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Characterization of novel folate producing *Lactobacillus rhamnosus* and its appliance in fortification of ragi (*Eleusine coracana*) gruel

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A B S T R A C T

Lactic acid bacteria capable of producing folate were isolated and screened from preterm babies. Among all isolates, the highest folate producing isolate was IFM4 (35 ng/ml). HPLC chromatogram suggested that the isolate synthesized 5-methyl tetrahydrofolate (one form of folate). Based upon 16S rRNA gene sequencing, the isolate showed 98% similarity with *Lactobacillus rhamnosus*. The isolate showed 50% survivability at highly acidic condition (pH 2.0), 95% survivability at 0.5% (w/v) bile salt concentration, antimicrobial activity against food-borne pathogens, exhibited nonhemolytic activity on 5% sheep blood agar and susceptible to several popular antibiotics. Keeping in view the demand of functional and easily digestible food products, a fermented ragi (*Eleusine coracana*) gruel was prepared by using the folate producing isolate, IFM4. During ragi fermentation, different biochemical parameters *i.e.* pH, titratable acidity, lactic acid, folate, phenol and antioxidant activities like DPPH, DMPD, FRAP

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