

## Isolation, identification and probiotic potential of *bifidobacterium* and *lactobacillus* spp. from traditional fermented dairy products in Saudi Arabia

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Eight traditional fermented dairy products (n=40) were collected from local markets with the aim to isolate, identify and test isolated bifidobacteria and lactobacilli for their probiotic potentials. All isolates were monitored for acid tolerance and bile concentrations resistance and production of antimicrobials. Bifidobacteria selective medium (BSM) and modified de Man, Rogosa and Sharpe medium (mMRS) were used to enumerate *Bifidobacterium* and *Lactobacillus*, respectively. Representative colonies of BSM (anaerobic incubation for 3 days at 37 °C) were picked, purified and tested. Gram positive rods with pleomorphic shape, catalase negative and strict anaerobes were suspected as *Bifidobacterium*. For verification, fructose-6-phosphate phosphoketolase and fermentation characteristics were determined using API 50 CHL and API ID 32A kits. Colonies grew on mMRS medium were similarly tested as gram positive, catalase negative, rod shaped and facultative anaerobes were assumed as *Lactobacillus*. API 50 CHL kits were applied for characterization of the biochemical activities of the strains. A total of ten strains could be identified as *B. breve* (4), *B. longum* (2), *B. bifidum* (2) and 2 as unidentified. Moreover, fifteen strains were found to resemble genus *Lactobacillus* as *L. plantarum* (5), *L. acidophilus* (4), *L. casei* (4) and the remaining 2 strains as unidentified. According to the result of the probiotic characteristics used above, one strain each as *B. breve* and *B. bifidum* were ascertained its suitability to be used as probiotics. In addition, 2 strains of *L. plantarum* and *L. acidophilus* showed probiotic potentiality while only one strain as *L. casei* was considered as a probiotic strain.

### Biography

Rashad R. Al-Hindi has completed his Ph.D. at the age of 35 years from Strathclyde University, Glasgow, Scotland, UK. He is currently appointed as Associate Professor of food microbiology at the Department of Biological Sciences, King Abdulaziz University, Jeddah, Saudi Arabia. He has published more than 30 papers and posters in reputed journals and conferences' proceedings. He completed many research projects and ongoing ones in his main research interests which are in food quality and safety - antimicrobial natural products - probiotics and other related areas of research.

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