

## Effects of *Bifidobacterium longum* BB536 on lipid profile and histopathological changes in hypercholesterolaemic rats

### ABSTRACT

The present study investigated the effects of *Bifidobacterium longum* BB536 on lipid profile, liver and kidney function, and body fat in hypercholesterolaemic rats. 40 Sprague-Dawley rats were randomly divided into five groups. The negative control group received a standard diet. The positive control group received a cholesterol-enriched diet, whereas the intervention groups received a cholesterol-enriched diet supplemented with *B. longum* BB536 alone or in combination with inulin or *Mangifera pajang* fibrous polysaccharides. After 8 weeks, plasma lipids, and liver and kidney function were tested. Intake of the cholesterol-enriched diet increased total cholesterol, alanine aminotransferase, gamma-glutamyl transferase, creatinine, urea, liver weight, adipose tissue weight, liver lipid deposition and adipocyte size. *B. longum* BB536 supplementation significantly reduced total cholesterol, liver lipid deposition and adipocyte size, and positively affected liver and kidney function. These effects were significantly increased in the presence of inulin and *M. pajang* fibrous polysaccharides.

**Keyword:** Bifidobacteria; Histology; Hypocholesterolaemic rats; Lipid profile