Antimicrobial, Anti-Inflammatory and Citotoxic Effects of glucans from *Scleroderma nitidum* Mushroom

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Several pharmacological properties have been attributed to isolated compounds from mushroom. These compounds, especially the polysaccharides modulate the immune system, and thus it showed antitumor, antiviral, antibiotic and antiinflammatory activities. In this study assesses the ability of the polysaccharides from the mushroom *Scleroderma nitidum* about their possible pharmacological properties. This glucan have shown low activity against *E. coli*, *S. aureus and yeast C.albicans, C. tropicalis* and *C. neoformans*. The anti-inflammatory action was tested in two models. In the sodium thioglycollate-induced peritonitis assay and histamine-induced paw edema. The cytotoxicity of the extract was observed by trypan blue exclusion method. The glucan was efficient in reducing leukocyte influx into the peritoneal cavity at concentrations of 10 and 30 e 50 mg/kg, resulting in a decrease of 35.4%, 34.2% and 13%, respectively. In addition, no citotoxicity effect was observed, even in high concentration. In the histamine-induced paw edema, the glucan (50 mg/kg) exceeded in 26.5% the effect of L-NAME, an inhibitor of nitric oxide synthase. The concentrations of 10, 30 and 50 mg/kg were able to reduce up to 27%, 41% and 78% respectively, the expression of the transcription factor NF-kappa B**.** According to the work permormed, we can affirm that the glucan from *Scleroderma nitidum* have not antimicrobial activity. Moreover, this study suggests their use as antiinflamatory. This glucans have high effect on transcription factor NF-kappa B.

Keywords: *Scleroderma nitidum*, Mushroom, NF-kappa B, glucans Inflammation.

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