INVESTIGATION OF DEPENDENCE OF LACTOBACILLI SURFACE CHARGE ON THE CONCENTRATION OF Ca^{2+} IN THE INCUBATION MEDIUM

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Lactic acid bacteria comprise a wide range of genera and include a considerable number of species. Their common traits are: Gram-positive, usually catalasenegative, growth under microaerophilic to strictly anaerobic conditions and lactic acid production. These bacteria are the major component of the starters used in fermentation, especially for dairy products, and some of them are also natural components of the gastrointestinal microflora.

That is why a more detailed study of the influence of the environmental parameters on lactobacilli surface charge is of importance. In this work we investigated the dependence of *Streptococcus thermophilus* surface charge on the concentration of Ca^{2+} in the incubation medium. The surface charge of erythrocytes was evaluated using Alcian blue cationic dye (AB). The amount of bound AB per cell was calculated by the difference in absorbances of the initial AB solution and the supernatant and expressed in nanograms per 10^6 cells.

Ca^{2+} concentration, %	0.00 (blank test)	0.01	0.02	0.03	0.04
Quantity of bound AB by lactobacilli, ng/10^6 *S.thermophilus*	444.1±8.7	432±10.8	435±9.7	443±11	428±10.2

Results show, that the binding of AB to *S. thermophilus* cells did not change significantly in the investigated range of Ca^{2+} concentrations. Its means that the surface structures of lactobacilli *Streptococcus thermophilus* is not sensitive to changes in the concentration of calcium in the surrounding medium. But for further study the dependence of the charge of the surface structures of lactic acid bacteria on the composition of the environment is necessary to continue research in this direction.