

## CHARACTERIZATION OF A WATER-SOLUBLE $\beta$ -GLUCAN FROM THE FRUITING BODY OF *PLEUROTUS ERYNGII*

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*Pleurotus* is an important genus of edible basidiomycetes. The biotechnological potential of this genus has been exploited to enhance the digestibility of animal fodder, to act as antitumor, antifungal and antiviral agents, as well as their ability to lower cholesterol and to synthesize fine chemicals. The  $\beta$ -glucan was now isolated from the fruiting bodies of *Pleurotus eryngii*, via alkaline extraction, fractionation by freeze-thawing, precipitation with Fehling solution, and ultrafiltration. The  $\beta$ -configuration was shown by C-1 signals at low ( $\delta$  102.9 and 102.7) and H-1 signals at high field (4.57 and 4.76, respectively). The signals at  $\delta$  85.0 and 86.3 arose from substitution at O-3. Non-substituted and O-substituted -CH<sub>2</sub>-6 signals were at  $\delta$  60.8 and 68.9, respectively. The structure of the main chain was shown by a controlled Smith degradation, which gave rise to a linear (1 $\rightarrow$ 3)-linked  $\beta$ -glucan with six typical signals, in its <sup>13</sup>C-NMR spectrum, at  $\delta$  102.9; 86.1; 76.4; 72.8; 68.5 and 60.9, from C-1, C-3, C-5, C-2, C-4 and C-6, respectively. It was a branched  $\beta$ -glucan, with a main chain of (1 $\rightarrow$ 3)-linked-Glcp residues, partially substituted at O-6 with side chains having units of the  $\beta$ -Glcp 6-O-linked. There is a great interest in these glucans, since they have antitumor, and anti-inflammatory activities, suggesting that part of the medicinal value of *Pleurotus* spp. can be attributed to them.

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