- Gut immunity.

Anti-Inflammatory Action

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The anti-inflammatory effect of the fermented vegetable extract OM-X (OM-X extract) suppressed the inflammatory reaction in the intestinal tract on a mouse model of *Citrobacter rodentium* infection.

Objective

We examined the anti-inflammatory effect of the OM-X extract by using mouse models with bowel inflammation induced by the infection with *Citrobacter rodentium* which is a mouse pathogen.

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Methods

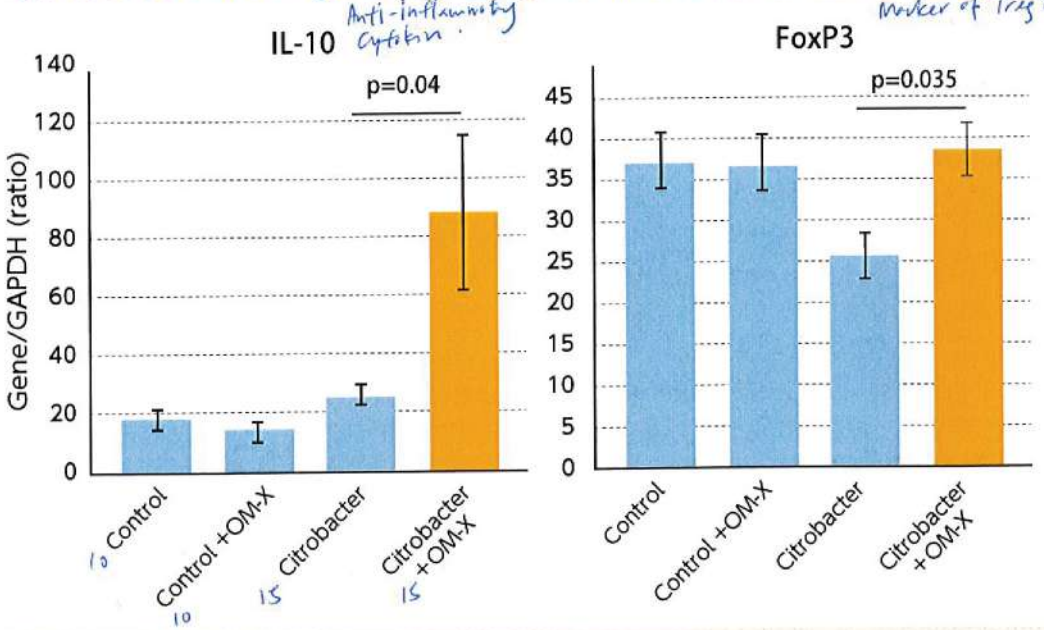
We prepared mouse models with bowel inflammation induced by *Citrobacter rodentium* in both groups with and without administration of the OM-X extract in order to evaluate the anti-inflammatory effect of the OM-X extract. After completion of the dosing period, we observed the subject groups with respect to enteritis scores and gene expressions of immune cells which are involved in inflammation and anti-inflammatory activities.

Results

The group given the OM-X extract and infected with the pathogen showed a tendency to reduce the inflammation scores.

Once the subjects are infected with pathogens, they trigger overactive immune responses which in turn invoke inflammation. The group given the OM-X extract before the infection of the pathogen showed a significant increment in FoxP3 expression: the index of Treg cells which play an important role in anti-inflammatory activities. Moreover, the expression of IL-10 which is an anti-inflammatory cytokine significantly increased.

The effect of OM-X on genes regulating inflammation at the intestinal tract



The fermented extract OM-X contributed to reduce the inflammatory reactions caused by pathogenic infection in the intestines of mice.