

**Time-dependent persistence of enhanced
immune response by a potential probiotic
strain *Lactobacillus paracasei* subsp.
paracasei NTU 101**

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摘要

Abstract

The possible time-dependent role of lactic acid bacteria (LAB) in immunomodulation was investigated in BALB/c mice fed daily with *Lactobacillus paracasei* subsp. *paracasei* NTU 101 (10⁸) colony forming units) for 3, 6, and 9 weeks, and following feeding with *Lactobacillus*-free food for a further 7 days. We observed up-regulation of the antigen-presenting ability of dendritic cells, and expression of natural killer group-2 D (NKG2D) molecules capable of trigger natural killer cell-mediated cytotoxicity. Lymphocyte proliferation and antibody production were also significantly increased in mice after treatment. Innate and adaptive immunity remained constant even at the most protracted feeding time, indicative of the time dependence of the bacterial-mediated enhanced immunity. To better correlate intestinal microflora with immunity, the intestinal contents of probiotics and harmful microorganisms were determined. Results showed an altered intestinal microflora, with increases in bifidobacteria and lactobacilli and a decreased content of *Clostridium perfringens* after feeding with *L. paracasei* subsp. *paracasei* NTU 101. It is possible that persistent activation of immunity might be induced by intestinal probiotics