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INSTITUTE OF MICROBIOLOGY AND BIOTECHNOLOGY OF
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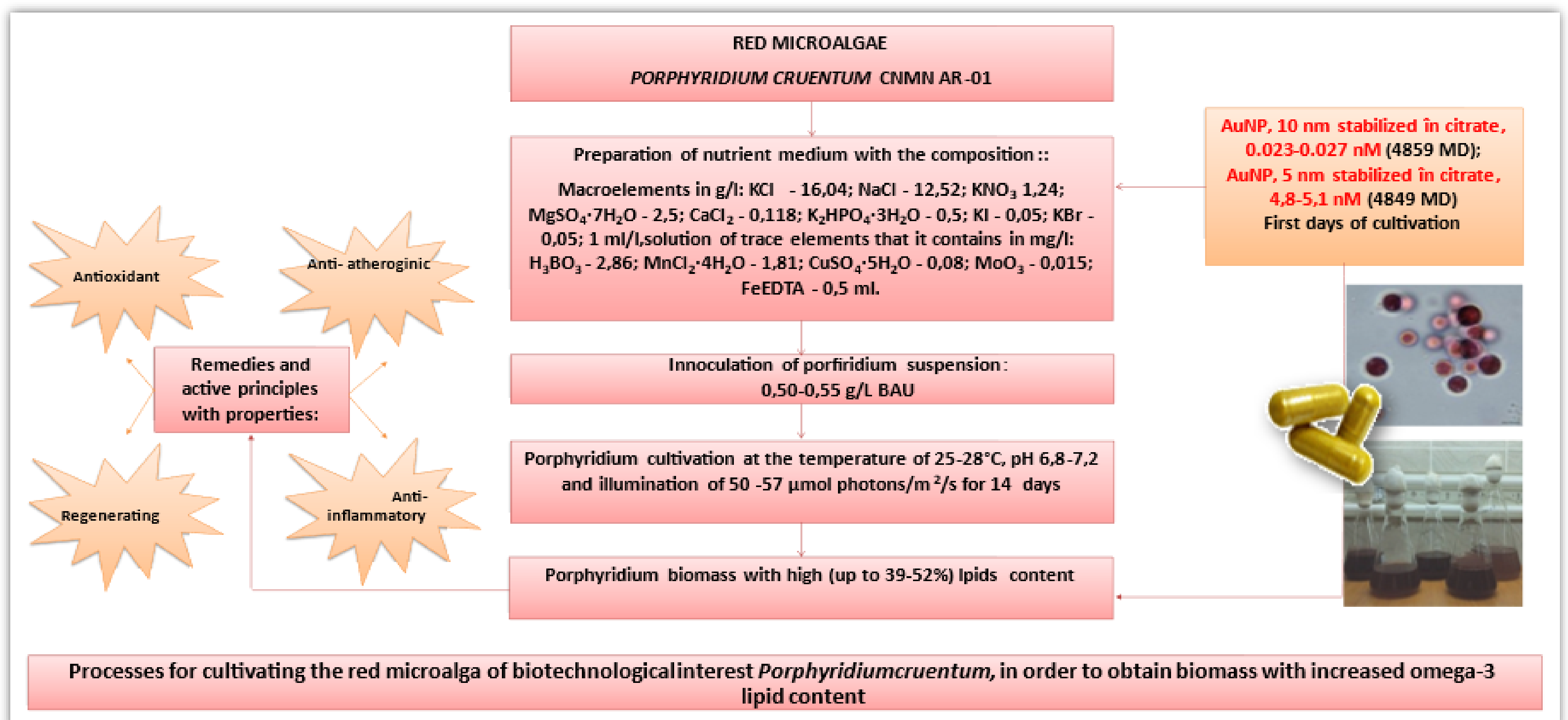


PROCESSES FOR OBTAINING THE BIOMASS OF THE RED MARINE MICROALGA *PORPHYRIDIDIUM CRUENTUM* - SOURCE OF OMEGA 3 LIPIDS WITH POLYVALENT PROPERTIES

Patents: 4859 MD; 4849 MD /2024.01.31

**Inventors: RUDI LUDMILA, CHIRIAC TATIANA, CEPOI LILIANA, RUDIC VALERIU,
VALUȚA ANA, DJUR SVETLANA, MISCU VERA, IAȚCO IULIA, ZOSIM LILIANA,
ROTARI ION, TAȘCA VALENTINA**

Processes for cultivating the red marine microalga *Porphyridium cruentum* are proposed to obtain biomass with a high omega-3 lipid content. According to procedures, microalga cultivation is carried out in nutrient media containing 5nm or 10nm gold nanoparticles (AuNPs) stabilized in citrate, at concentrations ranging from 0.023-0.027 nM to 4.8-5.1 nM, at a temperature of 25-28°C, with a pH 6.8-7.2, and illumination of 50-57 μM photons/ $\text{m}^2 \cdot \text{s}$, for 14 days. These processes ensure a 39-52% increase in the omega-3 lipid content of porphyridium biomass, which can be used as raw material for developing new preparations and nutraceuticals with polyvalent properties.



ADVANTAGES:

- High content of omega-3 lipids in porphyridium biomass according to proposed Technology;
- A natural raw material (biomass) for developing remedies and active principles based on omega-3 microalgal lipids;
- High potential for application in Biotech, Nanobiotech, Pharma companies, Human Health – Care - Cosmetics.

RUDI LUDMILA,

Email: ludmila.rudi@imb.utm.md

Academy str., no 1, MD 2028, Chishinau, Republic of Moldova