IN VITRO EVALUATION OF CITOTOXICITY OF TEA OBTAINED FROM ROOTS OF Periandra mediterranea (Vell.) Taub.

Souza, N. C.¹; Melo, S. M. B. ¹; Luz, J. R. D.²; Sampaio, T. B. M. ¹; Jales, F. L. M. L. ¹; Rocha, H. A. O.³; Cruz, A. K. M. ¹,³

¹Departamento de Ciências Biológicas, Universidade Potiguar, Natal, RN, Brazil. ²Departamento de Análises Clínicas e Toxicológicas, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil. ³Departamento de Bioquímica, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil.

INTRODUCTION. The Periandra mediterranea (Vell.) Taub known as “Brazilian Licorice”, is a species of legume rich in triterpenoid and glycosides and popularly used for its anti-inflammatory and expectorant effects. Thus, it has shown interest to research. OBJECTIVE. The objective of this study was to evaluate the cytotoxic activity of tea obtained from roots of Periandra mediterranea by MTT assay.

MATERIAL AND METHODS. After collection, the roots were cleaned, dried and subjected to extraction by decoction in water at 100 °C for 10 minutes, then immediately muffled. Once cold, the material was filtered and lyophilized. The concentration of 0.1, 1, 10, 100 and 1000μg / 100μL were used in test cell lines from 3T3 (Mouse Fibroblast) and tumor cell lines of Hep-G2 (Hepatocellular Carcinoma), HeLa (Cervical Adenocarcinoma) e B16 (Melanoma Cells) at 24, 48 and 72 hours of exposure, by the MTT assay. The absorbance of each well was measured at 540nm in a microplate reader (ELISA). RESULTS AND DISCUSSION. The assessment of tea of Periandra mediterranea in normal 3T3 cell line, showed a significant cells viability at times of 24 and 48, however we observed a small inhibition of 57% in 72h at higher concentration. Regarding the B16 cells, we observed an inhibition from the dose of 10, 100 and 1000μg / 100μL in 72 hours, reaching 90.5%. The Hep-G2 cells showed inhibition 60.4% and 81.7% at a concentration of 1000μg / 100μL in 48 to 72h, Hela cells as observed in the most significant action with 70.5% and 95.9% inhibition at the same concentration and time. CONCLUSIONS. This study suggests that tea extract obtained from the roots of Periandra mediterranea shows cytotoxicity in tumor cells lines used, does not interfere directly in normal cells according to the exposure time and concentration used.

KEY WORDS. Periandra mediterranea, cytotoxicity and cell culture.

ACKNOWLEDGEMENTS. Laureate International Universities