Study of some lactic acid bacteria strains probiotic effect for use in gastrointestinal infections

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Due to multiple beneficial host health effects of probiotics like: maintaining intestinal homeostasis, anticarcinogen activity, reducing plasma cholesterol concentrations and stimulating immune system, interest for probiotics has increased during the last decades. The main objective of our studies was to evaluate the probiotic effect of twenty lactic acid bacteria strains (LAB) by in vitro analysis in order to prevent/treat gastrointestinal infections. Antimicrobial activity (agar spot assay technique), the ability to compete with pathogenic strains on epithelial cells surface (optical microscopy), effect on metabolic activity of epithelial cell (MTT assay) and immunomodulatory effect (ELISA assay) of LAB strains were assessed. More than 90% of tested LAB strains exhibited antimicrobial activity especially on Gram negative pathogenic Escherichia coli and Salmonella enterica ssp. arizonae strains. About half of LAB strains had high capacity to adhere to epithelial cell line and five of them exerted a reduction of pathogenic adhesion to epithelial cell surface. Some of LAB strains presented an immunomodulatory effect.

Biography

Robertina Ionescu is post doc researcher in the Department of Genetics, Faculty of Biology University of Bucharest, Romania. Main research interests have focused on microbial biodiversity studies in various ecosystems, biochemical and genetic analyses of microorganisms with biotechnological capabilities, and biologically active compounds biosynthesis (biosurfactants) in microorganisms with biodegradative abilities. She has published more than 15 papers published in well known international journals.

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