

## عنوان مقاله:

The Evaluation of Probiotic Effect of L.Acidophilus on the Immune Responses in BALB/C Mice against Transplanted Tumor Derived from Breast Tissue

## محل انتشار:

مجله علمی پژوهشی دانشگاه علوم پزشکی زنجان، دوره 18، شماره 73 (سال: 1389)

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## خلاصه مقاله:

Background and objective: Antitumor effect of lactic acid bacteria have been shown in many studies, this effect maybe due to the immunomodulatory properties of these bacteria. In present work we have studied the effect of Lactobacillus (L) acidophilus on the immune responses of BALB/c mice against transplanted tumor derived from breast tissue. Materials and Methods: ۶-۸ week-old in-bred BALB/c mice, each weighing ۲۵-۳۰ g, were used. The mice were divided into two groups each consisted of ۹ mice as test and control groups. The L.acidophilus ATCC۴۳۵۶ strain was used in this study. It was inoculated in MRS agar and cultivated overnight under anaerobic conditions then collected and resuspended in PBS. After preparation of proper amount of this suspension it was orally ( $2.7 \times 10^8$  CFU/ml) administered to the mice with a gastric feeding ۲ weeks before tumor transplantation and ۳ weeks after that, with ۳ days break and ۷ days administration. The control mice received an equal volume of PBS during the study. Results: Results of the present work showed that L.acidophilus can increase the production of immunomodulatory cytokine IL-۱۲ and decrease the TGF- $\beta$  which can suppress immune response. Moreover, the growth rate of tumor in group which received L.acidophilus were decreased and the results of delayed type hypersensitivity (DTH) of this group in ۴۸h were better than control group. Conclusion: The results of our study suggest that daily use of L.acidophilus can regulate immune response with Th1 dominance and may be helpful for cancer immunotherapy, but further studies are

.needed to investigate the other mechanisms of this effect

## کلمات کلیدی:

Keywords: Lactobacillus acidophilus, Cellular immune response, Breast cancer

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