foods in the prevention and treatment of cancer, *Bioactive Foods and Extracts: Cancer Treatment and Prevention* provides the scientific basis for millennia of empirical evidence.

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Divided into four sections, the book begins with a look at herbal medicines and bioactive foods in cancer prevention in general including the benefits of Greco-Arabic and Islamic herbal medicine, Indian vegetarian diet, and a range of culinary spices. The second section considers specific bioactive foods in cancer prevention. Chapters include in-depth discussions of phytochemicals and their therapeutic action within the body, curcumin-mediated cellular response, and the mechanism and use of prunes and plums, mushrooms, and tomato-based products. The third section takes a focused look at certain cancers such as colon, prostate, breast, and lung cancer. Substances analyzed include ginseng, pentacyclic triterpenes from olives, cruciferous vegetables, and fruit phenolics, as well as alcohol and its associated risks. The final section investigates non-botanical supplements including vitamin D, calcium, selenium, and probiotics. Providing an important scientific and evidence-based record on an increasingly popular branch of modern healthcare, this indispensable reference brings together the analytical research of modern science and the wisdom of herbal and food based medicine and puts them at your fingertips. Probiotic microorganisms have a long history of use, and their health benefits for hosts are well documented. This Microbiology Monographs volume provides an overview of the current knowledge and applications of probiotics. Reviews cover the biology and

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probiotic potential of the thoroughly studied prokaryotic genera Lactobacillus and Bifidobacterium, several eukaryotic microorganisms, probiotic strain characterization, and the analytical methods (such as FISH, microarray, and high throughput sequencing) required for their study. Further chapters describe the positive effects of probiotics on malabsorption disorders such as diarrhea and lactose intolerance, and document the clinical evidence of benefits in treating allergies and lung emphysema, and in dermatological applications. Also addresses are topics such as genetically engineered strains, new carriers for probiotics, protection techniques, challenges of health claims, safety aspects, and future market trends.

Provides key facts on the safety, efficacy and interactions of 91 commonly used herbs and dietary supplements.

Probiotic has been used for centuries especially in fermented dairy products since Metchnikoff associated the intake of fermented milk with prolonged life. Probiotics confer many health benefits to humans, animals, and plants when administered in proper amounts. These benefits include the prevention of gastrointestinal infections and antibiotic-associated diarrhea, the reduction of serum cholesterol and allergenic and atopic complaints, and the protection of the immune system. Furthermore, the proper usage of probiotics could suppress Helicobacter pylori infection and Crohn's disease, improve inflammatory bowel disease, and prevent cancer. In this book, we present specialists with experience in the field of probiotics exploring their current knowledge

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and their future prospects.

**Aim** Low-grade chronic inflammation in patients with type 2 diabetes mellitus (T2DM) may be influenced by circulating endotoxin levels, acting as an inflammatory stimulus. Health-promoting live microorganisms, such as probiotics, may influence circulating endotoxin levels and reduce inflammation. Limited information is available whether or not probiotics do so in patients with T2DM. The aim of this study was to characterize the beneficial effects of probiotics on circulating endotoxin levels and other biomarkers related to systemic low-grade inflammation and cardiometabolic status in patients with T2DM. **Methods** A total of 150 adult Saudi T2DM patients (naive and without comorbidities, aged 40-60 years) were initially recruited, 96 of whom were randomized, 78 completed 3 months, and 61 completed the entire clinical trial. They were randomized to receive twice daily placebo or probiotics [(2.5 × 10<sup>9</sup> cfu/gram) containing the following bacterial strains: Bifidobacterium bifidum W23, Bifidobacterium lactis W52, Lactobacillus acidophilus W37, Lactobacillus brevis W63, Lactobacillus casei W56, Lactobacillus salivarius W24, Lactococcus lactis W19 and Lactococcus lactis W58 (Ecologicum Barrier)] in a double-blind manner over a 6 month period.

Anthropometrics, glycemic and lipid profiles, as well as inflammatory and other markers, including adipocytokines, were measured. Measurements/samples were obtained at baseline and after 3 and 6 months of treatment. **Results** After 6 months of intervention, significant improvements were observed in endotoxin levels, glycemic,

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lipid, inflammatory and adipocytokine profiles in the probiotics group, which were not seen in the placebo group. Between group analyses, however, revealed that only HOMA-IR demonstrated a clinically significant reduction in favor of the probiotics group after adjusting for baseline covariates [Placebo % change: 0.80 vs. Probiotics % change: -3.40 (CI: -0.59 - -0.17);  $p=0.001$ ].

**Discussion** Our study is, to our knowledge, the first to demonstrate the effects of a multi-strain probiotics supplementation in several adipocytokines, such as leptin, adiponectin and resistin in T2DM patients. Previous observations have shown that endotoxins from noncommensal bacteria may affect adipocytokine levels secondary to translocation induction of several intestinal microbial antigens into the circulation, creating an altered adipokine profile and intestinal dysbiosis [1]. Certain probiotics, specifically lactic acid bacteria strains, have demonstrated in vitro that they can differentially modulate adipokine expression and the inflammatory response [2]. Similar to their findings, we demonstrated improved levels of adipocytokines, as well as decreased levels of inflammatory markers, in the probiotics group but not in the placebo, even though interaction effects overall pointed to no clinically significant difference. It is noteworthy that 6 of the 8 probiotic strains used belong to the lactic acid bacteria class. How probiotics directly or indirectly influence adipocytokine levels need further evaluation, as the effects may be secondary to improved insulin sensitivity and stronger intestinal barrier function.

**Conclusion** Daily multi-strain probiotic supplementation over 6 months significantly decreased HOMA-IR in

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T2DM patients and is a promising adjuvant anti-diabetes therapy. Larger trials may causally confirm the beneficial effects of probiotics in reducing endotoxin levels and improving glycemic, lipid, inflammatory, and adipocytokine profiles. Trial Registration: ClinicalTrials.gov Identifier: NCT01765517 Funding This project is funded by the National Plan for Science and Technology (NPST) (Grant Number: 11-MED2114-02) and supported by the Dean of Scientific Research Chairs, PMCO, KSU, Riyadh, Saudi Arabia.

Microorganisms are an integral part of the fermentation process in food products and help to improve sensory and textural properties of the products. As such, it is vital to explore the current uses of microorganisms in the dairy industry. *Microbial Cultures and Enzymes in Dairy Technology* is a critical scholarly resource that explores multidisciplinary uses of cultures and enzymes in the production of dairy products. Featuring coverage on a wide range of topics such as dairy probiotics, biopreservatives, and fermentation, this book is geared toward academicians, researchers, and professionals in the dairy industry seeking current research on the major role of microorganisms in the production of many dairy products.

Authoritative investigators active in the discovery, development, and application of biological anti-infective agents concisely review their use and potential in preventing and treating human disease. Focusing on biotherapeutic entities that have been tested in controlled studies, the prominent experts illuminate the scientific underpinnings of

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their therapeutic power, assess their possible risks in the treatment of infectious diseases, and outline the research needed to better define their effectiveness. In addition, they also consider how biotherapeutic agents may be genetically engineered for maximum intestinal and vaginal production of bioactive substances in vivo. Biotherapeutic Agents and Infectious Diseases brings together all the evidence needed to understand and capitalize on the considerable promise of this significant new class of biotherapeutic entities.

Get information you can trust to make the right decisions about probiotics The Power of Probiotics is a consumer-friendly guide to the selection and use of probiotics that have been proven effective in the prevention and treatment of human diseases. This jargon-free reference resource provides practical advice on how and when to use probiotics and how to select the best commercially available products, based on usefulness, quality, and safety, to lower the risk of disease and maintain a positive health image. The book offers objective information on evaluating product claims, making sense of regulations and labeling, and sorting through manufacturing and marketing issues. The Power of Probiotics presents an expert review of the scientific evidence for probiotics, illustrated with summary tables and diagrams for quick reference. Each chapter starts with a series of FAQs with clear and concise answers before moving into more in-depth analysis from the book's authors, who combine more than 20 years of research from the patient clinic and the bench laboratory with extensive experience in writing and

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translating medical articles for consumer-oriented publications. This unique book presents definitions and descriptions of probiotics and a history of their uses, a review of medical conditions prevented and/or treated by probiotics, available products (with brand names), uses with other medications, and risks and side effects. The Power of Probiotics examines the treatment and/or prevention of: allergies cancer colds and flu constipation dental health diarrhea high cholesterol indigestion inflammatory bowel diseases pseudomembranous colitis stomach ulcers stress urinary tract infections vaginal infections weight loss and much more! The Power of Probiotics is an essential resource for health-conscious consumers who are interested in natural alternatives to conventional medicines. Health professionals, educators, and students will also benefit from the book's extensive references.

This reference supplies a comprehensive and current overview of every aspect of gastrointestinal microbiota. Expertly written chapters cover conventional and molecular techniques for the study of differing microbial populations, as well as the analysis of microbial activity and interaction with host bodies. Illustrative and up-to-date, this source

Presenting the work of international experts who discuss all aspects of probiotics and prebiotics, this volume reviews current scientific understanding and research being conducted in this area. The book examines the sources and production of

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probiotics and prebiotics. It explores their use in gastrointestinal disorders, infections, cancer prevention, allergies, asthma, and other disorders. It also discusses the use of these supplements in infant, elderly, and animal nutrition, and reviews regulations and safety issues.

Probiotic microorganisms are recognised as being beneficial for human health. Prebiotics are substrates that are used preferentially by the probiotic bacteria for their growth. A great deal of interest has been generated in recent years in identifying probiotic bacteria and prebiotics, their characterization, mechanisms of action and their role in the prevention and management of human health disorders. Together they are referred to as synbiotic. This book is in response to the need for more current and global scope of probiotics and prebiotics. It contains chapters written by internationally recognized authors. The book has been planned to meet the needs of the researchers, health professionals, government regulatory agencies and industries. This book will serve as a standard reference book in this important and fast-growing area of probiotics and prebiotics in human nutrition and health.

This unique work compiles the latest knowledge around veterinary nutraceuticals, commonly referred to as dietary supplements, from ingredients to final products in a single source. More than sixty chapters organized in seven sections collate

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all related aspects of nutraceutical research in animal health and disease, among them many novel topics: common nutraceutical ingredients (Section-I), prebiotics, probiotics, synbiotics, enzymes and antibacterial alternatives (Section-II), applications of nutraceuticals in prevention and treatment of various diseases such as arthritis, periodontitis, diabetes, cognitive dysfunctions, mastitis, wounds, immune disorders, and cancer (Section-III), utilization of nutraceuticals in specific animal species (Section-IV), safety and toxicity evaluation of nutraceuticals and functional foods (Section-V), recent trends in nutraceutical research and product development (Section-VI), as well as regulatory aspects for nutraceuticals (Section-VII). The future of nutraceuticals and functional foods in veterinary medicine seems bright, as novel nutraceuticals will emerge and new uses of old agents will be discovered. International contributors to this book cover a variety of specialties in veterinary medicine, pharmacology, pharmacognosy, toxicology, chemistry, medicinal chemistry, biochemistry, physiology, nutrition, drug development, regulatory frameworks, and the nutraceutical industry. This is a highly informative and carefully presented book, providing scientific insight for academia, veterinarians, governmental and regulatory agencies with an interest in animal nutrition, complementary veterinary medicine, nutraceutical product development and research.

## Get Free Effect Of Lactobacillus Acidophilus Bifidobacterium Lactis

This book discusses the role of probiotics and prebiotics in maintaining the health status of a broad range of animal groups used for food production. It also highlights the use of beneficial microorganisms as protective agents in animal derived foods. The book provides essential information on the characterization and definition of probiotics on the basis of recently released guidelines and reflecting the latest trends in bacterial taxonomy. Last but not least, it discusses the concept of “dead” probiotics and their benefits to animal health in detail. The book will benefit all professors, students, researchers and practitioners in academia and industry whose work involves biotechnology, veterinary sciences or food production.

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