OBTAINING AND ACTIVITY OF SILVER NANOPARTICLES BASED ON THE EXOPOLYSACCHARIDE OF DIAZOTROPHIC STRAIN Bradyrhizobium japonicum 36 AND AgNO₃

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The aim of the research was to obtain silver nanoparticles and to study of its antibacterial activity against pathogenic cultures Escherichia coli ATCC11229 and Staphylococcus aureus ATCC6538.
Obtained complex was characterized by UV-Vis spectroscopy, X-ray diffraction (XRD) and transmission electron microscopy (TEM). Colloid solutions of the complex absorbed radiation in the visible regions of 420–460 nm, which confirmed the formation of silver nanoparticles. The size of synthesized SNP varied from 6 to 50 nm. There has been confirmed presence in them of atomic silver. Obtained compound possessed antibacterial activity against pathogens, such as *Escherichia coli* ATCC11229 and *Staphylococcus aureus* ATCC6538.

**Key words**: silver nanoparticles, *Bradyrhizobium japonicum* 36 strain exopolysaccharide.

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