COMPARATIVE ANALYSIS OF THE CHARACTERS INVOLVED IN THE INFECTIVITY OF LACTOCOCCUS LACTIS STRAINS ISOLATED FROM DIFFERENT ENVIRONMENTS

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Abstract

Although most strains of Lactococcus (L.) lactis are considered Generally Recognized as Safe (GRAS), some data reported infectious diseases associated with this species. In order to identify virulence factors involved in pathogenicity of strains belonging to this species a comparative study was conducted on two L. lactis strains included, one isolated from a patient with endocarditis and another strain with probiotic potential, previously characterized. Main assessed tests were: capacity to auto-aggregate and co-aggregate with pathogenic strains (S. Typhimurium ATCC 14028, S. aureus subsp. aureus ATCC 25923 and E. coli with ESBL phenotype), biofilm formation, adherence to HT-29 cell line, hemolytic activity and serum resistance assay. Experimental results showed significant differences between the strains proving the virulence and pathogenicity potential of L. lactis strain isolated from patient with endocarditis. Yet, mechanisms involved in such traits remain still poorly understood because of lacking knowledge on the subject. In this concern, our study underlines the need for rigorous characterization in terms of virulence and pathogenicity traits of L. lactis strains before using them in biotechnological applications.

Key words: *GRAS, pathogen, endocarditis, food industry*