Evaluation of the mutagenicity and genotoxicity of *Arrabideae chica* Verlot (Bignoneaceae), an Amazonian plant with medicinal properties

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*Arrabidaeae chica* Verlot (Bignoniaceae) is an important folk medicine plant native to the Amazon region and used to treat anemia, hemorrhage, inflammation, intestinal colic, hepatitis, and skin affections. However, little knowledge about genotoxicity of this plant has been published. This study evaluates the possible mutagenic and genotoxic/antigenotoxic effects of an *Arrabidaeae chica* chloroformic fraction (Ac-CF) obtained from leaves containing bioactive metabolites.

The mutagenic effects were evaluated using the Salmonella mutagenicity assay, with TA98, TA97a, TA100, TA102 and TA1535 strains, with and without metabolic activation. In vivo mutagenic and genotoxic/antigenotoxic effects were investigated using the micronucleus test in bone marrow and alkaline comet assay in blood and liver, after administration of 100, 500 or 1000 mg/kg Ac-CF in CF-1 mice by gavage (once a day for three days). In vitro antioxidant potential was evaluated in DPPH and xanthine/hypoxanthine assays. Ac-CF was not mutagenic in any of the *Salmonella typhimurium* strains tested and showed negative responses for mutagenicity and genotoxicity in mice. Furthermore, Ac-CF showed antigenotoxic effects, decreasing the oxidative DNA damage induced by hydrogen peroxide by over 50 % in blood and liver. The antioxidant action detected in the in vitro assays showed IC$_{50}$ of 0.838 mg/mL in the xanthine/hypoxanthine assay and IC$_{50}$ of 28.17 μg/mL in the DPPH assay. In conclusion, Ac-CF does not present mutagenic and genotoxic effects and is able to protect DNA against oxidative damages in vivo, suggesting low health risks when used for short periods.

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