Journal of
Pharmacology and Therapeutics Research

Abstract

Selected Pleurotus spp. as a good natural source of lovastatin and ergothioneine

Agata Kryczyk-Poprawa
Jagiellonian University Medical College, Poland

Abstract:

Pleurotus mushrooms contain numerous therapeutic substances, and different species have been proven as effective in the treatment of bacterial, viral, and cardiovascular diseases and even cancers.

The research aimed to initiate in vitro cultures of six selected species of the genus Pleurotus—P. citrinopileatus, P. djamor, P. eryngii, P. florida,

P. ostreatus, and P. pulmonarius—and to obtain cultures of these species from mycelia to obtain raw material of the highest cultivation quality and characterized by high dietary and pro-health properties.

To determine the content of lovastatin and ergothioneine the RP-HPLC method was used. The process was carried out in an isocratic system with a mobile phase of constant composition. The apparatus was equipped with a UV detector, a column (Purospher® RP-18, 14 mm×200 mm, 5 µm), and a lamp (L-7100). For each analysis, 20 µL of the tested sample was injected (Muszyńska et al 2020).

The quantitative analysis of lovastatin and ergothioneine was performed using a calibration curve with the assumption of the linear size of the area under the peak and the concentration of the reference standard.

Examination of other organic compounds demonstrated that not all of them are present in the largest quantities in the fruiting bodies of the studied Pleurotus spp. Some of these compounds, for example, lovastatin or ergothioneine,

Biography:

EBoślena Muszyńska is a professor of pharmacy in Department of Pharmaceutical Botany, Jagiellonian University Medical Colege. She is an expert in field of edible and medicinal mushrooms, algae and medicinal plants. As the coordinator of the consortium set up by scientists at the Agricultural University of Kraków, UMCS in Lublin, the Medical University of Bialystok, and Bialystok Uni-

versity of Technology, is carry out research on biological properties of Basidiomycota, including anti-inflammatory and anticancer activity. She lead a research team at the Department of Pharmaceutical Botany and the Department of Inorganic and Analytical Chemistry JU MC, dealing with interdisciplinary research, which concern determination of bioavailability for the human body of organic substances and bioelements contained in edible mushrooms. In connection with the conducted research, as one of the main contractors, I developed a device called Gastroel-2014 and made a patent application in 2016. She is the Deputy Editor-in-Chief of the magazine from the Ministry of Science and Higher Education and the main manager (Medicina Internacia Revuo).

Publication of speakers:

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Pharmacology And Therapeutics, August 07, 2020 London, U.K

Citation: Dr. Boślena Muszyńska, Selected Pleurotus spp. as a good natural source of lovastatin and ergothioneine, Pharma Forum 2020, August 07, 2020 London, U.K