

## Effects of *Laminaria japonica* combined with multistrain probiotics on the composition of intestinal microbiota: A double-blinded, randomized, placebo-controlled trial

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*Laminaria japonica* combined with lactic acid bacteria (LAB) has been consumed as a popular traditional food in Korea. It may alter the composition of intestinal microbiota in humans and give positive effect on various digestive problems. However, there have been few clinical trials to investigate the potential benefits of *L. japonica* with LAB on the human intestinal microbiota. In this trial, 40 participants without digestive diseases were randomly assigned to either 2 combination groups: (1) *L. japonica* with real LAB and (2) *L. japonica* with placebo LAB. The administration lasted for 4 weeks and follow-up periods were 2 weeks. The amount of 7 species of microbiota in the human intestine was assessed before and after administration of the study agents (0 and 4 weeks) as a primary outcome. Secondary outcomes including Gastrointestinal Symptom Rating Scale (GSRS), the World Health Organization Quality of Life (WHOQOL), and bowel functions were checked at 0, 4, and 6 weeks. Among 7 microbacterial species, 4 species showed significant increase after administration of *L. japonica* with real LAB, while no species showed significant change after placebo intake. Three species of microbiota represented significant change in *L. japonica* with real LAB group compared to placebo group. GSRS, WHOQOL and bowel functions did not show any significant difference between active and placebo group. Though clinical symptoms did not change significantly, *L. japonica* with LAB brought an increase of beneficial microbiota in human intestine. Further studies considering the association between symptoms and microbiota in human intestine are needed.

### Biography

Seok-Jae Ko, has acquired license of Korean medicine in 2006 and has completed his master's degree at the age of 31 years from Kyung Hee University. He is studying for doctor's degree at the same university. His major is internal Korean medicine and also affiliated in Kyung Hee university Hospital at Gangdong.

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