



# 10TH INTERNATIONAL VIRTUAL MEDICAL RESEARCH SYMPOSIUM 2026

**ETHICAL RESEARCHER IN THE AI ERA**

## ABSTRACT BOOK



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## Acute Oral Toxicity Evaluation of *Leucaena leucocephala* in Female Sprague Dawley Rats Based on the Organisation for Economic Cooperation and Development Guideline 420

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### ABSTRACT

**Introduction:** *Leucaena leucocephala* (River tamarind) is a fast-growing legume valued as a nutritious ruminant feed. However, it contains mimosine, an antinutritional compound that may be harmful when consumed in excessive amounts. Therefore, this study aimed to determine the acute oral toxicity of *L. leucocephala* leaf extract in female Sprague Dawley (SD) rats. **Materials and methods:** *L. leucocephala* leaves were extracted using the maceration method and the mimosine content were quantified using High-Performance Liquid Chromatography (HPLC). The acute oral toxicity evaluation was performed by following the OECD Guideline 420, which consists of a sighting study and main study. In the sighting study, *L. leucocephala* extract was administered orally in sequential doses of 5, 50, 300 and 2000 mg kg<sup>-1</sup> body weight (BW) with one rat used for each dosage. Each rat was monitored for 14 days for clinical signs of toxicity and mortality. BW, relative organ weight (ROW), liver function tests (LFT), kidney function tests (KFT), and gross pathological assessments were recorded. The main study was conducted using 2000 mg kg<sup>-1</sup> BW, the highest non-toxic dose. Over 14 days, clinical observations, BW, ROW, LFT, KFT, gross pathology, and histological examinations were performed. **Results:** No signs of toxicity or mortality were recorded. Gross pathology, BW, ROW, LFT and KFT showed no significant differences and histology performed showed no signs of organ abnormalities. **Conclusion:** *L. leucocephala* leaf extract demonstrated no acute toxicity and can be categorised as unclassified under the Globally Harmonised Classification System (GHS).

**Keywords:** Acute oral toxicity; *Leucaena leucocephala*; mimosine; OECD 420; Sprague Dawley rats