

POSTER PRESENTATIONS

ACUTE ORAL TOXICITY EVALUATION OF THE M-15 COMPOUND ISOLATED FROM *Centaurea belangeriana* AND A FLAVONOID COMPOUND FROM *Centaurea depressa* IN MICE

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Bioactive compounds isolated from medicinal plants have attracted considerable attention in modern medicine and pharmacology due to their diverse biological activities and therapeutic potential. *Centaurea belangeriana* and *Centaurea depressa* (Asteraceae) are medicinal plant species widely distributed in Central Asia and are recognized as rich sources of phenolic compounds. Therefore, the investigation of the pharmacological activities of these bioactive constituents represents an important and timely area of research with significant potential for the development of novel therapeutic agents.

The acute oral toxicity study was conducted in accordance with the OECD Guideline 420 (2001) using the Fixed Dose Procedure for the assessment of acute toxicity of orally administered substances. The acute oral toxicity of the C.B.M-15 compound and the flavonoid fraction of *Centaurea depressa* was evaluated in laboratory mice to determine the median lethal dose (LD₅₀) and toxicity class in accordance with international safety standards. The experiment was performed on 15 healthy, sexually mature outbred male white laboratory mice (5 animals per group) with a body weight of 20.0 ± 2.0 g. Prior to the experiment, the animals were acclimatized under standard vivarium conditions for 10–14 days at a temperature of 22 ± 3°C, relative humidity of 50–60%, and a 12-hour light/dark cycle. Based on the obtained findings, oral administration of M-15 and the C.d. sample at a dose of 5,000 mg/kg produced transient signs of toxicity in mice approximately 10 minutes after dosing. These signs included increased respiratory rate, clustering behavior, and narrowing of the eyes. The observed effects persisted for approximately 20–30 minutes, after which the animals gradually returned to normal physiological and behavioral conditions. Throughout the 14-day observation period, no mortality was recorded in any treatment group receiving 5,000 mg/kg of either M-15 or the C.d. sample (0/5 deaths). Furthermore, no statistically significant changes in body weight were observed in the treated animals compared with the control group on Days 7 and 14 ($p > 0.05$). These results indicate that the median lethal dose (LD₅₀) of M-15 and the C.d. sample following a single oral administration in mice is greater than 5,000 mg/kg body weight (LD₅₀ > 5,000 mg/kg), suggesting that both substances exhibit very low acute oral toxicity under the experimental conditions.

Based on the findings of the present study, and in accordance with the Globally Harmonized System (GHS) for the classification of chemicals and OECD guidelines, the M-15 compound and the C.d. flavonoid fraction isolated from *Centaurea depressa* were classified as Class VI substances, corresponding to relatively harmless (practically non-toxic) compounds, with an LD₅₀ > 5,000 mg/kg following single oral administration.