

STRUCTURE AND ANTICOAGULANT ACTIVITY OF THE PRODUCTS OBTAINED  
BY MILD ACID HYDROLYSIS OF THE SULFATED FUCAN FROM THE BROWN  
ALGA *Laminaria abyssalis*

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Sulfated fucans are extracted mainly from sea urchin and brown algae. The sulfated fucans from invertebrates are composed of repetitive units. In contrast, it is difficult to identify clear repetitive units in the algal fucans. To simplify the structural complexity of the sulfated fucan from *Laminaria abyssalis*, we decrease its molecular size by mild acid hydrolysis due to the absence of specific fucanases. We incubated this compound in a solution of 0.01M HCl at 60°C during 4h, yielding: sulfated oligosaccharides and an acid-resistant fragment. The oligosaccharides were fractionated and they revealed the same NMR-spectra that were less complex than the native sulfate fucan. The acid-resistant fragment shows the same NMR signals of the oligosaccharides but, more intensity in chemical shifts that correspond to residues more sulfated. The oligosaccharides didn't show any anticoagulant action. We observed that as the hydrolysis time proceeds, the anticoagulant activity decreases, but, no significant structural modifications occur. These data suggest that the anticoagulant action of the sulfated fucan from *Laminaria abyssalis* depends mainly by the acid-resistant fragment; however, the oligosaccharides attached to this fragment are important for the complete biological action.