

An overview of the role of lactic acid bacteria in fermented foods and their potential probiotic properties

ABSTRACT

Fermentation is the process by which a complex food compound is broken down into a simpler compound by the action of microorganisms such as yeast, filamentous fungi, and bacteria. Although yeast and fungi play the most important roles in food fermentation, lactic acid bacteria (LAB), a generally regarded as safe (GRAS) probiotic, is frequently included in the starter culture. In the early stages of food fermentation, LAB created an acidic environment to minimize the prevalence of potentially harmful microorganisms. The presence of probiotic microorganisms in the finished food also qualifies it as a functional food item. When consumed, probiotics in food can help to maintain the microbial balance in the gut intestinal tract and hence enhance gut intestinal health. As a result, probiotics can provide extra health benefits in addition to the fundamental nutrient of the fermented product. *Lactobacillus*, *Lactococcus*, *Pediococcus*, *Streptococcus*, *Enterococcus*, *Oenococcus*, and *Leuconostoc* are some of the common genera of LAB. Good LAB usually has the following properties, including acid and bile tolerance, adherence to human epithelial cells, antibiotic susceptibility, no hemolytic and cytotoxicity activity, and antagonistic activity toward potential pathogenic bacteria, to serve as a good probiotic (antimicrobial). Scientists and the food industry are constantly isolating new candidates of LABs with better qualities from various food sources and introducing them as unique candidate probiotics in food.