

ANTIMICROBIAL ACTIVITY OF PHYTOSUBSTANCE OBTAINED FROM ALNUS GLUTINOSA LEAVES

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Development of the phytopreparations remains to be a promising trend in pharmaceutical production. Despite their long-term use in traditional and officinal medicine actual potential of the medicinal plants is yet not completely discovered. Recently, new original aspects have emerged in terms of application as well as technology of phytopreparations, using new raw materials, extracting agents, ways to intensify the process of extraction, etc. Extension of the national phytopreparations' range, produced according to the sophisticated economical technologies with comprehensive utilization of the raw materials and waste products is still relevant.

From the earliest times and currently phytosubstances derived from *Alnus glutinosa* attract high interest due to their wide spectrum of pharmacological activity, including antimicrobial action.

The aim of this study was to investigate in vitro antimicrobial properties of the new phytosubstance's experimental samples derived from the shoot of *Alnus glutinosa* leaves and predict further extended study using clinical strains, such as pyoinflammatory and antibiotic-resistant pathogens, with the prospect of its further clinical use as an antimicrobial drug.

Antimicrobial activity of the new preparation was studied using a modified agar well diffusion method, which is generally accepted in microbiological practice. Typical strains of American Culture Collection: *S. aureus* ATCC 25923, *E. coli* ATCC 25922, *P. aeruginosa* ATCC 27853, *B. subtilis* ATCC 6633, *C. albicans* ATCC 885-653 were used as reference test-strains.

Obtained results indicate that phytosubstance of *Alnus glutinosa* leaves has a broad spectrum of antimicrobial activity. It is worth mentioning, that there is a higher susceptibility of Gram-positive cultures of bacteria, including *S. aureus* and *B. Subtilis*, which is evidenced by a more pronounced zones of growth inhibition of these cultures compared with Gram-negative bacteria. Thus, growth inhibition zone diameter around the well containing extract ranged from 22.4 to 28.0, relative to cultures *S. aureus* and *B. subtitles*, which is significantly higher than its activity against other test-strains. At the same time the extract showed indifference against the culture of fungus *C. albicans*.