



Assessment of the cytotoxic, genotoxic, and mutagenic potential of *Acrocomia aculeata* in rats

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ABSTRACT. *Acrocomia aculeata* (Jacq.) Lodd. ex Mart. is a plant species commonly used as a foodstuff and also for treating diseases, since it contains high concentrations of antioxidant compounds and monounsaturated fatty acids. Considering its ethnopharmacological relevance, the aim of the present study was to assess the cytotoxic, genotoxic, and mutagenic effects of an oil extracted from the pulp of *A. aculeata* (OPAC) in rats. In addition, a chromatographic characterization of the fatty acids present in OPAC was performed. Male and female Wistar rats were treated orally with 125, 250, 500, 1000, or 2000 mg/kg/body weight OPAC. The effects of OPAC ingestion were determined by performing the comet assay and micronucleus test. The comet assay data demonstrated that OPAC did not increase the frequency or rate of

DNA damage in groups treated with any of the concentrations assessed compared to that in the negative control group. In the micronucleus test, the animals treated did not exhibit any cytotoxic or mutagenic changes in peripheral blood erythrocytes. The results demonstrated that OPAC did not exhibit cytotoxic, genotoxic, or mutagenic effects in Wistar rats, thereby increasing the evidence for the safety of oil extracted from this plant.

Key words: *Bocaiúva*; Comet assay; Micronucleus test; Oleic acid