

Isolation, Characterization and Molecular Identification of Lactic acid Bacteria from different sources

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ABSTRACT

Lactic acid bacteria (LAB) are microorganisms that play important roles in the production of fermented foods and beverages. Corn steep liquor a by-product of corn processing, is a rich source of nutrients that can support the growth of LAB. In this study, we aimed to isolate, characterize, and identify LAB strains from corn steep liquor, fermented corn flour and Nono. Samples of corn steep liquor, fermented corn flour and Nono were collected and cultured on Mann Rogosa Sharpe agar (MRS agar) for LAB isolation. The results obtained showed that corn steep liquor, fermented corn flour and Nono is a potential source of diverse LAB strains. Overall, this study provides important insights into the potential of corn steep liquor and fermented corn flour as a source of LAB, which could have significant implications for the food and beverage industry. A total of eight LAB strains were isolated, characterized and molecularly identified by 16S rDNA sequencing, by microscopic examination including 8 strains of *Lactobacillus* after cultured, followed by DNA extraction of pure culture, PCR amplification and the sequencing results were submitted to NCBI database for sequence alignment (identities 100%). The isolates includes *Lactobacillus delbrueckii* subsp. *Bulgaricus* Accession CP027194.1, *Lactobacillus delbrueckii* subsp. *Lactis* Accession CP018156.1, *Lactobacillus delbrueckii* subsp. *Lactis* Accession CP031836.1, *Lactobacillus* sp. 3B(2020) Accession CP047409.1, *Lactobacillus amylolyticus* Accession CP028928.1, *Lactobacillus* sp. *Koumiss* Accession CP028928.1, *Lactobacillus acidophilus* Accession CP020620 and *Lactobacillus gasseri* Accession CP 054875.1 . These lactic acid bacteria identified can be introduced as valuable for further probiotic food development.

Key words: Lactic acid bacteria, molecular Identification, Corn steep liquor, Fermented corn flour and Nono