UNIVERSITI TEKNOLOGI MARA

A PRELIMINARY STUDY ON THE EFFECT OF *ETLINGERA ELATIOR* (JACK) EXTRACT ON URIC ACID CONCENTRATION IN WHITE MALE RATS

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TABLE OF CONTENTS

ABSTRACT

Nowadays, the use of traditional medicine is increasing rapidly. The belief that the herbs' components can treat or prevent diseases has encouraged the new generation to trust on the beneficial effects of the active ingredients contained within nature's packages. However, scientific evidence on the therapeutic effects of the plants was very scarce. Therefore, researches were carried out to evaluate the effects of the potential plants that would be beneficial in order to confirm the claimed traditional plants have desired pharmacological effects. The methanol–water (50:50) mixture extract of *Etlingera elatior* were used for the experiment. The effects of hydroalcoholic extracts of the leaves of *E. elatior* on the serum uric acid level were investigated using the white male Sprangue Dawley rats pre-treated with the uricase inhibitor, potassium oxonate, as an animal model of hyperuricemia. Allopurinol was use as a reference drug to compare the effects with this respective extract. When the extracts were intraperitoneally administered at dose of 25, 50, 100 and 150 mg/kg, the extracts does not significantly reduce the serum uric acid level in rat, respectively. On the other hand, allopurinol showed to reduce the serum uric acid level when compared with *E. elatior* extract. The hydroalcoholic extract of the leaves of *E. elatior* showed no significant reduction in serum uric acid level in white male Sprangue Dawley rats.

CHAPTER 1

INTRODUCTION

1.1 Background

Gout is a common disease with a worldwide distribution and it continues to be a health problem despite availability of reasonably effective treatments (Gerald, 2006). Gout is one of the most well-described disease since the fifth century BC. Hippocrates once first described gout as "king of diseases" (Star & Hochberg, 1993). Gout is becoming more common probably because of the growing consumption of carbohydrates increased the prevalence of obesity and hyperinsulinism, which are associated with underexcretion of uric acid in urine. Gout is currently the most common cause of inflammatory arthritis in men more than 40 years of age and is frequently encountered in clinical practice (Kim et. al, 2003).

Gout is related to the deposition of monosodium urate monohydrate crystals within the joints. When serum urate levels are permanently maintained under 6 mg/dL, the crystal deposits dissolve and consequently the patient remains free of clinical manifestations. When dietary treatment is not sufficient to reach this target, urate-lowering drugs must be used also.