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*Better Life with Lactic Acid Bacteria
Exploring Novel Functions of Lactic Acid Bacteria
and Exploring Gut Microbiota*

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Resistance of *Lactobacillus* sp F213 in Human Gastrointestinal Tract and Its Health Promoting Effects

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ABSTRACT

Increasing death causing by noncommunicable diseases (NCD) is not only more common in modern societies but also in developing countries. This disease is thought associated with unhealthy life style. Probiotic offers opportunities in managing NCD and becoming popular world wide. This research was aimed to determine the resistance of *Lactobacillus* sp F213 (LbF213) in human gastrointestinal tract and its health promoting effects. Fifteen healthy human subjects participated in this study were administered with a capsule containing 7.5×10^8 CFU for 28 days. Fecal and blood samples were collected before, during and after 28 days administration. The population of lactic acid bacteria and anaerobes in fecal samples was enumerated by culture methods, while the LbF213 in fecal samples were detected using PCR-DGGE of fecal microbiomic DNA. Health promoting parameters such as lipid profile and TNF alfa were analyzed in blood samples.

The results showed that administration of 7.5×10^8 CFU for 4 weeks increased LAB population, 2.19×10^9 CFU /g before administration to 1.58×10^{10} after 28 days administration, while total anaerobe decreased from 4.47×10^{10} before administration to 1.78×10^{10} CFU /g after 28 days. *Lactobacillus* sp F213 was detected in fecal samples suggested that the Lb. F213 survived in the human GI and play role in modulation of human intestinal microbiota. The LbF213 altered lipid profile of human subjects, which likely to be subject dependent. The F213 reduced 6.29% cholesterol, 7.70% HDL and 8.54% LDL and increased 0.19% of TG after 28 days administration. The effect of LbF213 in lowering blood cholesterol was found to be higher in high blood cholesterol subjects compared to normal blood cholesterol subjects, 8.1% and 4.06%, respectively. Administration of F213 for 28 days lowered about 36% of TNF alfa titer in serum, 0.91

pg/dL before and 0.59 pg/dL after demonstrated that LbF213 resisted in human normal intestinal microbiota and excreted h

Keywords: *Lactobacillus* sp F213, intestinal cholesterol

***LbF213* in Human Gastrointestinal Health Promoting Effects**

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ABSTRACT

Increasing by noncommunicable diseases (NCD) is a major public health problem in modern societies but also in developing countries. The concept of NCD is thought associated with unhealthy life style. The aim of this study was to determine the resistance of *LbF213* in human gastrointestinal tract and its effect on human health. Fifteen healthy human subjects participated in the study. They were given a capsule containing 7.5×10^8 CFU for 28 days. Samples were collected before, during and after administration. The population of lactic acid bacteria and total anaerobe was enumerated by culture methods, while the effect on human health was detected using PCR-DGGE of fecal samples. The results showed that the population of lactic acid bacteria and total anaerobe were detected using PCR-DGGE of fecal samples. The results showed that the population of lactic acid bacteria and total anaerobe were detected using PCR-DGGE of fecal samples.

The results showed that administration of 7.5×10^8 CFU for 4 weeks resulted in a decrease of lactic acid bacteria from 2.19×10^9 CFU/g before administration to 1.78×10^{10} CFU/g after 28 days. The results also showed that the population of lactic acid bacteria and total anaerobe were detected using PCR-DGGE of fecal samples. The results showed that the population of lactic acid bacteria and total anaerobe were detected using PCR-DGGE of fecal samples. The results showed that the population of lactic acid bacteria and total anaerobe were detected using PCR-DGGE of fecal samples.

pg/dL before and 0.59 pg/dL after administration. Those results demonstrated that *LbF213* resisted in human GI, slightly modify human normal intestinal microbiota and excreted health promoting effects.

Keywords: *Lactobacillus* sp F213, intestinal microbiota, probiotic, cholesterol