## Journal of Chemical, Biological and Physical Sciences

An International Peer Review E-3 Journal of Sciences Available online atwww.jcbsc.org

Section A: Food Biotechnology

CODEN (USA): JCBPAT

**Research abstract** 

## Role of Glucose in Cell Surface Hydrophobicity of Lactic Acid Bacteria

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**Abstract:** Modifications in the cell surface hydrophobicity of four *Streptococcus thermophilus strains: ATCC 19987 (ST1), ATCC 19258 (ST2), BAA-250 (ST3) and BAA-491 (ST4), two Lactobacillus delbrueckii subsp.* bulgaricus strains ATCC 11842D (LB1) and BAA-365D (LB3) and one *Lactobacillus helveticus* strain ATCC 7995 (LB2) under different concentrations of glucose were investigated. ST1, ST2 and ST4 showed a maximum growth at 24 h with 10% of glucose in Eugon broth while LB1, LB2, LB3 and ST2 showed it with 5% of glucose. However, difference in maximum of absorbance was not significantly different (p > 0.05). All strains could growth up to 30 % of glucose. Congo Red Binding (CRB) at different glucose concentrations (0.5, 5.0, 10.0, 15.0 and 30.0 %) was investigated. CRB resulted dependent both from the strain and the glucose concentrations. It can be concluded that, although the formation of CRB has a major protein component, it appears that the presence of high glucose concentrations in the media could modify the formation of bindings. Further works will focus on the importance of the presence of carbohydrates in the CSH.

Keywords: Lactic Acid Bacteria, Congo Red Binding, Glucose Stress

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