

# Research Trends in Probiotic Technology

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## **Preface**

The author presents fundamental information along with research and developments in the field of probiotics. The current era of self care and complementary medicine has led an intense acceptance of functional foods within the consumer. The functional food sector has shown tremendous expansion for the application of probiotic bacteria as food additives. Considerable efforts have been made to influence the intestinal microbiota for development of efficient probiotics that can be beneficial for host health. The book throws light upon basic principles and applications of probiotics. It covers probiotic organisms, their sources, criteria for selection, probiotic characteristics including production of antimicrobial agents. Application of probiotics in biopreservation and health benefits has also been elaborated.

In the present attempt the author has tried her best for the assemblage of the available information on the various topics included in the book. The language of the book is simple and easy to understand. In the completion of present endeavour help rendered by specialists in the field of microbiology is thankfully acknowledged.

Though every effort is made for the correct presentation but still there are chances of mistakes. Suggestions from students, teachers and researchers on the subject will be highly appreciated.

**-Author**

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# Chapter - 1

## Probiotics: An Introduction

Hemant Chundawat and Preeti Upadhyay

'Let food be the medicine and medicine be the food', the age-old quote by Hippocrates, is certainly the tenet of today. With growing interest in self-care and integrative medicine coupled with our health-embracing baby boomer population, recognition of the link between diet and health has never been stronger. As a result, the market for functional foods or foods that promote health beyond providing basic nutrition, is flourishing. Within the functional foods, is the small but rapidly expanding arena of probiotics. The term 'probiotic' appears to be a composite of the Latin preposition '*pro*' which means for and the Greek adjective 'biotic' which means life. The Nobel Laureate E. Metchnikoff was the first to conceptualize probiotics. The term "probiotics" was first introduced by Kollath (1953).

### Definitions

The term probiotics has been defined by number of authors in different ways for past three decades. A probiotic is defined as a viable microbial dietary supplement that can beneficially affects the host through its effect in the intestinal tract, this definition was initially intended for use with animal feed products.

A lot of researchers defined probiotics as:

- Kollath (1953) defined probiotics as microbially derived factors that stimulate the growth of other organisms.
- Lilly and Stillwell (1965) described these as substances produced by a protozoan which stimulated the growth of other.
- Parker (1974) used the term to describe feed supplements, viz., organisms and substances which impart beneficial effect on the host animals by contributing to its intestinal microbial balance.
- Another definition revised by Fuller (1989) states probiotics as 'A live microbial feed supplements which beneficially affects the host animal by improving its intestinal microbial balance'. In this