



# The mutagenic potential of *Clusia alata* (Clusiaceae) extract based on two short-term *in vivo* assays

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**ABSTRACT.** We examined the genotoxic and mutagenic effects of a crude extract of *Clusia alata* (a potential medicinal plant) on peripheral leukocyte and bone marrow cells of mice, using the comet and chromosome aberration assays. Extracts at doses of 1000, 1500 and 2000 mg/kg were administered by gavage, and a positive control, N-nitroso-N-ethylurea (50 mg/kg) was injected intraperitoneally. Peripheral blood leukocytes were collected 4 and 24 h after the treatments for the comet assay, and bone marrow cells were collected 24 h after the treatments, for the chromosome aberration assay. The comet assay showed that *C. alata* extract causes an increase in damage to DNA in the peripheral blood leukocytes, but it was significant only with the 2000 mg/kg dose after 24 h; the extract also induced a small but significant increase in the mean number of chromosome aberrations in the bone marrow cells at doses of 1500 and 2000 mg/kg. No evidence of a significant decrease

in the mitotic index was observed. Acute consumption of high concentrations of *C. alata* extract produced some mutagenic effects in bone marrow cells.

**Key words:** *Clusia alata*; Comet assay; Chromosome aberrations; Single-cell gel electrophoresis