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**Title:** PROCEEDING FOR OBTAINING SPIRULINA BIOMASS - RAW MATERIAL FOR NEW IMMUNOMODULATORY, ANTIVIRAL, ANTIMICROBIAL AND ANTICANCER REMEDIES

**Patent/project number:** MD 4714 / 2020.09.30

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**Institution/s:** Public Institution Institute of Microbiology and Biotechnology, Republic of Moldova

**Category:** R

**Description:** The invention relates to biotechnology, bionanotechnology and biopharmaceutics, namely to a process for cultivation of *Spirulina platensis* cyanobacterium for the purpose of obtaining raw material for the development and manufacture of drugs with application in medicine, pharmaceuticals and cosmetology. The proceeding involves growing spirulina culture on a mineral medium with the addition of 5 nm water-soluble copper nanoparticles in concentration of 3.15-3.18  $\mu\text{g/L}$  to obtain biomass and, in particular, to stimulate lipid and other biologically active compounds biosynthesis. At the same time, spirulina produces biofunctionalized copper nanoparticle that can be used as immunomodulatory, antiviral, antimicrobial, and anticancer agents. The innovative results included in the invention contribute to the realization of new innovative materials with outstanding performance and the development of new sustainable technological processes, as well as to the design of new functionalities for special and consumer drugs and products. The research was carried out within the project 20.80009.5007.05, funded by NARD, Republic of Moldova.

**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.