Chemical Characterization of Polysaccharides Obtained from Submerged Culture of *Hericium erinaceus*

Zenin, N.S., Komura, D. L., Ruthes, A.C., Carbonero, R. E., R., Sassaki G. L., Iacomini, M.

Departamento de Bioquímica e Biologia Molecular, UFPR, Curitiba, PR, Brazil.

Hericium erinaceus is a well known edible and medicinal mushroom in oriental countries. Polysaccharides produced from a submerged mycelial culture of mushrooms have also been recently studied, because submerged culture gives higher yields of mycelial biomass or other biopolymers with fewer chances of contamination. In order to obtain polysaccharides from *H. erinaceus* at first the mycelium was cultivated in submerged culture (MCM medium for 40 days at 28°C). Mycelial biomass was submitted to extraction with boiling water, concentrated extract was added to ethanol (3:1, v/v) and the precipitated material was dialyzed against tap water, followed by purification by freezing-thawing, precipitation with Fehling solution and ultrafiltration by 10 KDa cut-off giving a HWE10 eluted fraction, which contains glucose as main component. The results of methylation analysis showed alditol acetates of 2,3,4,6-Me_4Glc (19%), 2,4,6-Me_3Glc (15%), 2,3,4-Me_3Glc (47%) and 2,4-Me_2Glc (19%). The ^{13}C-NMR analysis showed the presence of three anomeric signals at d 102.99 corresponding to non-reducing end units, while those at d 102.86 and 102.74 are from 3-O-substituted and 3,6-di-O-substituted units. The ß-configuration was shown by C-1 signals at low field. In summary, these results suggests that HWE10 fraction is a glucan with a backbone of (1→6)-linked β-D-glucopyranosyl units, branched at O-3. Additional studies are being carried out in order to determine the length of the side chain.

Supported by PIBIC-CNPq and PRONEX-Fundação Araucária.

Key-words: *Hericium erinaceus*, polysaccharides, submerged culture