Cytotoxic activity of organic extracts from *Ramalina aspera* (lichen) by using Hep-2 cells

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**Introducion**: The neoplastic diseases affect millions of people and the treatment is usually laborious, in many cases with a poor prognosis. The researches of new antineoplastic compounds are extremally relevant. Lichen secondary metabolites are known by its biological activity like antimicrobial, anti-inflammatory, antiviral and also antineoplastic. **Objective**: The aim of this study is to evaluate the citotoxic activity of organic extracts from *Ramalina aspera*. **Material and Methods**: Diethil ether, acetone and chloroform extracts were obtained using a soxhlet apparatus at 60⁰ C and them analysed by thin layer and liquid chromatographic. The cytotoxic activity of the extract on Hep-2 cells line was determinate by using MTT (3-[4,5-dimetilazol-2-il]-2,5-dipheniltetrazolium). **Results and discussion**: TLC analysis revealed usnic and divaricatic acids and atranorin. The HPLC assays confirmed results of TLC and showed the presence of two others compounds, which can be secicaic and homosecicaic acids, according to the retention time. The higher extract activity was found for the acetone extract (IC₅₀ = 3,14 µg/mL⁻¹) followed by the chloroform extract (IC₅₀ = 6,72 µg/mL⁻¹) and ether extract (IC₅₀ = 9,87 µg/mL⁻¹). **Conclusion**: The results indicate the antineoplastic action against Hep-2 cells line is due to one or more detected compounds which may be acting alone or in synergism.

Keywords: organic extracts, tumor cell, lichen substances

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