

## Abstract

Probiotics are living microorganisms that have been regarded to beneficial effect on the gut microbiota when provided to the host in suitable proportion. The research was conducted to examine the effects of probiotic strains on the gut microbiota of female Wistar rats. Strains included in research were laboratory isolated strains named as L. plantarum MZ707748 (Pro1), L. plantarum MZ710117 (Pro2), Weissella confusa MZ735961(Pro3), L. plantarum MZ710117(Pro4), and one commercially available strain L. acidophilus La-14 (Pro5). Different random groups were designed to examine the synergistic effects of experimental strains. GIT weight and length was examined. Morphological, biochemical, and molecular characterization of gut isolated strains was performed. Statistical differences in GIT weight and length were seen. Gut isolated strains of probiotic groups were gram positive, catalase negative, showed survival in phenol and NaCl. They have great antimicrobial activity. Molecular characterization of gut isolated strains suggested that the size of genomic DNA was more than 10kb and the size of PCR products 500bp. Probiotics were safe to use and improved the gastrointestinal tract as well animal health. Enterococcus lactis OP817625, Enterococcus lactis OP808213, Lacticaseibacillus rhamnosus OP818495, Enterococcus lactis OP808214 and Enterococcus faecium OP808217 were isolated from G1, G2, G3, G4 and G5 respectively.