

**ANTIOXIDANT ACTIVITIES OF TRADITIONAL  
MEDICINAL PLANTS FROM LAURACEAE FAMILY  
IN SARAWAK**



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Dear Professor,

**FINAL RESEARCH REPORT “ANTIOXIDANT ACTIVITIES OF  
TRADITIONAL MEDICINAL PLANTS FROM LAURACEAE FAMILY IN  
SARAWAK”.**

With reference to the above, I am pleased to submit three copies of the Final Research Report entitled, “Antioxidant Activities of Traditional Medicinal Plants from Lauraceae Family in Sarawak”.

Thank you.

Yours sincerely,



**CONSTANCE CHIN**  
The Leader  
Research Project

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## ABSTRACT

This study aims to determine the antioxidant properties of traditional plants from the Lauraceae family in Sarawak. Twenty selected plants from the Lauraceae family were collected from various mixed dipterocarp forests located in the Kuching and Samarahan Districts of Sarawak. Their antioxidant activities were evaluated on the methanolic extracts using the DPPH (2,2-Diphenyl-1-picrylhydrazyl ) assay as described by Bors et al. (1992). The findings indicated a large variation in the antioxidant activity of which ranged from 14.1 to > 500 µg/mL with a mean value of 184.1 µg/L. Amongst all the tested methanol extracts of the plant samples, the bark of *L. grandis* (EC<sub>50</sub> value of 14.1 µg/mL) exhibited remarkable antioxidant activity when compared to vitamin E (EC<sub>50</sub> value of 13.8 µg/mL) and quercetin (EC<sub>50</sub> value of 11.7). In addition, the methanolic extracts of the roots of *L. accedens* var *oblanceolata*, the leaves of *Dehaasia longpetiolata* and the bark of *Beilschmiedia pulverulenta* showed EC<sub>50</sub> values of less than 30 µg/mL.

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

Plants have been traditionally used worldwide for the treatment of diseases, and novel drugs continue to be developed through research. Fransworth (1994) noted that about 60% of the world's population relies almost entirely on plants for medicinal purposes. The World Health Organisation reported that of the 119 plant-derived pharmaceutical medicines, about 74% are used in modern medicine in ways that correlate directly with their traditional uses as plant medicines by nature cultures. Today, approximately 25% of all prescription drugs are still derived from trees, shrubs or herbs (Farnsworth, Akerele, Bingel, Soejarto & Guo, 1985).

Located in Southeast Asia, Malaysia is blessed with natural biodiversity that has yet to be fully utilised. Realising the vast medicinal potential that lies in the tropical forest of Malaysia, much effort has been put into research and development to make full use of this gift of nature. The bio resources are known to be important sources of bioactive components with health, nutritional and pharmacological properties. Malaysia is one of the 12 mega diverse resources of natural products in the world, thus the area of natural products is of great interest to the country. However, the research on higher plants as a natural source of drugs is still largely unexplored. There are 12,000 species of flowering plants of which about 1,300 of these species have been reported to