UNIVERSITI TEKNOLOGI MARA

STUDIES ON THE ANTI- INFLAMMATORY ACTIVITIES OF *Kaempferia galanga* EXTRACTS (RHIZOMES AND LEAVES) IN RATS

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ABSTRACT

Kaempferia galanga, family Zingiberacae is commonly known as '*cekur*' in Malay and is widely distributed throughout Malaysia and other Southeast Asian countries. The aim of the present study was to evaluate anti-inflammatory effect of ethyl acetate extract of *Kaempferia galanga* leaves and rhizomes using rats. Inflammation was induced by intraplantar (ip) administration of freshly prepared (0.1 ml) carrageenan in normal saline into the right paw of the rats. In this study, the optimum concentration of carrageenan induced edema was determined. The results showed that the optimal carrageenan concentration to induce edema was 1%. Aspirin and corn oil were used as controls. Aspirin was used as a positive control as is a potent anti-inflammatory agent. The extract of *Kaempferia galanga* at all doses for both the rhizomes and leaves did not produce significant when the extract was given for treatment and for prophylaxis.

CHAPTER 1

INTRODUCTION

Kaempferia galanga, or cekur, is a plant from the family Zingiberaceae. It is thought to be a native to China and India, is now cultivated quite widely in Malaysia and other Southeast Asia countries. It is a herbaceous plant with fleshy rhizomes. The plant parts used are the rhizomes and leaves (Kanjanapothi *et al,* 2004).

Kaempferia galanga is an ingredient of many Ayurvedic drug preparations, while the aromatic essential oil from the rhizome is valuable to perfumery (Choochote, 1999). In Malaysia, the rhizome of cekur is mixed with oil for use externally to healing wounds and is applied warm on rheumatic regions. A lotion prepared with the rhizome is used to remove dandruff or scales from the head. The powdered rhizome mixed with bees' honey is given for coughs and pectoral ailments. The plant is also used to flavour food and is also widely used in cosmetics (Mustafa *et al.* 1996). Choochote (1999) reported that the hexane fraction of *Kaempferia galanga* has larvicidal and repellent activities against *Culex quinquefasciatus* and *Aedes aegypti* and provided biting protection for 3 hours in the laboratory. The authors also reported that *Kaempferia galanga* demonstrated less toxicity and did not cause dermal irritation when applied on human skin

Anti-inflammatory effect refers to the property of a substance or treatment that reduces inflammation. Inflammation is the normal body response to tissue damage characterized by pain, redness, edema and heat. Redness and heat result from vasodilation and increased blood supply while edema results from leakage of plasma into the area (Marilyn *et al.* 2004).