

Gill, H.S., (1998). Stimulation of the immune system by lactic cultures. International Dairy Journal, 8, 535-544.

Abstract

An optimally functioning immune system is essential for protection against infectious diseases and cancers. Deficiency in any component of the immune system can predispose an individual to a greater risk of infection or may enhance the severity of disease. Several studies have shown that dietary supplementation with lactic acid bacteria (LAB) can be used to promote health and well-being; LAB are normal components of the human intestinal flora and are commonly used as starter cultures in dairy products. Consumption of LAB has been associated with a variety of health benefits including enhanced immune performance, increased resistance to infectious diseases, alleviation of food allergies and the suppression of cancer development. The precise mechanisms by which LAB act on the immune system are not fully understood. However, there is sufficient evidence to suggest that LAB exert their immunity enhancing effects by augmenting both non-specific (e.g. phagocyte function, NK-cell activity) and specific (e.g. antibody production, cytokine production, lymphocyte proliferation, delayed-type hypersensitivity) host immune responses. It is important to note that most of the evidence supporting these immunoenhancing effects is derived from *in vitro* or animal studies and there is a scarcity of carefully designed and properly controlled clinical studies demonstrating immune health benefits for humans, especially healthy human subjects. This article discusses the impact of LAB on different immune functions, the role of LAB-induced immunoenhancement in disease resistance, and highlights gaps in our knowledge that need further research.