

# Th1/Th2 Immune Cell Balance

Joint research with Azabu University (2005)

Heat-killed *Enterococcus faecalis* TH10 improves the Th1/Th2 balance and adjusts the acquired immune system.

## Objective

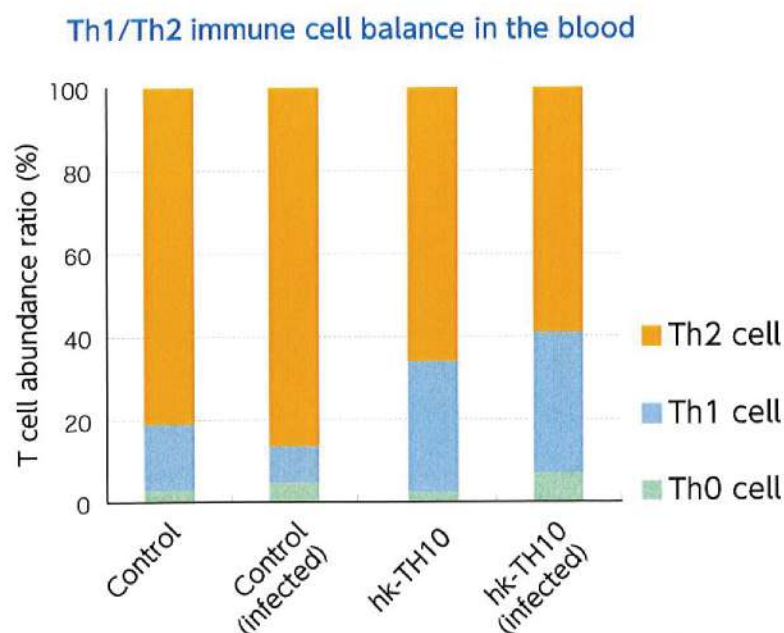
We examined the immunomodulatory effects of heat-killed *Enterococcus faecalis* TH10 (hk-TH10) on the acquired immune system (Th1/Th2 cell balance) with allergy model rats.

## Methods

When an allergic reaction occurs, the type 2 helper T cell (Th2 cell) in immune cells became more dominant than the type 1 helper T cell (Th1 cell). Therefore, we examined the abundance ratio of Th1 and Th2 cells in the blood. We also examined the ratio under the condition of excessive Th2 cells in the blood of rats which were infected with Salmonella.

## Results

The rats that were not given hk-Th10 showed an excessive amount of Th2 cells in the blood. The tendency became remarkable at the time of the Salmonella infection. On the other hand, the rats that were given hk-Th10 showed an increment of the abundance ratio of Th1 cells both with and without Salmonella infection. Their Th1/Th2 balances were also improved. Hk-TH10 showed more remarkable results than live TH10. These results suggested that heat-killed TH10 improves the Th1/Th2 balances in an allergic model.



The heat-killed *E. faecalis* TH10 improved the Th1/Th2 balances in allergic model rats.