

Evaluation of probiotic potential of lactic acid bacteria isolated from traditional Malaysian fermented Bambang (Mangifera pajang) [Evaluación del potencial probiótico de bacterias ácido-lácticas aisladas del tradicional Bambang malasio fermentado (Mangifera pajang)]

Abstract

This study aims to evaluate the probiotic and technological properties of lactic acid bacteria (LAB) isolated from an indigenous fermentation of Bambang (Mangifera pajang). The LAB were evaluated for their tolerance to low pH, bile salt, antimicrobial potential, auto-aggregation ability, microbial adhesion to solvents, tolerance to high temperature and osmotic pressure. Approximately 36% of the isolated LAB strains displayed excellent survival at pH 3.0 with at least 4 log CFU/ml after 24 hours at 2.0% bile salt. A high aggregation activity (>20%) was found in most of the LAB strains. Five Lactobacillus plantarum strains showed at least 70% viability at 60°C for 10 minutes while one L. brevis and three L. plantarum strains were tolerant to 6% sodium chloride. Furthermore, the maximum β -galactosidase activity was found in four L. plantarum strains. In conclusion, these LAB strains could serve as promising probiotic candidates for the preparation of functional food products. © 2015 The Author(s). Published by Taylor & Francis.