
Abstract

In the present study, there is a comparison between different wild and mutant species of *Lactobacillus*. These are the most common probiotics usually used in food industry due to the presence of bacteriocins. Bacteriocins are the compounds that are used to kill pathogenic organisms. This work was done to check rather the mutation will put some influence on the bacteriocin activity of *Lactobacillus* or not. Four strains were isolated from meat and pickles sample. MRS media was being used for isolation and culturing of bacteria. Overnight incubation at 37°C was kept for optimum growth rate. Preliminary test including gram staining and catalase test was done for the confirmation of *Lactobacillus* species. In gram staining all the strains were found gram positive while catalase test was found negative (no bubble formation). Antibacterial activity was being checked against the *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Bacillus thuringiensis*, *Escherichia coli* and *Salmonella enteritis*. Strains of *Lactobacillus* which were found more virulent against pathogens were being mutated to check and compare either the wild are best in bacteriocin activity or mutation will develop some positive change related to antibacterial activity. Bacteriocin assay was being applied on mutated strains to check the antibacterial activity against some gram positive and negative bacteria including *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Bacillus thuringiensis*, *Escherichia coli* and *Salmonella enteritis*. Interestingly it was seen that mutants develop comparatively more virulence than wild one. It was also seen that they all were sensitive for pepsin and showing their protein nature. Protein estimation by Bradford method has been measured on 595 nm. Ribotyping of GCU-W-PS1 reveals 99% homology with *Lactobacillus plantarum*. While ribotyping reveals that GCU-W-MS1 belongs to *Lactobacillus curvatus* (99% homology). By using specific primers of curvacin A and sakacin P and plantaricin A, selected strains were being amplified by PCR. Gene sequence showed similarity of GCU-W-MS1 with curvacin A gene.

Key words: *Lactobacillus*, MRS agar, bacteriocin gene, mutation, ribotyping