

Purification and Chemical Characterization of Polysaccharides from the Fruiting Body of *Agaricus bisporus* (J.E. Lange) Imbach

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Edible mushrooms are appreciated for their gastronomic, nutritional, and medicinal value. There have been innumerable studies on their therapeutic properties, concentrating on their polysaccharides. *Agaricus bisporus*, commonly known as “champignon”, is the most consumed and commercialized mushroom in the world. Even though some of its components have been vastly investigated there are no studies regarding the fine structure of the polysaccharides present in the fruiting body. The polysaccharide from the fruiting body of *Agaricus bisporus* was obtained via successive aq. extraction and freeze-thawing. It was analyzed using NMR spectroscopy, HPSEC and monosaccharide composition. The soluble fraction obtained from the freeze-thawing process contains mainly glucose (60%). Arabinose (5%), mannose (15%), galactose (12%), and O-Me-gal (5%) are also present. The HPSEC analysis suggest that more than one molecule may be present in this fraction. ¹³C-NMR spectrum of the fraction showed a signal at δ 102.82 which is consistent to that of β -glucans previously described in mushrooms. Signals from δ 97.78 to δ 99.74 correspond to units of Gal β and Man α , and those at δ 60.44 and δ 60.66 relate to non O-substituted C-6 units. The analysis results suggest a mixture of polysaccharides, likely a glucan and a more complex branched heteropolysaccharide. Dialysis through membranes with M_r 1000 kDa and 16kDa cut-off are being performed in order to separate the molecules. Further studies are being carried out in order to determine the chemical characterization of the fractions obtained. Supported by CNPq and PRONEX-Carboidratos.

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