

Antibiotics produced by thermotolerant lactic acid bacteria

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Lactic acid bacteria were screened from several fermented Thai food such as milk, fermented sausage (sour pork), and fermented fish (sour fish). These bacteria were selected on MRS medium containing 1% CaCO₃ at various temperature from 37 °C to 55 °C. Forty-seven isolates of lactic acid bacteria were obtained from 10 fermented food; 35 isolates from 37 °C, 5 isolates from 42 °C and 14 isolates from 45 °C. The bacterial strains grown at 42 °C and 45 °C were selected and tested for producing bacteriocin by agar diffusion method using *Escherichia coli*, *Pseudomonas* spp., *Salmonell* spp. and *Bacillus* spp., as indicator organisms. These

bacteria are gram-positive with rod or coccus shape and performing catalase negative. Identification of the thermotolerant bacterial species was performed using biochemical tested.

The chromosomal and plasmid DNAs of the selected thermotolerant lactic acid bacteria were isolated and analyzed by agarose gel electrophoresis. It was found that the bacteria strains grown at 42 °C contain 2 plasmids with their size of 3.0 and 1.8 kb. These plasmid DNAs will be purified and used for molecular identification and classification. The antibiotic genes and activities will be further investigated.

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