

Lactic Acid Bacteria: Microbiological and Functional Aspects, 3rd Revised and Expanded Edition

Edited by Seppo Salminen, Atte von Wright, and Arthur Ouwehand

New York: Marcel Dekker, 2004.
633 pp. \$229.95 (cloth).

The past 5 years has seen an explosion in studies on lactic acid bacteria, particularly on their applications to foods and probiotics. This textbook has been revised to cover the progress that has been made and the changes in direction of the field that have occurred during these past 5 years. The length of the book attests to the growing volume of studies that the authors had to review in order to present an overview of the interdisciplinary topics, especially those related to health. The author list has been expanded and includes some experts on probiotics and prebiotics (i.e., nondigestible substances that provide a beneficial physiological effect on the host by selectively stimulating the favorable growth or activity of a limited number of indigenous bacteria) [1]. The book is intended for clinicians, microbiologists, food technologists, nutritionists, product development experts, and regulatory experts, but it could also provide comprehensive reading for students, residents, and fellows who are interested in probiotics. Having said that, clinicians, medical students, and fellows may find that they have to plow through a lot of food-related and detailed information on taxonomy, biochemistry, and genomics to reach the critical,

bottom-line information relevant to their practices.

The first chapter appropriately opens with definitions and classifications and is presented clearly and thoroughly in a manner most appropriate for students of biochemistry and food technologists. However, the introduction fails to define the term “probiotics,” and the reader must go to page 515 to read a European definition that is narrow and not representative of the breadth of probiotic applications. Sadly, the definition developed by the Food and Agriculture Organization of the United Nations and the World Health Organization and accepted by the International Scientific Association for Probiotics and Prebiotics has not been used: “Live microorganisms which when administered in adequate amounts confer a health benefit on the user” [1]. Restricting the definition to that of a food supplement essentially nullifies the important studies on the application of probiotics to the nasopharynx and urogenital tract and their use as medicinal drugs for conditions such as colitis. Indeed, the urogenital microbiota only warrants half a page.

Throughout the text, the authors fail to make sure that the reader understands that a genus or species is not a probiotic. In fact, probiotic effects have to be proven for strains and/or product formulations. This concept is best addressed in chapter 18, although the data is not analyzed thoroughly. Thus, the reader is left believing that *Lactobacillus johnsonii* LA1 is a probiotic on the basis of its ability to adhere to intestinal cells and that “balancing” the intestinal microbiota (neither of which has a proven health benefit) of *Lactobacillus acidophilus* NCFM is proven effective for the treatment of lactose intolerance (when the data is contradictory). Rather, a summary of the strains with clinical support that truly proves effectiveness should have

been presented and should have included extensive data on *Lactobacillus* strains GR-1, B-54, RC-14, and CTV05.

Clinicians are interested in the scientific basis of new ways to manage patient care. Thus, for example, neonates are clearly colonized heavily within 2–5 days after birth by bifidobacteria, and in chapter 2, Ballongue argues well that these colonizing bacteria originate in the vaginal or fecal flora of the mother. Yet there are only 2 or 3 articles showing the presence of bifidobacteria in the vagina, and there are no discussions of specific receptor sites in the gut to which these organisms can bind. Discussion of the differential growth patterns induced by prebiotics is covered to some extent in chapter 3, but readers must go to page 408 to find the definition for prebiotics. Thus, it is not clear if clinicians should recommend vaginal birth, breast feeding, and use of bifidobacterium probiotic infant formula.

It is surprising that lactobacilli and lactococci do not warrant a chapter. Lactobacilli are discussed in chapter 16 and are strangely referred to as lactoflora, a term that should be dropped. The organization of chapters is somewhat puzzling: discussion of industrial applications comes long before the reader has been acquainted with the breadth of the topic, and it is not done from a medical perspective; thus sections on various aspects (e.g., the microbiota of infants) can be found in different chapters. Clinicians will be interested to read sections on organisms, such as propionibacteria and *Enterococcus*, which they normally might regard as pathogens. A chapter on antimicrobials produced by strains of lactic acid bacteria is very pertinent to medicine, although studies are needed to prove that these compounds actually are expressed in situ and affect the physiology of the host. Chapters 12–15 discuss effects of food or lactic acid bacteria in foods and are well written, al-

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though practical, interpretive recommendations would have been useful for clinicians. Chapter 10 (“Methods for Analyzing Gut Microbiota”) could have benefited from more figures to help explain how organisms can be identified.

In summary, although there are problems with the book’s organization and discussion of probiotics, its strength is that it provides the reader with a comprehensive bibliography, in-depth coverage of human, animal, and food science topics related to lactic acid bacteria, explanations of bacterial and phage functions, and exposure to an area of science that is current, exciting, and multi-dimensional.

Acknowledgment

Potential conflict of interest. G.R. owns patents associated with some strains of lactobacillus.

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Reference

1. Reid G, Sanders ME, Gaskins HR, et al. New scientific paradigms for probiotics and prebiotics. *J Clin Gastroenterol* 2003;37:105–18.

Global AIDS Myths and Facts: Tools for Fighting the AIDS Pandemic

Edited by Alexander Irwin, Joyce Millen, and Dorothy Fallows

Boston: South End Press, 2003.
296 pp. \$19.00 (paperback).

The story of the AIDS pandemic during the last 20 years includes the birth of the worldwide movement of AIDS activism, which, because of its organized, persistent, and relentless voice of advocacy, became a major stakeholder in the early developments that led to the development of effective antiretroviral drugs. AIDS activists exerted their efforts for advocacy in

the streets and in the corridors of power, such as those of big pharmaceutical companies, public research institutes, and governments. By representing the rights of people living with HIV/AIDS, these activists achieved marked success in influencing decision makers regarding the prioritization of research and the allocation of funds necessary for the development of new AIDS therapeutics. The success of these drugs led, within a few short years, to a dramatic decline in the killing power of the epidemic wherever AIDS therapeutics were given. Those scientific and societal achievements were, however, only beneficial for people with AIDS in wealthy countries; poor people in sub-Saharan Africa who could not afford expensive AIDS medicines were kept out of this success story.

In 1996, when the proven success of HAART as a life-saving medical treatment emerged, the movement of AIDS activism had to adjust its messages. The point was not just “access to medicine,” but rather “access for all.” This slogan from 1996 has become the main motto of AIDS activism to the present day, demanding equal access to antiretrovirals for millions of poor people with HIV/AIDS who live in the developing world. This adjustment to the task of advocacy has proven awesome in scope and size and is in no way complete.

In this book, the authors, who are members of the Institute of Health and Social Justice, the research arm of Partners in Health of Harvard University, describe the history of AIDS activism and the 10 most common misconceptions regarding AIDS in today’s Western world. Being convinced that “learning has to begin with unlearning” (p. x) they delve into the details of these 10 myths: that AIDS is an African problem; that the spread of AIDS is fueled by the dangerous behavior of people in poor countries; that the corruption in developing countries hampers the success of many health projects; that prevention programs in developing countries should be fully deployed before costly treatments are given to the infected; that

the lack of health infrastructure in developing countries makes AIDS treatment technically unfeasible for the poor; that promising AIDS vaccines are on the horizon; that there’s little chance drug companies will change their pricing policies to help poor people with AIDS in the developing world; that the limited resources available to public health make it necessary to prioritize less costly interventions over expensive AIDS medicines; that the United States has nothing to gain from a global intervention in the fight against AIDS; and that there is nothing ordinary people can do in the struggle against AIDS in poor countries. The authors then refute those myths coherently and convincingly, citing pertinent literature and suggesting a clear plan of action for the activist reader. As shown repeatedly in this book, to become an effective AIDS advocate for the poor in sub-Saharan Africa, it is not enough to be merely compassionate and vocal. In today’s globalized world, one needs iron-clad determination and the ability to navigate the cultural interior of the affluent. This, on its own, is a formidable task.

This is an inspiring book written by broad-minded authors who are driven by high moral and civic standards and who refuse to accept social injustice toward the poor of the developing world, people whose dignity is denied and whose access to lifesaving treatments is hampered. As such, this book is truly motivating.

Although this book is labeled as a primer for AIDS activists, it is a must-read for everyone currently involved in the struggle against AIDS and those who see, as the authors do, a new form of globalization emerging, a globalization driven by the concerns of civil societies. This book is not to be missed.

Acknowledgment

Potential conflict of interest. S.M.: Hadassah AIDS Center currently develops a collaborative AIDS treatment and training program in Ethiopia.

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