


Toxicological Evaluations of Smilax myosotiflora Methanol Extract and its Effect on Testosterone Level of Male Rats in Subacute Study

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Abstract

S. myosotiflora A. DC., the horny little devil, is a tropical creeping plant which popularly consumed as a male aphrodisiac, energy booster, and lumbago reliever in the old traditional medicine. The scientific studies showed that the plant able to increase sexual behaviors and testosterone levels in male rats. However, its toxicity effect still remained unknown. Therefore, this study aimed to investigate the toxicity effects of *S. myosotiflora* methanol extract (SMME) through in vitro and in vivo studies. The SMME was subjected to the brine shrimp lethality test (BSLT) to determine the LC50. Acute and subacute toxicity studies according to the Limit Test of OECD guidelines no. 425 and 407 were carried out through oral gavage accordingly. It was found that the LC50 of SMME was 674.4ppm while its LD50 via acute test was more than 5000 mg/kg. Neither sign of toxicity nor significant difference in food intake, weight gain, gross necropsy, hematological and biochemical analyses, and histological evaluation were recorded between the subacute of control and treated groups except the levels of AST and testosterone in male and sodium and triglycerides in female rats. The increase of testosterone in male rats might occur through a specific pathway as the SMME did not increase the hormone level in the female's. According to Globally Harmonized System (GHS) classification, SMME in this study can be classified as Category 5 (Safe) and

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nontoxic. Data from this study can be served as a primary predictive guide for future research in assessing the efficiency and safety of *S. myosotiflora* consumption for human trials. © 2023 Society of Pharmaceutical Sciences of Ankara (FABAD). All rights reserved.

Author keywords

acute; aphrodisiac; BSLT; *Smilax myosotiflora*; subacute; toxicity

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