HIGH ANTICOAGULANT SULFATED GALACTANS FROM GREEN SEAWEED *CODIUM ISTHMOCLADIUM*

Farias, E. H. C.; Cordeiro, S. L.; Sabry, D. A.; Costa, M. S. S. P.; Santos, N. D.; Marques, C. T.; Leite, E. L.; Rocha, H. A. O.

Departamento de Bioquímica, UFRN

Since the first description of sulfated polysaccharides from seaweeds, these compounds have been tested for biological/pharmacological activities, including anticoagulant activity. We have extracted sulfated polysaccharides from the green seaweed *Codium isthmocladium* by proteolytic digestion, followed by separation into five fractions respectively by sequential acetone precipitation. The chemical analyses demonstrated that all fractions are composed mainly of sulfated polysaccharides. No one fraction demonstred anticoagulant activity by PT test, but all of them showed anticoagulant activity by aPTT test. The agarose gel electrophoresis reveals that only the fraction 0.9 showed a unique band of sulfated polysaccharides, which later was submitted to ion exchange resin and molecular sieving chromatographies. This fraction was eluted in 2,0 e 3,0M NaCl from ion exchange resin and it showed a molecular weight of ~6,4 and ~7,4 kDa respectively. Chemical analyses showed that they are homogalactans. aPPT assays was done with these fractions. The fractions 2,0 and 3,0 NaCl have a potent anticoagulant activity capable to prolong the coagulation to double baseline value with 10µg and 1µg of these fractions respectively. These results suggest that these fractions mainly the 3,0M have a potential application as an anticoagulant drug.

Supported by: CAPES, CNPq, FAPERN.
Key words: anticoagulant activity, galactans, *Codium isthmocladum*