

Mutagenic potential and modulatory effects of the medicinal plant *Luehea divaricata* (Malvaceae) in somatic cells of *Drosophila melanogaster*: SMART/wing

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ABSTRACT. *Luehea divaricata* is a native plant of the Brazilian Cerrado, known as “açoita-cavalo”. It is used as a popular herbal medicine in the treatment of dysentery, bleeding, arthritis, tumors, ulcers, and gangrenous wounds. Considering that herbal medicines sometimes provoke tumors and/or may prevent mutational events, it is important to study the action of these natural drugs on DNA. Aqueous extract of the bark of *L. divaricata* was evaluated at three different concentrations (0.10, 0.30, 0.50 mg/mL), individually and in combination with the neoplastic drug doxorubicin (DXR), by the somatic mutation and recombination test (SMART/wing)

in *Drosophila melanogaster*. Distilled water was included as a negative control. The mutation frequency in the treatments with *L. divaricata* extract alone was not significantly higher than in the negative control for standard (ST) and high bioactivation (HB) crosses. When *L. divaricata* extract was combined with DXR, there was a significant reduction in the frequency of spots when compared to DXR alone, in both crosses. Further studies with other experimental models would be useful to confirm that *L. divaricata* extract is not harmful and that it could be used in the prevention of cancer.

Key words: *Luehea divaricata*; *Drosophila melanogaster*; SMART/wing; Genotoxicity; Anti-genotoxicity