

Title: THE PROCEDURE FOR CULTIVATION OF RHODOTORULA GRACILIS YEASTS

Patent/project number: Patent MD 4709/2019.07.25

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Category: R

Description: The invention relates to biotechnology, in particular to a process for cultivation of *Rhodotorula gracilis* yeast and can be used to produce antioxidant enzymes superoxide dismutase (SOD) and catalase (CAT) with high potential for use in the microbiological, pharmaceutical and cosmetic industries. The method, according to the invention, comprises production of a yeast suspension by cultivation on YPD medium, with addition of Ag nanoparticles with a size of 5 nm. The invention consists in significant increase of SOD activity by 40-52% and CAT by 33-45% superior to the control variant and the reduction of the cultivation time up to 72 hours. The elaborate process of cultivation of yeast *Rhodotorula gracilis* with the application of silver nanoparticles corresponds to the level of development of microbial biotechnologies of strategic importance in creating efficient economies with practical applications in the country's industries. The results obtained can be used to obtain local antioxidant enzyme preparations with high application potential.

State of development: The implementation of process is carried out within the Institute of Microbiology and Biotechnology in laboratory of Soil Microbiology and PhD thesis