



Expoziția Internațională Specializată

INFOINVENT

Ediția a XVIII-a, 22-24 Noiembrie 2023



Process for submerged cultivation of fungal strain *Rhizopus arrhizus* CNMN FD 03, producer of lipases

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Aim:

It consists in elaboration of a new process for submerged cultivation of *Rhizopus arrhizus* CNMN FD 03 fungal strain, producer of lipases, that can be used in the microbiological industry for obtaining lipolytic enzymes with wide application in the food industry, production and processing of fats and vegetable oils, in medicine as a therapeutic and diagnostic agent.

4828 MD /
2023.05.31

Solution:

Using of metalocomplex tetra (isothiocyanate)cobaltat(II) of tris(dimethylpyridine-2,6-dicarboxylate) dicarboxylate)calcium with the formula $[CaL_3][Co(NCS)_4]$, as stimulator of lipases synthesis in *Rhizopus arrhizus*. CNMN FD 03.

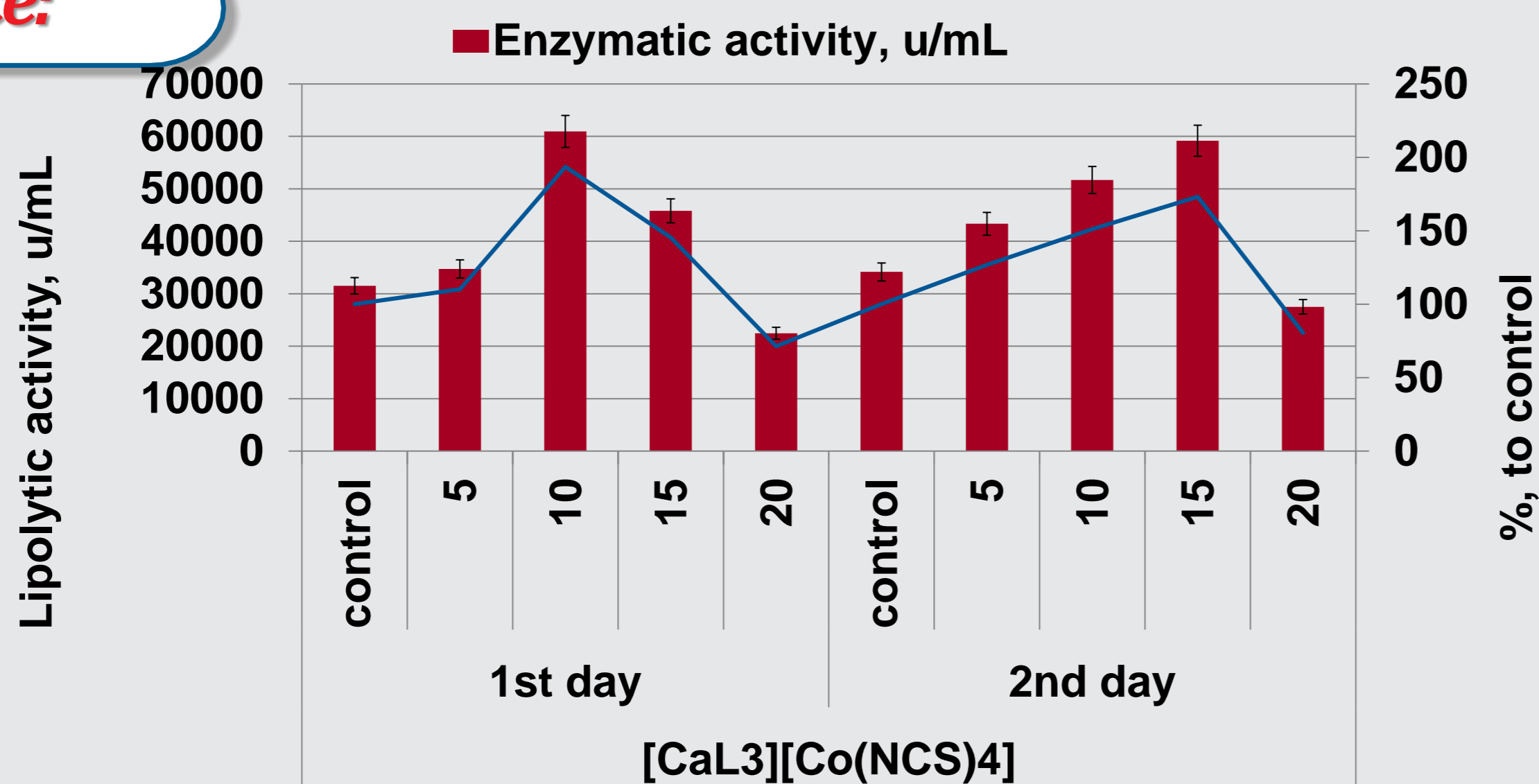
Advantages:

- increasing the biosynthesis of lipolytic enzymes by 34.0...78.4%;
- reducing the duration of cultivation of the strain by 24 hours.

Stage of implementation:

Laboratory prototype.

Essence:



The influence of different concentrations of $[Ca(L)_3][Co(NCS)_4]$ on the lipolytic activity of the micromycete *Rhizopus arrhizus* CNMN FD 03.



Rhizopus arrhizus CNMN FD 03.

A process for submerged cultivation of *Rhizopus arrhizus* CNMN FD 03 fungal strain - producer of lipases is proposed, which provides the preparation of a spore suspension of the strain grown for 30 days on a malt-agar medium and inoculation in a quantity of 5 vol.% in a nutrient aqueous medium containing, g/L: soy flour – 35.0, $(NH_4)_2SO_4$ – 1.0, KH_2PO_4 – 5.0, with the simultaneous addition of 0.005-0.015 g/L of $[Ca(L)_3][Co(NCS)_4]$, where L – dimethylpyridine-2,6-dicarboxylate, and cultivation with continuous stirring at 180- 200 rpm at the temperature of 28-30°C for 24 hours.

The invention was developed based on the results obtained within the project 20.80009.5007.28 funded by NARD, Republic of Moldova