

Adhesion properties of bifidobacterium pseudocatenulatum G4 and bifidobacterium longum BB536 on HT-29 human epithelium cell line at different times and pH.

ABSTRACT

Adhesion to the human intestinal cell is considered as one of the main selection criteria of lactic acid bacteria for probiotic use. The adhesion ability of two Bifidobacterium strains Bifidobacterium longum BB536 and Bifidobacterium pseudocatenulatum G4 was done using HT-29 human epithelium cell line as in vitro study. Four different level of pH were used 5.6, 5.7, 6.6, and 6.8 with four different times 15, 30, 60, and 120 min. Adhesion was quantified by counting the adhering bacteria after Gram staining. The adhesion of B. longum BB536 was higher than B. pseudocatenulatum G4. Both species showed significant different in the adhesion properties at the factors tested. The highest adhesion for both Bifidobacterium was observed at 120 min and the low adhesion was in 15 min. The findings of this study will contribute to the introduction of new effective probiotic strain for future utilization.

Keyword: Adhesion; Bifidobacterium; HT-29 human epithelium cells.