

ANTIMICROBIAL ACTIVITY OF POLYSACCHARIDES SOME BACTERIA GENUS
ENTEROCOCCUS AGAINST PNEUMONIA PATHOGENSIsrayelyan A.², Tkhruni F.¹, Balabekyan T.¹, Beglaryan L.², Aleqsanyan L.², Farsiyan A.³¹Probiotics Production Sector, Scientific and Production Center "Armbiotechnology" NSPO, National Academy of Science, Armenia²Laboratory of Microbiology, Artsakh Scientific Center State Non-Commercial Organization (SNCO) Stepanhakert, Armenia³ Yerevan Medical State University, Armenia

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Previously, protein-like fractions with antimicrobial activity (AMP) were obtained using the gel (Sephadex G-25) filtration method for the purification of cultural liquid (CL) of Enterococcus strains isolated from fermented milk of donkeys. The antimicrobial activity of strains of the genus Enterococcus is due to the synthesis of low weight protein-like substances and depends on time, temperature and the composition of the growing medium. The greatest antimicrobial activity of the studied strains takes place at a growing temperature (42°C).

After cultivation of the investigated LABs were isolated and purified polysaccharides from CL. Comparison of the results showed the difference in the effectiveness of the influence of polysaccharides depends on the pathogens source, the polysaccharide concentration, and the generic nature of the strain causing pneumonia. From investigated 21 strains 8 had polysaccharides, but only 2 have antimicrobial activity. These polysaccharides inhibited the growth of the pathogenic bacteria isolated from people with covid.

The aim of this work was to study some LAB strains of the Enterococcus genus with probiotic properties synthesizing polysaccharides on the ability to inhibit the growth of pathogenic bacteria that cause pneumonia.

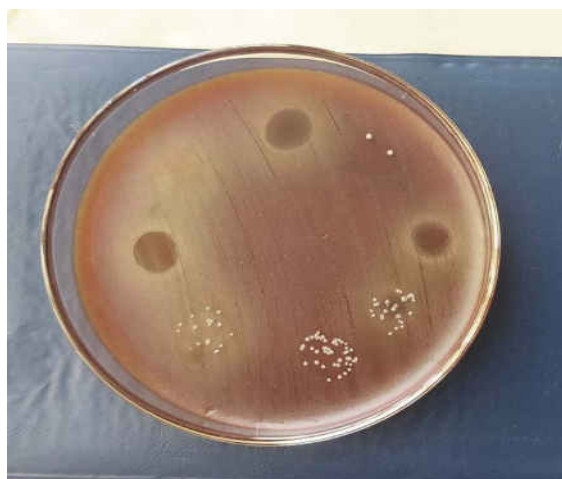


Figure 1. Antimicrobial activity of polysaccharides and metabolites some bacteria genus *Enterococcus* against *St. pneumonia* fl-510 (isolated from throat)

The HPLC method used showed that the isolated polysaccharides of Enterococcus strains with antimicrobial activity consist of glucose and galactose molecules. Now are studying the physicochemical properties of polysaccharides, which can be promising in future. It is concluded that the use of metabolites of the genus Enterococcus as bioinhibitors is promising.

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