

Abstract

In this study Lactic acid bacteria were isolated. Eleven samples of traditional yogurt, pickles, and spoiled milk were collected from a local market. The isolated bacteria were identified as *Lactobacillus sp.* by microscopic, morphological, and biochemical characteristics. Isolated bacteria were tested using agar well diffusion method, which also prevented the growth of indicator bacteria. A zone of inhibition of 27 mm was observed for *Lactobacillus spp.* against the test bacteria. The one-factor-at-a-time (OFAT) method was utilized to screen five carbon sources: sucrose, maltose, dextrose, lactose, and galactose, as well as five nitrogen sources: peptone, tryptone, yeast extract, beef extract, and malt extract. The ideal temperature for producing AMPs was 35°C. The highest antimicrobial peptide output was achieved by a nitrogen source containing yeast extract at the concentration of 0.5-1%. The media composition was yeast extract 0.1g, K₂HSO₄ 0.05g, MgSO₄ 0.005g, and glucose 0.5g.