

CHEMICAL CHARACTERIZATION AND BIOLOGICAL ACTIVITIES OF
GLUCANS EXTRACTED OF THE MUSHROOMS *GEASTRUM SACCATUM*
AND *POLYPORUS DERMOPORUS*

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Glucans are polymers of β - or α -D-glucose configuration. These compounds have anti-viral, anti-inflammatory and anti-microbial activities. The present work reports on the chemical composition, antioxidant and anti-inflammatory effects of glucans extracted from the fruit bodies of the fungi *G. saccatum* (G.S) and *P. dermatopus* (P.D.). Chemical analyses showed the proportion of sugar: protein 65%:7.0% and 49%:0.1% for extracts from G.S. and P.D. NMR spectroscopy of these extracts indicated a β -glucan-protein complex as mainly compound. G.S inhibit the superoxide radical and hydroxyl radical formation at 75% and 88.4%, while the inhibitory effects of P.D. were 83.3% and 100% respectively. When these glucans were tested (from 10 to 50 mg/kg) in ear edema induced by croton-oil in mice BALBc they showed inhibitory ear edema formation and decrease of the number of polymorfonuclear cells at the inflammation site. The evaluation of these glucans under carrageenan-induced pleurisy showed the antiinflammatory action of these compounds. They were able to reduce the number of cells in pleural exudates. In addition, the amount of nitric oxide decreased with 30mg/kg of each compound (14.5 and 7.3 nmol NO₂/NO₃ for G.S and P.D, respectively. Control = 23.9 nmol NO₂/NO₃). These results suggest that these mushrooms possess polymers formed by a glucan-protein complex with anti-inflammatory and antioxidant effect.

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