

HETEROFUCAN FROM THE BROWN SEAWEED *DICTYOTA MENSTRUALIS* STIMULATE THE SYNTHESIS OF AN ANTITHROMBOTIC HEPARAN SULFATE BY ENDOTHELIAL CELLS

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Fucan is a term used to denote a family of sulfated L-fucose-rich polysaccharides which are present in the extracellular matrix of brown. Algae fucans have several biological activities, including anticoagulant and antithrombotic activities. We extracted a fucan from brown alga *D. menstrualis* by proteolysis with maxatase enzyme and precipitation by crescent volumes of acetone. Fuc A, obtained after purification with gel permeation chromatography, showed a molar ratio of 1:1:3.6:0.8:1 to fucose, xylose, galactose, glucuronic acid and sulfate, respectively. Fuc A is able to stimulate the synthesis of an antithrombotic heparan sulfate from rabbit aortic endothelial cells in culture of a dose-dependent manner. The binding of fuc A on the endothelial cells was investigated by byotinylation of fuc A (probe). Byotinylation of fuc A link to endothelial cells of a dose-dependent curve. Fuc A was detected bound only to cell extracellular matrix and co-localized with fibronectin by confocal microscopy. These results suggest that fucan A has potential application with an antithrombotic compound.

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