

Evaluation of Antioxidant Activity *in vivo* and *in vitro* Methods of *Punica Granatum* Linn.(Pomegranate) (Tha-Lae) Seeds

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Abstract

The present research work deals with the screening of antioxidant activities from *Punica granatum* Linn. (Pomegranate) (Tha-Lae) seeds. *In vivo* antioxidant of 95% ethanol and aqueous extracts were studied by determining their effect on serum malondialdehyde (MDA), a biomarker produced from lipidperoxidation, in CCl₄ induced rats model using thiobarbituric acid reactive species (TBARS) assay method. After 7-days treatment of ethanol and aqueous extracts in 400mg/kg body weight dose found that it reduced 37.69% and 38.86% of serum MDA respectively. Study on *in vitro* antioxidant activity test, aqueous and ethanol extracts were used by 1,1, Diphenyl -2-Picryl – Hydrazyl (DPPH) free radical scavenging assay on compare with commercial antioxidant vitamin C. The antioxidant power of ethanol extract (IC₅₀=0.98mg/mL) and aqueous extracts (IC₅₀= 0.94 mg/mL) were more than that of vitamin C (IC₅₀= 1.85mg/mL). According to this acute toxicity test, there was no acute toxic effects occurred in edible fruit seeds and they could be used safely.

Key words: Pomegranate, antioxidant, TBARS assay, DPPH assay, MDA

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