



**CHARACTERIZATION OF BACTERIOCIN – LIKE
SUBSTANCES PRODUCED BY SOME LOCAL
LACTOBACILLUS ISOLATES**

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Abstract

The increasing consumer awareness of the risks derived not only from food borne pathogens, but also from the artificial chemical preservatives used to control them, has led to an increased interest in food- grade preservatives of biological origin. In this respect, special interest has been focused on the antimicrobial bacteriocins and the lactic acid bacteria producing them which are considered safe biopreservatives. In the present study, sixty nine *Lactobacillus* strains isolated from retail samples of local foods and dairy products were screened for bacteriocin production.

Of the 47 lactobacilli found to be bacteriocin – like substance producers, five best strains which showed the strongest antibacterial activity against *E. coli*, *Listeria monocytogenes*, *Salmonella enteritides*, *Staphylococcus aureus* and *Bacillus cereus*, were selected and identified: one strain as *Lb rhamnosus*, two strains as *Lb. paracasei subsp paracasei*, and one strain could not be successfully identified using API 50 CHL kits. The bacteriocin- like substances (BLS) produced by the selected strains were tested for characteristics that could determine their usefulness as food biopreservatives. Some of them were found retained most of their bacterial activity even after autoclaving at 121°C for 15 min, and after extended refrigerated and freezing storage, as well as after exposure to organic solvents or surfactants also they remained functional over a wide pH range of 3.0 to 12.0 with maximum activity at pH 7.0, and appeared resistant to up to 20.0 % sodium chloride. In addition they exhibited broad antimicrobial spectra against not only G + bacteria but also against G – bacteria and yeasts. These results suggest that BLS produced by some local *Lactobacillus* strains has an application potential as food biopreservatives, and may be as alternatives for usual antibiotics.