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## Antiproliferative Activity from Red Macroalgae *Iridaea cordata*

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**INTRODUCTION** The marine environment is home to a wide diversity of algal species, which can provide a variety of chemical compounds which may have pharmacological properties. The Antarctic continent in particular, due to its isolation and its adverse environmental conditions, induces the adaptation of species living there. Thus, species of macroalgae adapted to Antarctica are able to produce numerous secondary metabolites as a result of environmental stress to which they are subject. This research aimed evaluates the antitumor activity against the malignant tumor Glioblastoma Multiforme, that has a poor prognosis and affects a considerable portion of the world population, of extracts from Rhodophyta *Iridaea cordata* collected at Peninsula Antarctica. **MATERIAL AND METHODS** Extracts with three different solvents (hexane, chloroform and ethanol) was carried out using soxhlet and ultrasound extraction systems in order to extract different kinds of molecules. Rat glioblastoma lineage and astrocytes (non-tumor cells) was exposed to different extracts and the cell viability was assessed by MTT and propidium iodide assay during 24 and 48 hours. The best extract was analyzed by MALDI/TOF-TOF. **RESULTS AND DISCUSSION:** The effect on tumor cells was possible to observe from 10 µg.mL<sup>-1</sup> with accompanying change in morphology and reduced cell growth. The best extract was chloroform by soxhlet system, which was able to inhibit 40 % of tumor cell growth ( $P < 0,001$ ) in 500 µg.mL<sup>-1</sup> after 48 hours of exposure. This extract had a small effect in astrocytes cells when compared with higher proportion observed in gliomas, which inhibited 15 % of growth cells at 250 and 500 µg.mL<sup>-1</sup> after 48 hours of exposure. **CONCLUSIONS:** Therefore, the chloroform extract of red macroalgae *I. cordata* showed antiproliferative activity in glioblastoma cells. Thus, it can be used as a prototype in the synthesis of new drugs, as the high aggressiveness of the cancer and the consequent difficulty in treatment.

**Keywords:** antitumor activity, rat glioblastoma, Rhodophyta, seaweeds

**Acknowledgments:** Ministério da Ciência, Tecnologia e Inovação; Ministério da Defesa; ProAntar; FAPESP; CNPq e CAPES.