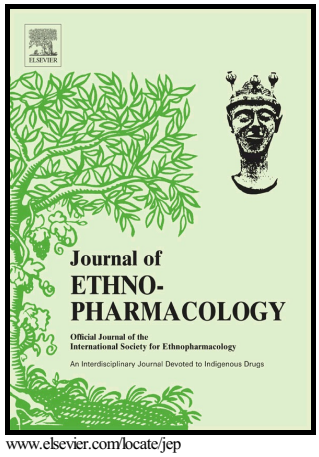

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ABSTRACT

Ethnopharmacological relevance: Euphorbia kansui (EK), a kind of toxic traditional Chinese medicine (TCM), is used in the treatment of edema, ascites and asthma. EK fry-baked with vinegar (VEK) is regularly used to reduce the toxicity in TCM. Previous studies have confirmed that fry-baking with vinegar could significantly reduce the significant gastrointestinal toxicity of EK. The toxic side-effects of EK are closely associated with intestinal tract, but existing research results could not provide practical measures for detoxification in terms of the biological effects of EK fry-baked with vinegar.

Aim of the study: This study aimed to investigate the gastrointestinal toxicity of EK and detoxification of VEK through the regulation of gut microbiota. Thirty male Sprague Dawley (SD) rats were randomly divided equally into 3 groups and received by oral gavage 0.5% CMC-Na (C group), EK (EKC group) or VEK (VEKC group) powder at 680 mg/kg for seven consecutive days.

Results: The ten toxic components in VEK were reduced significantly compared with those in EK. After fry-baked with vinegar, those side effects associated with VEK were significantly relieved in terms of histopathology and inflammatory injury indices of intestinal tissues, liver function and oxidative damage indices. The toxicity of EK might be highly correlated with *Lactobacillus* and *Blautia* genera. In addition, EK