Lactic acid bacteria (LAB) are the main part of probiotics, intestinal microflora, and dairy products which exhibit to survive in distinct environments

Mr alazar nebyou

Sharda University Knowledge Park 3 Plot No 32 34 Greater Noida_ 201306

Lactic acid bacteria (LAB) are the main part of probiotics, intestinal microflora, and dairy products which exhibit to survive in distinct environments. Milk samples were collected from local dairy farms. Samples were collected using sterile test tubes and transported to a laboratory in the icebox for further biochemical characterization. Gram test and Catalase activity was studied after distinct colonies were sub cultured to pure colonies following standard gram and catalase test protocols. Subsequently, these bacteria were characterized for their growth capabilities at a different salt concentration (5%, 10%, and 15%) and temperature (15°C, 30°C, 45°C). Acid tolerance activity of isolates was studied by growing the colonies in MRS broth adjusted to pH 3 and pH 7.2 (control).All isolates were found gram-positive, catalase negative and non-motile, convex elevation and entire margin. BCM1, BCM3, BBM3, and BGM1 have cocci creamy white colonies on MRS agar plate. In this study, all the isolated probiotic candidates were able to grow at 5-10% NaCl concentration, whereas fairly grow at 10% concentration but completely failed at 15% NaCl concentration. The result indicated that all seven isolates studies showed good tolerance to acidic pH 3.0. BCM2, BBM3 and BGM1 record the highest acidic resistance viability percentage 94.9%, 92.7%, and 91.8% respectively while BCM3 has the lowest acidic resistance with viability percentage of 87.4%. Hence study concludes lactic acid bacteria isolates from bovine milk exhibited tolerance against acidic pH and sodium chloride concentrations providingbaseline for information for future studies about the therapeutic potential LAB from bovine milk

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