

## Cholesterol-Lowering Effects of *Lactobacillus plantarum* Isolated from Northeastern Thai Fermented Vegetable *Brassica juncea* (L.)

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**Abstract :** Cholesterol is a type of lipid molecule which is the significant risk factor for coronary heart disease. Currently, there are many cholesterol-lowering alternative treatments especially bile salt hydrolase positive lactobacilli. BSH can cleave the peptide linkage of bile salt, which results in removal of the amino acid group from the steroid core and increases production of the new bile acid by using more cholesterol. The purpose of this study was to isolate, and screen probiotic characteristics of lactobacilli from fermented Thai foods and further investigated for their comparative BSH activity. The result showed that 2 of 81 *Lactobacillus* strains, JPK2-2 and JPK3-2, isolated from *Brassica juncea* (L.) had significantly exhibited high BSH activity. In addition, these *Lactobacillus* strains showed their results that the ability to tolerate acid and bile salt. Furthermore, the using of 16S rDNA sequencing for definitive microbial identifications showed that these 2 strains belong to *Lactobacillus plantarum*. In the future, the *L. plantarum* with BSH activity strains JPK2-2 and JPK3-2 may be the candidate probiotics for application in functional foods and dairy products to improve in the patient with cardiovascular diseases.

**Keywords :** *Lactobacillus plantarum*, probiotics, bile salt hydrolase, cholesterol-lowering, fermented Thai food

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