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ANTIMICROBIAL ACTIVITY OF POLYSACCHARIDE-CONTAINING SPIRULINA EXTRACTS

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In recent years, the research on cyanobacteria and algae has demonstrated that many extracts obtained from their biomass have been shown to have antibacterials, antivirals, antioxidantes, antitumoral effects.

Cyanobacterium *Spirulina platensis* is widely used as food bioadditives due to its valuable biochemical composition: high protein content (60–70%), including phycobiliproteins, acid polysaccharides, polyunsaturated fatty acids, β-carotene, chlorophyll a, vitamins, minerals, and the presence of secondary metabolites such as polyphenols, sterols, et.al

For the qualitative screening of the antimicrobial activity of the investigated polysaccharides extracts, the well method was used, standardized for the control of the antimicrobial activity proposed by the CLSI standard.

The extract with polysaccharides content obtained from the biomass of spirulina cultivated in the presence of the zinc acetate showed bactericidal action on the strains of *Staphylococcus aureus ATCC25923* and *Bacillus cereus ATCC 11778* in 1: 1 dilution and inhibitory action in 1: 2 dillution.

The extract with polysaccharide content obtained from standard biomass showed bactericidal action in 1:1 dilution and inhibitory action in dilution of 1:2 on *S. aureus ATCC25923* strains and only inhibitory action in 1: 2 dillution on *B. cereus ATCC 11778* strains.

In the future, the action of polysaccharide-containing spirulina extracts on some gram-negative bacteria will be researched, as well as their antifungal action.

Keywords: *Spirulina platensis*, polysaccharides, bactericidal action, antimicrobial activity.