Improvement in Human Immune Function with Changes in Intestinal Microbiota by *Salacia reticulata* Extract Ingestion: A Randomized Placebo-Controlled Trial

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Abstract

Plants belonging to the genus *Salacia* in the *Hippocrateaceae* family are known to inhibit sugar absorption. In a previous study, administration of *Salacia reticulata* extract in rats altered the intestinal microbiota and increased expression of immune-relevant genes in small intestinal epithelial cells. This study aimed to investigate the effect of *S. reticulata* extract in human subjects by examining the gene expression profiles of blood cells, immunological indices, and intestinal microbiota. The results revealed an improvement in T-cell proliferation activity and some other immunological indices. In addition, the intestinal microbiota changed, with an increase in *Bifidobacterium* and a decrease in *Clostridium* bacteria. The expression levels of many immune-relevant genes were altered in blood cells. We concluded that *S. reticulata* extract ingestion in humans improved immune functions and changed the intestinal microbiota.

**Trial Registration**: UMIN Clinical Trials Registry UMIN000011732