

ABSTRACT

PHARMACOGNOSTIC STUDY OF RHIZOME AND ANTIMICROBIAL ACTIVITY FROM ESSENTIAL OIL *Alpinia galanga* L RHIZOME

Utami Khoerunnisa

Alpinia galanga belongs to Family Zingiberaceae. The Zingiberaceae is among are widely distributed throughout the tropics particularly southeast Asia. The rhizome has been used as a traditional medicine in China for relieving stomach ache, treating cold. In addition, its rhizome and flowers are popular additions to Asian cuisine. The young rhizome of galangal are often used in Thai cooking for their pungently sweet, peppery, ginger-like flavor. The essential oils and extracts of greater galangal rhizome have been studied extensively and have been proven to exhibit antifungal, antimicrobial, antiamoebic and antioxidant activities.

Morphology and anatomy data were obtained through macroscopic and microscopic characteristic observation. The result showed macroscopic dimension, length 7-12 cm(s); weight 2-3 cm(s); shape cylindrical; present rootlets and then microscopic they are epidermis; cortex; starch; vascular bundle, endodermis, sclerenchym bundle; secretion cell consist of essential oil. The phytochemical screening shows the presence of flavonoid and terpenoid in *Alpinia galanga* L. The physicochemical value are water soluble substances (33.1228± 0.6608) %, alcohol soluble substances (16.9611± 0.3599) %, the yield of essential oil 0.35 %v/b, loss on drying (14.3990 ± 0.1720) %, ash value (7.5285± 0.1623) %, ash insoluble acid (2.9255± 0.1157) %, ash soluble water (2.9720± 0.0328) %. Antimicrobial activity of essential oil showed to inhibit *Staphylococcus aureus* and *Candida albican* with MIC value 0.06% v/v and 0.093% v/v.

Keyword (s) : *Alpinia galanga* L, morphology & anatomy, phytochemical screening, physicochemical constant, antimicrobial activity.