

## NEW PROCESSES FOR CONSERVATION OF YEAST STRAINS

### *Saccharomyces cerevisiae* CNMN-Y-20 AND *Saccharomyces cerevisiae* CNMN-Y-21

Patents No.: MD 1379; MD 1380; 1381; 1396

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**FIELD OF STUDY:** Biology, agronomy and horticulture

The inventions relates to biotechnology, particularly to a 4 new processes for conservation of yeast strains *Saccharomyces cerevisiae* CNMN-Y-20 and *Saccharomyces cerevisiae* CNMN-Y-21 for a long term and their use as a source of biologically active substances.

The elaborated procedure consist in the preservation of the yeasts, by lyophilization, using protective media consisting of skimmed milk and 5...10 % vol. extracts of boactive substances obtained from the spirulina biomass.

**The first process** ensure the stimulation of the protein content with 25.32-26.62 %, in the biomass of *Saccharomyces cerevisiae* CNMN-Y-20, after one year of lyophilization, in the presence of a solution containing 10 mg/mL polysaccharide sulphates extract obtained from spirulina biomass.

**The second process** consists in the lyophilization of the *Saccharomyces cerevisiae* CNMN-Y-20 in the presence of the 65 % hydroethanol solution, containing 5 mg/mL of bioactive extract, obtained from spirulina biomass, which increases the protein content by 20.70-40.48 %.

**The third process** allows the increase of the protein content by 35.31-37.02 % and carbohydrates by 35.65-39.68 %, in the biomass of *Saccharomyces cerevisiae* CNMN-Y-21, as a result of lyophilization in the presence of 5...10 % vol. solution which containing 10 mg/mL of extract obtained from spirulina biomass, according to the invention MD 1396.

**The last procedure** consists of the conservation of *Saccharomyces cerevisiae* CNMN-Y-21 in the presence of a hydroethanol solution containing 5 mg/mL of amino acid and oligopeptides extracts, obtained from the biomass of cyanobacteria *Spirulina platensis*, which, after one year of preservation, increases the protein content with 9.35-52.86 % and carbohydrates content with 11.16-18.59 %.

The proposed results provide the scientific community and the society new knowledge that offers the possibility of obtaining natural preservatives from the cyanobacteria biomass and propose new opportunities for the companies that realize the cultivation of microalgae and cyanobacteria regarding the efficient use of biomass by diversifying the product range, which can diversify the products which can be obtained. Thus, natural preservatives extracted from spirulina biomass serve as a serious alternative to synthetic preservatives, being good protectors of microorganisms with maintaining the specific characteristics for a long time.

The polycomponent extracts obtained from spirulina biomass can be used as protective agents in the process of lyophilization of microorganisms that allow maintaining the security of the collection for a long time and the increase of the biochemical content of the yeasts in the result of the conservation highlight new technological properties for their subsequent use for industrial production.