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New Insight in the Sedative and Anxiolytic Activities of *Amaranthus tricolor* L. Leaves Extract in Mice

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### ABSTRACT

The present study was planned to assess the sedative and anxiolytic efficacy of *Amaranthus tricolor* L methanolic extract *in vivo*. In this experiment, the crude extract of *Amaranthus tricolor* L. was evaluated for its CNS depressant effect using rodent behavioral models, such as open field, hole cross and Rota rod tests for its sedative properties and an elevated plus maze test for its anxiolytic potential, respectively. In sedative assay, a dose-dependent and statistically significant ( $p < 0.05$ ) suppression of locomotor activity of the mice in both open field and hole cross test was exhibited by the extract at a dose of 200 and 400 mg/kg body weight. The extract also displayed increased percentage of entry into open arms at both doses in anxiolytic potential study. At a dose of 400 mg/kg body weight significant anxiolytic activity ( $p < 0.05$ ) was found compared to the standard diazepam. The pivotal CNS depressant and anxiolytic activity of the methanolic extract of *Amaranthus tricolor* L leaves was discovered in this experiment. Further research on the extract's biologically active phytochemicals may provide access to therapeutic intervention

### BIOGRAPHY

**Muhammad Kamal Hossain**, working as Assistant Professor at Department of Pharmacy, Faculty of Basic Medical and Pharmaceutical Sciences, University of Science and Technology Chittagong, Bangladesh. Currently He working as Researcher in ER stress Lab under the Institute of New Drug Discovery and Development, School of Pharmacy, Jeonbuk National University, South Korea. He also engaged with collaborative research work at Department of Neuro Psychopharmacology Department at Sahmyook University, South Korea as a visiting Researcher. His research is mainly focused on Neuroscience, Animal Behavior, Neuro psychopharmacology and Drug Development. At present he working on Alzheimer's Diseases and sleep disorder.

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