

ANTIPROLIFERATIVE ACTIVITY OF SULFATED GALACTANS FROM GREEN ALGA *Codium isthmocladum*

SABRY, D.A.¹; CORDEIRO, S.L.¹; COSTA, L.S.¹; OLIVEIRA, R.M.¹; LEITE, E.L.¹; ROCHA, H.A.O.¹

Departamento de Bioquímica, Centro de Biociências, Universidade Federal do Rio Grande do Norte, Natal, Brazil.

Sulfated polysaccharides (SP) from green algae are a group of homo and heteropolymers with several biological activities such as anticoagulant, antiviral, antioxidant. However, there are only two reports evaluating their antiproliferative activity with mammal cells. In this study SP from the green algae *Codium isthmocladum* were extracted and fractionated by proteolysis and acetone precipitation. Five fractions were obtained (F0.3V; F0.5V; F0.7V; F0.9V and F1.2V). Agarose gel electrophoresis and chemical analysis showed that all fractions are composed by sulfated heterogalactans. Using human cervical cancer cells (HeLa), human prostate cancer cells (PC3), human promyelocytic leukemia cells (HL60) and human pancreatic carcinoma cells (Panc1) we found F0.5V as the most potent antiproliferative fraction. This fraction was eluted to anion-exchange chromatography (Lewatit) and fractionated in seven fractions (F0.3M; F0.5M; F0.7M; F1.0M; F1.5M; F2.0M and F3.0M). Among them, only F2.0M and F3.0M have shown antiproliferative activity. After 48hrs, F2.0M (1mg/mL) and F3.0M (1mg/mL) inhibited 37,5% and 40% of HeLa proliferation, 19,3% and 30,4% of HL60 proliferation, 27,4%, 27,3% of PC3 proliferation, and 37,9% and 43,1% of Panc1 proliferation, respectively. Chemical analyses have shown that F2.0M and F3.0M are two homogalactans. These results indicate the homogalactans from *Codium isthmocladum* have potential use on anticancer therapy.

Keywords: green seaweeds, homogalactans, tumor cells.

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