

論 文 要 旨

Oral administration of *Lactobacillus plantarum* 06CC2 prevents experimental colitis
in mice via an anti-inflammatory response

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Introduction

Dysbiosis of the enteric microbiota causes gastrointestinal diseases, including colitis. The present study investigated the beneficial effect of *Lactobacillus plantarum* 06CC2 in experimental colitis in mice. An experimental colitis model in C57BL6 mice was induced using dextran sulfate sodium.

Materials and methods

Mice were orally administered 06CC2 (06CC2 group) or PBS only (control group) by gavage. The disease activity index (DAI), histological grading, and colon tissue and colonic lamina propria mononuclear cells (LPMCs) were examined macroscopically and histopathologically, and the expression levels of inflammation-associated cytokines (IL-6, IL-12, TNF- α and IL-10) in these samples were determined.

Results and discussion

Compared with the control group, the 06CC2 group exhibited a significantly lower DAI (1.5 ± 0.8 vs. 0.2 ± 0.3 , respectively; $P < 0.05$) and pathology score (6.3 ± 1.5 vs. 3.8 ± 1.3 , respectively; $P < 0.05$). IL-10 expression in colonic LPMCs was higher in the 06CC2 group than in the control group, although there was no significant difference in IFN- γ , IL-6 or IL-12 expression in colonic LPMCs between the two groups. In addition, 06CC2 stimulated the production of IL-10 from CD11b-positive cells and CD11c-positive cells in the colon.

Conclusion

The 06CC2 strain induced IL-10 production in the colon and attenuated colon inflammation.