

PRELIMINARY STUDIES ON ANTIGOAGULANT ACTIVITY OF A SYNTHETIC SULFATED GLUCAN OBTAINED FROM THE BASIDIOMYCETE *Agaricus blazei*

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Several antithrombotic agents have been used for the prevention and treatment of thrombotic disorders. Heparin has been the most commonly used but, because bleeding and heparin-induced thrombocytopenia represent major side effects of heparin, it is likely that alternative drugs are being sought. Chemical modification of polysaccharides, such as sulfatation, has attracted interest because it enhances the structural similarity to that of heparin. There are innumerable studies that describe that polysaccharides from Basidiomycetes have biological activity, but there are only a few with anticoagulant activity. We have now prepared a sulfated glucan from the native (1,6)-linked β -glucan from the mushroom *Agaricus blazei* ("Cogumelo do sol"). It had a degree of substitution of 1.36, and this was examined to determine its anticoagulant and antithrombotic properties. The *in vitro* anticoagulant properties were evaluated by activated partial thromboplastin (APTT) and thrombin time (TT), using pooled, normal human plasma. The polysaccharide was able to prolong APTT and TT at concentrations at 50 μ g/ml of plasma. Its ¹³C NMR spectrum contained broadened signals when compared with that of the native polysaccharide consistent with high degree of substitution. Methylation analysis is being carried out to determine the position of sulfatation.

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