

Some Probiotic Traits of Lactobacillus Strains Isolated from Pollen

Authors : Hani Belhadj, Daoud Harzallah, Seddik Khennouf, Saliha Dahamna, Mouloud Ghadbane

Abstract : In this study, Lactobacillus strains isolated from pollen were identified by means of phenotypic and genotypic methods, At pH 2, most strains proved to be acid resistant, with losses in cell viability ranging from 0.77 to 4.04 Log orders. In addition, at pH 3 all strains could grow and resist the acidic conditions, with losses in cell viability ranging from 0.40 to 3.61 Log orders. It seems that, 0.3% and 0.5% of bile salts does not affect greatly the survival of most strains, excluding Lactobacillus sp. BH1398. Survival ranged from 81.0 ± 3.5 to $93.5 \pm 3.9\%$. In contrast, in the presence of 1.0% bile salts, survival of five strains was decreased by more than 50%. Lactobacillus fermentum BH1509 was considered the most tolerant strain (77.5% for 1% bile) followed by Lactobacillus plantarum BH1541 (59.9% for 1% bile). Furthermore, all strains were resistant to colistine, clindamycine, chloramphenicol, and ciprofloxacin, but most of the strains were susceptible to Penicillin, Oxacillin, Oxytetracycline, and Amoxicillin. Functionally interesting Lactobacillus isolates may be used in the future as probiotic cultures for manufacturing fermented foods and as bioactive delivery systems.

Keywords : probiotics, lactobacillus, pollen, bile, acid tolerance

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