J Prob Health 2017, 5:3(Suppl)
DOI: 10.4172/2329-8901-C1-024

Molecular diversity among autochthonous *Lactobacillus* strains in spontaneously fermented traditional Sri Lankan "*Mudawapu kiri*" from Kanthale, Sri Lanka

Deepthi K Gunasena and **Dilumi B Wickramaratne**
University of Kelaniya, Sri Lanka

Fermented foods have acquired increasing interest in industry, consumers as well as researches in the past decades due to their nutritional value and probiotic activity that confer many health benefits in human as well as in other animals. *Mudawapu kiri* (curd) prepared using buffalo milk, is an ethic food which has a long history and still prefer over the industrially produced curd by many Sri Lankans. Autochthonous Lactobacilli plays a dominant role in the process of developing particular organoleptic properties in traditional fermented foods. Studies have demonstrated that spontaneously fermented food have a rich biodiversity. In the process of developing starter cultures and/or probiotic strains from autochthonous *Lactobacillus* strains, accurate identification of the strain is a prime necessity. Identification of *Lactobacillus* species is problematic when using physiological and biochemical characteristics due to the high heterogeneity of the genus. Thus, a more pragmatic approach like 16S rRNA gene sequencing is required for the complete characterization of them. Kanthale is a traditional place for preparing *mudawapu kiri* in Sri Lanka. Optimization of the spontaneous fermentation process in this home based product is carried out through back slopping. Samples were randomly collected and *Lactobacillus* strains were isolated using MRS agar medium. PCR reactions were carried out using two pairs of universal primers (27F, 800R and 518F, 1492R) annealing to two different target sequences in the 16S rRNA gene. PCR products were subjected to gene sequencing. The obtained sequences were compared to those of reference sequences held in GenBank. A similarity of 85% or greater was considered to provide identification. Four species of Lactobacilli were identified among them as *Lactobacillus plantarum, Lactobacillus fermentum, Lactobacillus pentoses and Lactobacillus. delbruekii subsp. Indicus. Lactobacillus plantarum* was the most abundant species with a relative abundance of a 50%.

deepthi@kln.ac.lk