Stimulation of the Secretion of Cytokines by Lactic Acid Bacteria Strains Isolated from Stinky Tofu Fermented Broth

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Stinky tofu is a traditional fermented soybean curd product. The stinky character of this product comes from contact of the tofu with fermented vegetables and/or shrimps. *Bacillus* and *Lactobacillus* species are the dominant bacteria responsible for fermentation (1). This project aims at the isolation of lactic acid bacteria strains from the fermented broth of stinky tofu and evaluation of their immune modulation properties. The fermented broths of stinky tofu were collected from the factory of "Tien-Shang Chaw Tofu" (Taipei, Taiwan). Lactic acid bacteria (LAB) strains were isolated from fermented broth of stinky tofu used for strain typing and phylogenetic identification. To study the effect of isolated LAB strain on the immune system, the mouse macrophage cell line RAW 264.7 was co-incubated with heat-killed LAB cells, and the production of IL-6, IL-10, IL-12, and TNF-α by macrophage were assayed. Several strains showed high stimulating activity. Most of these strains belong to *Lactobacillus*, *Leuconostoc* and *Weissella* as judged from the 16s rDNA sequences. Other probiotic properties of these strains are under investigation. Our results indicated that these LAB strains isolated from stinky tofu fermented broth might be used to bring about pro or anti-inflammatory immune reaction.

References:

S. F. Lee, S. C. Yu, F. L. Lee, and C. C. Liao. IFT Annual Meeting Abstracts, IFT, Chicago, 1999.

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