

Gill, H.S., Rutherford, K.J., (2001). Probiotic supplementation to enhance natural immunity in the elderly: effects of a newly characterized immunostimulatory strain *Lactobacillus rhamnosus* HN001 (DR20™) on leucocyte phagocytosis. Nutrition Research, 21, 183-189.

Abstract

Consumption of some species and strains of lactic acid bacteria (LAB) has been shown to enhance immunity in humans. In this study, the effect of dietary supplementation with *Lactobacillus rhamnosus* HN001 (DR20™), a newly characterized LAB strain, on immune cell function in healthy elderly subjects was investigated. The study comprised three stages, each lasting 3 weeks. In stages 1 (run-in) and 3 (washout), subjects ($n = 13$) received low fat milk (LFM, 200 mL twice daily) as a base diet. In Stage 2 (supplement intervention), subjects received LFM supplemented with *L. rhamnosus* HN001 (1.25×10^8 CFU/mL). Assessment of immune function was made at the beginning, and the end of each stage. Consumption of milk supplemented with *L. rhamnosus* HN001 for three weeks resulted in a significant increase in the phagocytic activity of peripheral blood polymorphonuclear cells and monocytes. These responses returned to baseline following 3 weeks washout with un-supplemented milk. This suggests that *L. rhamnosus* HN001 is able to enhance aspects of natural immunity in humans, and could be used as a dietary adjunct for optimizing immune responsiveness in the elderly.