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32.

Title: PROCESSES FOR SPIRULINA BIOMASS PRODUCTION - RAW MATERIAL FOR THE DEVELOPMENT OF ANTIOXIDANT ANTIBACTERIAL AND IMMUNOMODULATING AGENTS

Patent/project number: no. 4796 MD/2022.02.28 and no. 4542MD/2018.07.31.

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Institution: Public Institution Institute of Microbiology and Biotechnology, Republic of Moldova.

Category: F.

Description: The inventions refer to bionanotechnology, in particular to processes for biomass production of cyanobacterium *Spirulina platensis*. The proceedings provide the cultivation of *Spirulina platensis* using water soluble silver nanoparticles - AgNPs with a size of 5 nm in a concentration of 0,10-32,5μM. The result of the inventions consists in increasing the production of safety spirulina biomass and biologically active compounds content in biomass. In addition, the processes ensure the obtaining of biofunctionalized silver nanoparticles with properties that can be distinguished from the unmodified ones, and also to benefit to the maximum from the unique biological properties of the biomolecules in spirulina.

This allows to obtain raw material for the development of antioxidant antibacterial and immunomodulating agents. Areas of application: Nanotechnology, Bionanotechnology, Medicine - Health Care-Cosmetics and Pharmaceutical Industry. The research was carried out within the project 20.80009.5007.05, funded by NARD.

State of development: The implementation of process is carried out within the Institute of Microbiology and Biotechnology in Phybiotechnology laboratory, Institute of Physiology and Sanocreatology in Physiology of stress, Adaptation and General Sanocreatology Laboratory and PhD thesis.

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Presentation link: <https://imb.md/en>