
**Área: ORG**

# Antidepressant-like effect of fractions of *Aloysia gratissima* var*. gratissima* in Mice

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Palavras Chave: *Aloysia gratissima* var*. gratissima, Tail Suspension, Forced Swim, Natural Products, Immobility*

## Highlights

Sub-chronic (7-day) treatment with the ethyl acetate fraction of *Aloysia gratissima* var*. gratissima* reduced immobility time in forced swimming and tail suspension tests in mice, consistent with an antidepressant-like effect.

## Abstract

Depression is a serious mental disorder affecting more than 3% of the world's population and significantly reducing quality of life. Although pharmacological treatments exist, many patients present adverse effects or poor responses, highlighting the need for alternative therapies from natural products. *Aloysia gratissima* var. *gratissima* (Agg) ethanolic extract was previously assayed and exhibited antidepressant like effect. Also, after acute treatment (3 doses in 24h), the ethyl acetate fraction significantly reduced immobility time in both, Tail Suspension Test (TST) and Forced Swim Test (FST). This study evaluated the antidepressant effect of Agg fractions in mice, after sub-chronic administration. The aerial parts of the plant were extracted with ethanol, and the dried crude extract was partitioned with hexane, dichloromethane, ethyl acetate, and butanol. Groups of male Swiss mice received vehicle, imipramine (32 mg/kg, i.p.), or fractions (0.1 and 1 mg/kg, p.o.) of Agg during 7 consecutive days. Animals were subjected to the TST and FST. Ethyl acetate fraction significantly reduced immobility time in both TST ($p < 0.05$) and FST ($p < 0.001$) while other fractions showed no effect. In conclusion, the ethyl acetate fraction of *Aloysia gratissima* var. *gratissima* showed potential as a source of antidepressant compounds under both acute and chronic administration, justifying further phytochemical and pharmacological investigations.

## Acknowledgments

This research was supported by Consejo Nacional de Ciencia y Tecnología-CONACYT- PARAGUAY, Project PINV01-475.