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Antibacterial Effects of Curd against Food-Borne and Human Pathogens

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Abstract: *This study was undertaken to assess the antibacterial efficacy of lactobacilli isolated from curd and human milk samples. These strains belonged to five species, Lactobacillus casei, L. delbrueckii, L. fermentum, L. plantarum, and L. pentosus. Antibacterial activities of all the Lactobacillus isolates were estimated through standard agar-well diffusion assay, against commonly occurring food-borne and clinically important human pathogens. None of the lactobacilli exhibited inhibitory activity against three pathogens, namely Staphylococcus aureus, Escherichia coli, and Salmonella typhi. CFS of some of the curd isolates displayed antagonistic activity against Streptococcus mutans; however, human milk lactobacilli did not displayed any inhibitory activity against them. As expected, Amul (Amul®) showed inhibitory activity against Gram-positive, S. aureus. Interestingly, few of the examined CFSs exhibited inhibitory activities against both Gram-positive and Gram-negative pathogens. Findings from this study support the possibility to explore the tested lactobacilli and their CFSs as natural bio-preservatives, alone or in combination with approved bacteriocins in food and pharma formulations after validating their safety.*

Keywords: *Lactobacillus, Antibacterial activity, food- borne pathogens*