

**Curcuminoid Contents, Antioxidant and Anti-Inflammatory Activities of
Curcuma xanthorrhiza RoxB. and *Curcuma domestica* Val. Promising Lines
From Sukabumi of Indonesia**

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ABSTRACT

The main bioactive substances in the rhizomes of *Curcuma xanthorrhiza* and *Curcuma domestica* that have efficacy as antioxidant and anti-inflammatory activities are curcuminoids. In this study, ethanol extracts of *C. xanthorrhiza* and *C. domestica* promising lines from Sukabumi of Indonesia were investigated for the presence of curcuminoids, antioxidant and anti-inflammatory activities. HPLC method was used to determine curcuminoids content. The antioxidant (radical scavenging) potential of the samples was evaluated using 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical method. While for the anti-inflammatory activity, the *in vitro* cyclooxygenase 2 (COX2) inhibition method was used. The curcuminoid content of *C. xanthorrhiza* and *C. domestica* were 31.27 and 66.32 mg/ g, respectively. IC₅₀ values for DPPH radical scavenging activity were 81.99 and 73.31 µg/ mL, with *C. domestica* having lowest value and most potent than *C. xanthorrhiza*. Percent inhibition values for COX2 inhibitor activity were 74.84 and 67.96 %, with *C. domestica* having the highest value. In this study, the ethanol extracts of *C. domestica* promising line from Sukabumi of Indonesia exhibited most in curcuminoids content, antioxidants properties and anti-inflammatory activity than *C. xanthorrhiza* promising line.

Keywords: Curcuminoid, Antioxidant, Anti-Inflammatory, *Curcuma xanthorrhiza*, *Curcuma domestica*, Promising line