



## *Urera baccifera* – antidepressant-like activity, acute and repeated-doses oral toxicity in mice

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### Abstract:

*Urera baccifera* popularly known as 'urtigão', is a Urticaceae species commonly encountered in Rio Grande do Sul, South Brazil. Pharmacological tests for aqueous extract have shown a relevant analgesic and anti-inflammatory effect of this plant in rats<sup>[1]</sup>. Given the wide variety of chemical constituents with pharmacological potential in Urticaceae family as well the reduced number of publications with *U. baccifera*, this study aims to evaluate the chemical preliminary constituents, antidepressant-like activity and acute and repeated-doses oral toxicity of the *U. baccifera* aerial parts. The preliminary chemical study was carried out in accordance with Harbone<sup>[2]</sup> and the assays of antidepressant-like activity was performed using tail suspension test (TST)<sup>[3]</sup> and forced swim test (FST)<sup>[4]</sup> in mouse treated with methanolic extract. Toxicity studies were based on the OECD guidelines for acute (2.000 mg/kg, p.o) and repeated (50, 250 and 500 mg/kg, p.o) toxicity<sup>[5, 6]</sup>. Results shown that *U. baccifera* (50 mg/Kg, p.o) reduce the immobility time ( $P < 0.001$ ) in mice TST when compared to vehicle group. No significant differences were observed between *U. baccifera* (50 mg/Kg) and positive control fluoxetine (30 mg/Kg). Mice FST showed that *U. baccifera* (50 mg/Kg, p.o.) reduce the immobility time ( $P < 0.001$ ) when compared to vehicle group, and no differences were observed when compared to positive control imipramine (20 mg/Kg). Results of acute toxicity study did not shown any clinical signs changes in behavior or mortality with a single administration (2000 mg/Kg) in 15 days observation. Compared to vehicle group repeated-doses oral toxicity of *U. baccifera* (50, 250 and 500 mg/kg, p.o) results, shown: significant ( $P < 0.05$ ) reduction in the adrenal weight in animals exposed to 250 mg, significant ( $P < 0.05$ ) increase in spleen weight and decrease in the liver weight at 500 mg group, significant ( $P < 0.001$ ) decrease in hearth weight in groups exposed to 50, 250 and 500 groups. No differences were found in kidney, brains and lung weights. Weight gain results show significant difference ( $P < 0.001$ ) between vehicle group and *U. baccifera* (250 mg/Kg). No differences in AST, ALT and urea levels were observed. Significant decreased ( $P < 0.01$ ) creatinine level occurred in *U. baccifera* (50 mg/Kg) compared to vehicle group. In conclusion, *Urera baccifera* demonstrated antidepressant-like activity and can be classified as safe (category 5) in accordance with the OECD acute toxicity parameters.

### References:

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