

PURIFICATION AND PRO-INFLAMMATORY EFFECTS OF A SULPHATED POLYSACCHARIDE FROM THE ALGAE *CHAMPIA FELDMANNI*

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Sulfated-polysaccharides (PLS) are carbohydrates that present antithrombotic and anticoagulant activities, besides *in vitro* and *in vivo* effects in inflammatory processes. To purify and investigate the pro-inflammatory effect of a PLS rich fraction from the red marine algae *Champia feldmanni*. PLS was extracted by papain digestion and isolated by ion exchange chromatography (step-wise gradient of 0.5-1.6 M NaCl in 0.1 M sodium acetate buffer, pH 5.0). Fractions were monitored by metachromatic activity and carbohydrate content and eluted with 1.2 M NaCl. Paw-edema and peritonitis were induced in Male Wistar rats (6/group) by local injection of PLS. Paw-edema (0.1, 0.3, 0.9mg/Kg-s.c.) was measured before and from ½-48h thereafter by hydroplethysmometry. Vascular-permeability was evaluated by Evans blue leakage (25 mg/Kg-i.v; 1h before sacrifice). Peritonitis (0.9mg-i.p) was evaluated 1h after stimuli by leukocyte counts. Control animals received sterile saline (s.c./i.p.). PLS induced edema, at all doses, peaking 1h following 0.9mg/kg injection (0.5±0.02mL) against controls (0.17±0.05mL), which was maintained until 48h. PLS at peak, also increased vascular-permeability (from 11.3±1.9µg/g to 38.8±5.6µg/g) and stimulated neutrophil-migration (from 321±71cels/uL to 3500±285cels/uL). PLS showed pro-inflammatory effect in two models of acute-inflammation. This molecule may be suggested as an important immune stimulator tool.

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