

Diversity of Endophytic Bacteria in the Rhizome of Temulawak (*Curcuma xanthorrhiza* Roxb.)

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ABSTRACT

Temulawak (*Curcuma xanthorrhiza* Roxb.) is Indonesian medicinal plant that have many bioactive compounds. Some of them have a potential to be used for anti-diabetic and anti-hiperlipidemic. Some plants generating bioactive natural products have associated with endophyte microbes that are assumed to produce the same natural products. Temulawak from Bogor were used as the source material for the isolation of endophytic bacteria. Rhizomes were surface-sterilized by using ethanol and sodium hypochlorite prior to the isolation of endophytic bacteria. Extract of rhizomes were incubated on Humic acid vitamin B (HV) agar media. Bacterial colonies were purified on NA (Nutrient agar), while actinomycetes colonies were purified on ISP 2 (International *Streptomyces* Project no.2). Twenty isolates were obtained and characterized based on microscopic colony morphology, Gram stain, and endospore forming cell. Thirteen isolates belonged to Gram positive bacteria, while seven isolates showed Gram negative. Seven isolates were coccus shaped, nine were rod shaped with three of them produce endospore, and four were filamentous.

Key words: *Temulawak*, *endophytic bacteria*, *diversity*.