Acid and bile tolerance of Lactobacillus isolated from chicken intestine

ABSTRACT

Twelve Lactobacillus strains isolated from chicken intestine were used to investigate acid and bile tolerance in vitro. Ten out of the 12 strains were slightly affected by 0.3% bile salts, showing a delay of growth (d) of 0.6-37.2 min compared with growth in control cultures. Two strains were not affected by the bile salts. Of the 12 strains, seven could be arbitrarily classified as resistant (d < 15 min) and five as tolerant (l5 min < d Ò 40 min). Lactobacillus strains from the caecum showed better tolerance to acid than those from the ileum. Generally, the survival of the ileal strains was very low at pH 1.0 and 2.0, and moderate at pH 3.0. In contrast, caecal Lactobacillus strains could survive at pH 1.0 for up to 2 h of incubation; growth was moderate at pH 2.0 and good at pH 3.0 and 4.0.

Keyword: Lactobacillus; Chicken intestine; Acid; Bile tolerance