

**Estimation of 16S rRNA gene copy number in several probiotic *Lactobacillus* strains isolated from the gastrointestinal tract of chicken.**

ABSTRACT

The copy numbers of 16S rRNA genes in 12 probiotic *Lactobacillus* strains of poultry origin were analyzed. Genomic DNA of the strains was digested with restriction endonucleases that do not cut within the 16S rRNA gene of the strains. This was followed by Southern hybridization with a biotinylated probe complementary to the 16S rRNA gene. The copy number of the 16S rRNA gene within a *Lactobacillus* species was found to be conserved. From the hybridization results, *Lactobacillus salivarius* I 24 was estimated to have seven copies of the 16S rRNA gene, *Lactobacillus panis* C 17 to have five copies and *Lactobacillus gallinarum* strains I 16 and I 26 four copies. The 16S rRNA gene copy numbers of *L. gallinarum* and *L. panis* reported in the present study are the first record. *Lactobacillus brevis* strains I 12, I 23, I 25, I 211, I 218 and *Lactobacillus reuteri* strains C 1, C 10, C 16 were estimated to have at least four copies of the 16S rRNA gene. In addition, distinct rRNA restriction patterns which could discriminate the strains of *L. reuteri* and *L. gallinarum* were also detected. Information on 16S rRNA gene copy number is important for physiological, evolutionary and population studies of the bacteria.

**Keyword:** *Lactobacillus* spp.; 16S rRNA gene copy number; rRNA restriction patterns.