

**UNIVERSITI TEKNOLOGI MARA**

**TOXICITY STUDIES OF *LABISA PUMILA* SUPPLEMENT  
ON FEMALE WISTAR RATS**

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## ABSTRACT

*Labisia pumila* (*L. pumila*) also called Kacip Fatimah, is a herbal medicine that has been widely used since ancient times. However, toxicity study of *L. pumila* is still lacking. This study was principally designed to determine the effect of acute (14 days) and sub-acute (28 days) administration of *L. pumila* supplement provided by Bioalpha International Sdn. Bhd. on female Wistar (WI) rats. Ten WI rats ( $150 \pm 25$  g) were divided equally into 2 groups ( $n=5$ ) in acute study while forty-two WI rats ( $145 \pm 20$  g) were divided equally into 7 groups ( $n=6$ ) in sub-acute study. In acute study, the treatment group was administered with a single dose of 2000 mg/kg of *L. pumila* extract once at the first day of treatment while in sub-acute study, treatment group was administered with different dosage of 50 mg/kg, 250 mg/kg, 500 mg/kg and 1000 mg/kg of *L. pumila* extract daily within 28 days. Based on this study, the result showed *L. pumila* extract is relatively safe at doses below 2000 mg/kg prior to human consumption because no obvious toxicity found in female WI rats for both acute and sub-acute studies.

Keywords: *L. pumila*, Wistar rats, acute study, sub-acute study

## CHAPTER 1 INTRODUCTION

### 1.1 Background

Malaysia are well known for its rainforest biodiversity that rich with many herbs. Malaysian herbs have been widely used as traditional medicine since more than 4000 years ago (Mahady, 2005; Othman, Mukhtar, Ismail, & Chang, 2014). Herb is a substance of plant origin is used either for culinary or medicinal purpose (Beale, 2011). Phytochemical investigation of herbs can give us insights on a huge a number of natural products that may give chemical library for drug discovery process (Ding et al., 2014). Examples of popular Malaysian plants are *Andrographis paniculata* (hempedu bumi), *Eurycoma longifolia* Jack (tongkat ali), *Orthosiphon stamineus* (misai kucing), *Phyllanthus niruri* (dukung anak) and others (Jamal, 2006). The use of therapeutic herbs are mostly to act as health tonic and sometime use to treat diseases (Maiti, Nagori, Singh, Kumar, & Upadhyay, 2011). These herb are usually eaten raw as salad, cooked or boiled to get the extracts of the herbs (Othman et al., 2014). Another popular herbs plant that is still being commonly consume is *Labisia pumila* (*L. pumila*).

According to Abdullah and colleagues (2013), *L. pumila* is a scientific name for Kacip Fatimah herb medicine. Since the past century, *L. pumila* have been traditionally used by many generations of Malays as health tonic for female reproductive system (Chua, Lee, Abdullah, & Sarmidi, 2012). Researches have shown that *L. pumila* can