Abstracts

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S8 P6 Mushrooms as a source of nutraceuticals related to antioxidant properties

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In order to promote the use of mushrooms as a source of nutraceuticals, several experiments were performed in *Cantharellus cibarius, Hypholoma fasciculare, Lepista nuda, Lycoperdon molle, Lycoperdon perlatum, Ramaria botrytis and Tricholoma acerbum* wild species.[1] Their antioxidant activity was screened through chemical and biochemical assays; chemical assays allowed an evaluation of their reducing power, radical scavenging activity and inhibition of β-carotene bleaching capacity, while biochemical assays evaluated the lipid peroxidation inhibition capacity, using brain cells as models. The analysis of nutraceuticals included determination of fatty acids by GC-FID, and other phytochemicals such as tocopherols, by HPLC-fluorescence, and phenolics, flavonoids, carotenoids and ascorbic acid, by spectrophotometer techniques. All the species proved to have antioxidant activity, being R. botrytis the most effective mushroom (EC_{50} values lower than 1 mg/mL). These properties seem to be related to its higher content in phenols and tocopherols. It also presented the highest MUFA (particularly oleic acid) and the lowest SFA levels, which may be relevant since the substitution of SFA with MUFA leads to an increase in HDL cholesterol and decrease in LDL cholesterol, triacylglycerol, lipid oxidation, and LDL susceptibility to oxidation. This study contributes not only to a better knowledge of mushrooms but also to its valorisation.

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[1] L. Barros, B. Venturini, P. Baptista, L. Estevinho, I.C.F.R. Ferreira. *J. Agric. Food Chem.* 56 (2008) 3856-3862.