

**UNIVERSITI TEKNOLOGI MARA**

**BIOLOGICAL AND CHEMICAL STUDIES ON THE  
ETHYL ACETATE SOLUBLE FRACTION OF  
AQUEOUS EXTRACT OF *OCTOMELES*  
*SUMATRANA***

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## ABSTRACT

*Octomeles sumatrana* is a large tree that can be found in the dense forest. There were not much study has been carried out on this plant and very few articles were published on *Octomeles sumatrana*. The wood is usually used to make furniture. *Octomeles sumatrana* was selected for this study due to the medicinal properties of this tree which have long been used as traditional folk medicine. This study was done to investigate the biological and phytochemical constituents present in the bark of *Octomeles sumatrana*. Several steps were done in order to accomplish the objective. Several methods were used in order to complete the objective. The searching for suitable solvent system to separate the compounds in the sample is done using thin layer chromatography (TLC) method. The next step is detection of compounds in the sample by using high performance liquid chromatography (HPLC). For the biological study, MTS assay was performed to measure cytotoxic effects of ethyl acetate soluble fraction of aqueous extract of *Octomeles sumatrana* on the cells and DPPH test is done as an early measurements of its antioxidant properties.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of study

Plenty of plants are used as raw materials for treatment of many diseases. Many plants are used traditionally to treat some diseases long time ago before being investigated clinically. Some are not yet been investigated clinically, but still been used as a traditional medicines. There are a number of biologically active compounds in plants that are responsible to give its medicinal effect in human upon consuming, such as flavanoids, tannins, alkaloids and quinones. Researchers and scientists all over the world, including in Malaysia, has never stop researches and investigations on plants to reveal all their contents. These are all done to find the active ingredients in the plant that can be used in treating diseases such as cancers, viral infections and diabetes, or also can be used as supplements as to increase health conditions. Example of plants that has been investigated to have therapeutic action is the Big - flowered Java tea or as known as Misai kucing, which was used traditionally as diuretics and its usage is approved after being investigated clinically. The study on phytochemistry of natural products has become more important nowadays since the findings in the study can be used as the basis for biotechnology development.