

Probiotic Properties of Lactic Acid Bacteria Isolated from Fermented Food

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Abstract : The objectives of this study were to isolate LAB from various sources, dietary supplement, Thai traditional fermented food, and freshwater fish and to characterize their potential as probiotic cultures. Out of 1,558 isolates, 730 were identified as LAB based on isolation on MRS agar supplemented with a bromocresol purple indicator and CaCO₃ and gram-positive, catalase and oxidase negative characteristics. Eight isolates showed the potential probiotic properties including tolerance to acid, bile salt and heat, proteolytic, amylolytic and lipolytic activities and oxalate-degrading capability. They all showed the antimicrobial activity against some Gram-negative and Gram-positive pathogenic bacteria. Based on 16S rDNA sequence analysis, they were identified as *Enterococcus faecalis* BT2 and MG30, *Leconostoc mesenteroides* SW64 and *Pediococcus pentosaceus* BD33, CF32, NP6, PS34 and SW5. The health beneficial effects and food safety will be further investigated and developed as a probiotic or protective culture used in Nile tilapia belly flap meat fermentation.

Keywords : probiotic, lactic acid bacteria, pathogen, protective culture

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