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Cytotoxic-activity of *Sapindus saponaria* L. fruits on Ehrlich Ascitic Tumor cells

Adriana Lenita MEYER ALBIERO [1]*, Maria Helena SARRAGIOTTO [2], Aparecida FUJIMURA [3] & Elfriede Marianne BACCHI [3]

[1] *Department of Pharmacy and Pharmacology and*
[2]*Department of Chemistry, Universidade Estadual de Maringá, Av. Colombo, 5790 - CEP 87020.900, Maringá - PR, Brazil. 3 Faculty of Pharmaceutical Sciences, Universidade de São Paulo, POB 66083, 05315-970 - São Paulo SP Brazil.*

SUMMARY. ***Sapindus saponaria* L. (Sapindaceae) is a tree of wide distribution in Brazil and its fruits are used by the population against ulcers and inflammations of the skin. The aim of this work was to evaluate the cytotoxic activity of the saponins present in the pulp of the fruits. The pulp of the dry fruits was sequentially extracted by percolation with chloroform, ethyl acetate and ethanol. The dried ethanolic extract was fractioned by column chromatography and one of the obtained fractions was hydrolysed. The obtained fractions, hydrolised or not, were active against *in vitro* Ehrlich Ascitic Tumour (EAT). Oleanolic acid was isolated from the hydrolised fraction.***

RESUMEN. "Actividad citotóxica de los frutos de *Sapindus saponaria* L. sobre las células de tumor ascítico de Ehrlich". *Sapindus saponaria* L., *Sapindaceae* es una planta arbórea de amplia distribución en el territorio brasileño; sus frutos son usadas popularmente para combatir úlceras e inflamaciones de la piel. El presente trabajo tuvo como objetivo evaluar la actividad citotóxica de las saponinas presentes en la pulpa de los frutos. La pulpa de los frutos previamente desecada y molida fue extraída secuencialmente con cloroformo, acetato de etilo y etanol, por el proceso de percolación. El extracto etanólico se evaporó a la presión reducida y el residuo llevado a sequedad fue fraccionado por cromatografía en columna y una de las fracciones obtenidas fue hidrolizada. Las fracciones íntegras y la fracción hidrolizada se probaron *in vitro* contra el Tumor Ascítico de Ehrlich, revelando actividad. Del hidrolizado se aisló el ácido oleanólico.

INTRODUCTION

The fruits of *S. saponaria* L., Sapindaceae, popularly known in Brazil as "sabão-de-soldado" (soldier soap) and "saboeiro" (soap-maker), are popularly used as soap, against ulcers, skin lesions and inflammation [1,2].

The wide occurrence of saponins in nature has evoked considerable interest in their use and considerable data has being accumulated concerning their physiological action and other properties. In general, saponins decrease surface tension and possess emulsifying properties. They tend to alter the permeability of the cell-wall and, therefore, exert general toxicity on all organised tissues [3].

A significant antimitotic activity has been observed in the glycosides and their magnesium salts isolated from *Hedera helix*. These substances inhibit the growth of cells without destroying them and can be used for inhibiting the growth of benign or malignant tumors [4].

Qin *et al.* [5] have studied the saponins of *Aster lingulatus* and isolated two new olean-type triterpenoid saponins, which showed inhibitory activity on DNA of human leukaemia HL-60cells.

Some plants contain large quantities of triterpenes and the physiological function of these compounds is generally believed to be a chemical defense against pathogens and herbivores. It is expected, therefore, that triterpenes should act against certain pathogens causing human and animal diseases [6].

KEYWORDS: Cytotoxic activity, Ehrlich Ascitic Tumor, Sapindaceae, *Sapindus saponaria* L.
PALABRAS CLAVE: Actividad citotóxica, Ehrlich Ascitic Tumour, Sapindaceae, *Sapindus saponaria* L.

* Author to whom correspondence should be addressed.