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## Abstracts Book



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## TOXICOLOGICAL EVALUATION AND HEPATOPROTECTIVE EFFECT OF AMANITA PONDEROSA

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Edible mushrooms, moreover to their gastronomic characteristics, are a source of valuable nutrients and bioactive compounds with potential beneficial effects on human health. Currently mushrooms become attractive as functional foods due to medicinal properties and useful in preventing diseases shown antitumoral and immunomodulating properties, cardioprotective, hepatoprotective, antibacterial, antiviral and antifungal effects. In the near future, could play an important role as a nutraceutical and/or therapeutic agents [1, 2].

The southern of Portugal, namely in Alentejo region, due to its Mediterranean microclimate and flora diversity, is one of the European regions with a high predominance of wild edible mushrooms *Amanita ponderosa*. Although there are many studies about the beneficial properties of constituents and some edible wild mushrooms, there are no studies on the biological activity of *A. ponderosa* [3].

The main objective of this study was to evaluate the hepatoprotective activity of fruiting bodies and mycelia of liquid cultures of some strains of *A. ponderosa*. Assay was performed using *Wistar* rats as an experimental model and serum enzymatic activities, ALT, AST, ALP and GGT were determined. Toxicological evaluation was assayed in *Artemia salina* (LC<sub>50</sub>) and in *Swiss* mice (LD<sub>50</sub>), according to OECD guidelines [4].

The lyophilized fruiting bodies and mycelia showed no lethality against *brine shrimp* and also no acute toxicity to *Swiss* mice. Additionally the oral administration of *A. ponderosa* samples in *Wistar* rats reduce the liver damage induced by ethanol, with a significant decrease of hepatic serum enzymes. This result was equivalent to the observed for silymarin, used as standard drug, showing a hepatoprotective effect of *A. ponderosa*.

Therefore, mushrooms and mycelia of liquid cultures of *A. ponderosa* may be an important source of bioactive compounds with potential medicinal value, as co-adjuvants in treatment of hepatic diseases.

[1]Arteiro JM, Martins MR, Salvador C, Candeias MF, Karmali A, Caldeira AT, Med Chem Res, 21 (2012) 937-943.

[2]Salvador C, Martins MR, Candeias MF, Karmali A, Arteiro JM, Caldeira AT, J Agr Sci Technol A, 2 (2012) 1296-1306.

[3]Salvador C, Martins MR, Vicente H, Neves J, Arteiro JM, Caldeira AT, Agroforest Sys, (2012) DOI 10.1007/s10457-012-9548-y.

[4]OECD guideline for testing of chemicals, (2001) 1-26.

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