

ANTICOAGULANT EFFECT OF SULFATED POLYSACCHARIDE FROM THE
BROWN SEAWEED *DITYOPTERIS DELICATULA*

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Fucan is a term used to denominate a family of sulfated L-fucose-rich polysaccharides. In this study we have extracted sulfated polysaccharides from this brown seaweed by proteolytic digestion, followed by separation into 6 fractions (0.5, 0.7, 1.0, 1.3, 1.5 and 2.0) by sequential acetone precipitation. Agarose gel electrophoresis shows that the brown seaweed *Dictyopteris delicatula* contains three main fucans (fucan A, B and C). The chemical analyses demonstrated that all fractions are composed mainly of fucose, mannose, glucose, galactose and uronic acid. The anticoagulant activity of these heterofucans was determined by APPT and PT tests. In the PT test the fractions did not show anticoagulant activity. However, all the fractions showed anticoagulant activity in APPT test. To prolong the coagulation time to double the baseline value in APPT, the required weight of the most potent fraction F1.5 was only 10µg while the low molecular weight heparin Clexane® was 7.8µg. Agarose gel electrophoresis analysis shows that F1.5 is a rich fucan C fraction. The results showed that F1.5 has a pharmacological potential as anticoagulant agent.

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