

Genotoxic study of tinctures of *Euphorbiaceae* and *Phyllanthaceae* species †

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† Presented at The Sixth International Meeting of Pharmaceutical Sciences (RICiFa), November 10-12, 2021, Córdoba, Argentina

Received: 26.04.2022; Revised: 4.05.2022; Accepted: 6.05.2022; Published: 8.05.2022

Abstract: In traditional medicine, plants play an important role in health care and disease prevention; their use requires toxicity studies. The species of these families are popularly used for their multiple effects as antioxidants, hypolipidemic, hypoglycemic, diuretic, and rheumatic pains. This work reports the evaluation of genotoxicity (Ames test) of tinctures of *Sapium haematospermum*, *Euphorbia serpens*, *Phyllanthus niruri*, and *Phyllanthus tenellus*. The preparation of leaf extracts was by cold maceration with 70° ethanol for 7 days (tinctures). The assay was performed according to the technique of Maron and Ames (1983) using *Salmonella typhimurium* strains TA100 and TA98. Three concentrations of extracts were evaluated in a range from 125 to 500 µg/plate, and the results were expressed mutagenicity ratio (MR). The obtained mutagenicity ratio values were less than 2 with strains TA98 (MU between 0.96 and 1.2) and strained TA100 (MU between 0.83 and 0,98), showing the absence of mutagenicity of the tinctures against the *Salmonella typhimurium* strains evaluated. These values are encouraging, but further complementary studies are required to corroborate their genotoxic safety and medicinal properties; in the future, they could be incorporated in pharmaceutical preformulations with a view to preventing or combating diseases.

Keywords: Ames test; *Salmonella typhimurium*; tinctures.

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Funding

This research was funded by Research, Science, and Technology Secretary (UNCAUS) PI-124.

Acknowledgments

This research has no acknowledgment.

Conflicts of Interest

The authors declare no conflict of interest.