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KEY WORD : *LACTOBACILLUS* SPP. / ISOLATION / IDENTIFICATION
/ SELECTION / FOOD SUPPLEMENT

SOOKRUTHAI WONGSUBIN : ISOLATION, IDENTIFICATION AND
SELECTION OF *LACTOBACILLUS* SPP. FROM VARIOUS SOURCES FOR
DEVELOPMENT INTO FOOD SUPPLEMENT, THESIS ADVISOR : AROME
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Lactobacillus sp. was frequently associated with health-promoting effects in humans and animals. For this reason, there is increasing interest in the incorporation of this species in health products. The objective of this study was to screen and characterize *Lactobacillus* sp. from variety of sources, then select a strain and produce it in dry form, packed in capsules. A total of 100 strains of lactobacilli were obtained from feces, saliva, and food. They were isolated on Rogosa/MRS medium under CO₂ condition, subsequently identified by using conventional method according to Bergey's manual. In addition, thirteen isolates were identified by API 50 CH System. Fifty two isolates of lactobacilli were tested for bile tolerance and the ability to adhere to smooth surface. Most of the isolates could tolerate 1% oxgall and 22 strains could adhere to wire. Antimicrobial activity against *E. coli* ATCC 25922, *S. typhimurium*, *Shigella* spp., *Ps. aeruginosa* ATCC 27853, *P. vulgaris* and *K. pneumoniae* was tested by streak plate method (deferred method). Isolates No. 14, 37, 46, 61, and 64 were chosen for survival study after freeze-drying because they could tolerate well to Oxgall, adhere well to smooth surface and inhibit the growth of all gram-negative bacteria tested. The comparison number of viable cell count on MRS agar after freeze-drying showed that *Lactobacillus* sp. No.14 had the highest survival rate. No.14 isolate, identified as *L. paracasei* was therefore selected for acute toxicity test. This non-toxic strain was formulated into capsule dosage form using banana powder as diluent and Aerosil as lubricant. The capsules complied with uniformity of weight and disintegration test (BP 1993). These capsules were kept in closed container at 4°C. Survival counts were made every 3 month for 1 year. The counts at each interval reduced 10-100 times.