
ANTAGONISTIC ACTIVITY OF *LACTOBACILLUS PLANTARUM* AGAINST CROWN GALL AGENT

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The aim of this work was to study the antagonistic effect of *Lactobacillus plantarum* on phytopathogenic agrobacteria.

Lactobacilli isolated from various plant sources have been identified by microbiological and molecular biological methods and a LAB collection has been formed. Physiological, biochemical, molecular biological and technological properties of the isolated bacteria were characterized.

Variability of genetic determinants of *L. plantarum* as the genetic diversity of crown gall agents isolated in the south of Ukraine were studied. The quantity of *A. vitis* in grape shoots of different cultivars reached 1,8 – 4,6 × 10³ CFU/ml.

L. plantarum isolates differed by the presence of genes involved in bacteriocin production, and agrobacteria – by the presence of genes responsible for pathogenicity.

The antagonistic activity against pathogenic agrobacteria has been studied *in vitro* and *in vivo*. Antagonist strains – active against crown gall agents were chosen.

Inoculation of kalanchoe wound surfaces with bacterial mixtures of *A. tumefaciens* C58: *L. plantarum* ONU 12 or *A. tumefaciens* C58: *L. plantarum* ONU 87 in a ratio 1:1 resulted in 100% inhibition of tumor formation. Lactobacilli applied on plant surfaces survived *in situ* until 15 days.

Grape cuttings infected experimentally with pathogenic agrobacteria treated with lactobacilli before their planting in soil showed better surviving, increasing in amount of buds that grew, mean lengths of green shoots.

The results of the work could be a base for new methods of crown gall control.