



Cardioprotective Effect of Ethylacetate Extract of *Zanthoxylum acanthopodium* Dc. against Doxorubicin-induced Cardiotoxicity in Rats

Yosua Sihotang^{1*}, Jansen Silalahi², Poppy Anjelisa¹,

¹ Department of Pharmacology, University of Sumatera Utara,
Medan, 20155, Indonesia

²Department of Pharmaceutical Chemistry, University of Sumatera Utara,
Medan, 20155, Indonesia

Abstract: This study was carried out to investigate cardioprotective effect of ethylacetate extract of *Zanthoxylum acanthopodium* DC Lour. fruit (EEZ) against doxorubicin-induced cardiomyopathy in rats. EEZ was prepared by maceration and 300 mg/kg bw as dosage of extract. DOX was administered to rats at dose of 20 mg/bw through intraperitoneal route for two days. Cardioprotective effect was evaluated by measuring biomarkers troponin T (cTnT), CK-MB levels and histopathology of rat's heart tissue was examined. Result of phytochemical screening of extract was found to contain alkaloids, flavonoids, tannin, glycosides, and saponin. DOX raised cTnT and CK-MB levels and were counteracted by administration of vitamin E, rutin, and EEZ. Histopathological analysis of rat's heart tissue resulted in myocytolysis with congestion of blood vessels, pyknosis, cytoplasmic vacuolization and fragmentation. Concomitant treatment with vitamin E, rutin, and EEZ revealed normal muscle fiber. This results suggest that EEZ has cardioprotective effect.

Keywords: *Zanthoxylum acanthopodium* DC, vitamin E, rutin, cardioprotective effect.