Acute and sub chronic oral toxicity study of Antangin Fit in rats and its immunostimulatory activity

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Antangin Fit is Indonesian herbal medicine syrup which containing: *Zingiber officinale, Phyllanthus niruri, Curcuma domestica, Blumea balsamifera*, honey, and *Menthae piperitae* oil. This study was conducted to evaluate the acute and sub chronic oral toxicity of Antangin Fit in rats and the immunostimulatory activity in mice. The acute toxicity study was conducted on 50 Wistar rats, divided into 4 treatment groups and 1 control. The Antangin Fit syrup with dose of 4.7, 7.52, 12.03, and 19.25 mL kg⁻¹ was administered as a single dose orally. Each animal was observed for the first 24 h and continued for 14 days. There were no significant toxic effects and no death observed until the end of the study, showed that the lethal dose 50% (LD50) of Antangin Fit was > 19.25 mL kg⁻¹. The subchronic toxicity study was conducted on 80 Wistar rats. The Antangin Fit syrup with doses of 4.7, 9.5, and 19.25 mL kg⁻¹ day⁻¹ for each treatment group were administered for 90 days orally. There were no significant toxic effects observed at all dose. The immunostimulatory activity was observed on the ability of macrophage to stimulate phagocytic activity and secretion of Reactive Oxygen Intermediates (ROI), and lymphocyte proliferation on 80 male Swiss mice. The Antangin Fit syrup at dose of 18.36 kg⁻¹ day⁻¹ stimulate nonspecific phagocytic activity of normal mouse peritoneal macrophages. Phagocytic and production of ROI by peritoneal macrophages and lymphoproliferative response also increase during *Listeria monocytogenes* infection. These findings indicated the immunostimulatory activity of Antangin Fit.