

## **Inhibitory Effect of Thermotolerant Lactic Acid Bacteria on the Growth of *Bacillus cereus*, *Staphylococcus aureus*, *Salmonella enteritidis* and *Vibrio parahaemolyticus***

Abhinya Plikomol<sup>1</sup>, Atchara Lapmak<sup>2</sup> and Sumana Kumpai<sup>1</sup>

<sup>1</sup>Microbiology Section, Department of Biology, Faculty of Science, Chiang Mai University, Thailand

<sup>2</sup>Faculty of Science, Rajabhat Institute Uttaradit, Thailand

### **ABSTRACT**

Isolation and selection of thermotolerant lactic acid bacteria (LAB) from fermented foods, silage, decaying vegetables and fruits were conducted. One-hundred-twenty-four isolate was selected from de Man Rogossa Sharpe (MRS) and M17 media containing bromocresol green as an indicator at 45°C. Spot diffusion method was use for primary screening of inhibitory effects on *Bacillus cereus*, *Staphylococcus aureus*, *Salmonella enteritidis* and *Vibrio parahaemolyticus*. Culture filtrates of isolated lactic acid bacteria were screened by well diffusion methods for inhibitory activity. Of thirty-five positive isolates, four isolates, A7, A15/1, A65/1 and A94/1 were found to have inhibitory activities against at least three of the test organisms.

The culture filtrate of isolate A15/1, isolated from fermented sausage, inhibited *B. cereus*, *Staph. aureus* and *S. enteritidis*. The culture filtrate of isolate A7, from fermented pork inhibited the growth of *B. cereus*, *Staph. aureus* and *V. parahaemolyticus*. Concentrated culture filtrate with ammonium sulfate of the isolate A7 inhibited *B. cereus* and *Staph. aureus* and the activity remained after treatment at 100°C for 10 minutes. The associative cultures between selected isolates of lactic acid bacteria and *Staph. aureus* were performed. After 24 hours incubation at 37°C, isolate A7 inhibited *Staph. aureus* with the percentage of 78.7%. The isolates A7 and A15/1 were identified as *Pediococcus* spp.

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