
Abstract
Lactic acid bacteria in food can transiently colonize the intestine and exert beneficial effects (probiotic). Survival during intestinal transit or adhesion to epithelium or both seem to be important for modifying the host's immune reactivity. Because Lactobacillus acidophilus strain La1 is adherent to enterocytes in vitro, we hypothesize that contact with immune cells may occur in vivo. However, Bifidobacterium bifidum strain Bb12, which shows high fecal colonization, is another potential immunomodulator. Twenty-eight volunteers were divided into two groups and given a fermented product containing one of the two strains. Lymphocyte subsets and leukocyte phagocytic activity were studied in blood. No modifications were detected in lymphocyte subsets. In contrast, phagocytosis of Escherichia coli ssp. was enhanced in both groups (P < 0.001 for both). Bacterial adhesion to enterocytes, fecal colonization, or both seem to be valuable selection criteria for immunomodulation. Antiinfective mechanisms of defense can be enhanced after ingestion of specific lactic acid bacteria strains. bacteria: criteria for strain selection13