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The Acitivity of Kersen Flower Extract (*Muntingia calabura* L) as Antioxidant and Inhibitor of Xantin Oxidase Enzyme Against Uric Acid In Vitro

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ABSTRACT

Kersen flower (*Muntingia calabura* L.) can be used as an alternative medicine as it contains active compounds including flavonoids and tannins which have high antioxidant activity and can inhibit the activity of the xanthine oxidase enzyme. This study purposed to examine the antioxidant activity and inhibitory activity of Kersen flower extract on the xanthine oxidase enzyme in vitro. Extraction was carried out using the maceration method, where antioxidant activity was determined by the DPPH free radical scavenging method using UV-Vis spectrophotometry at a wavelength of 515 nm with gallic acid as the comparison. Whereas, the xanthine oxidase inhibitory activity was tested using a UV-Vis spectrophotometer at a wavelength of 266.40 nm with a pH of 7.5 and an incubation temperature of 30°C with allopurinol as the comparison. The results showed that the methanol extract of kersen flower had an IC₅₀ value of 9,271 µg / mL, and it inhibited the xanthine oxidase activity in vitro with an IC₅₀ value of 58.662 µg/mL. The conclusions are kersen flower (*Muntingia calabura* L.) has very strong antioxidant activity and successfully inhibited xanthine oxidase in vitro.

Keywords: *Muntingia calabura* L., antioxidant, DPPH, Xanthine Oxidase