

**UNIVERSITI TEKNOLOGI MARA**

**ANTINOCICEPTIVE AND ANTI-INFLAMMATORY  
PROPERTIES OF THE AQUEOUS EXTRACT OF  
*Lignosus Rhinocerus***

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## ABSTRACT

A lot of researches are done to develop new synthetic drugs. However the synthetic products have many side effects that mostly affect the pediatrics and the geriatrics. Due to these unwanted side effects, recent studies have been shifted to emphasize more on natural products. *Lignosus rhinocerus* has been utilized by traditional folks for several traditional claims such as for the treatment of cold, flu, cough, asthma and even cancer. Due to the fact that *Lignosus rhinocerus* grows wild in Malaysia and that adequate studies have not been carried out to explore the pharmaceutical benefits of this plants, we decided to evaluate and establish some of the basic pharmaceutical properties of *Lignosus rhinocerus*. The aim of this study is to evaluate and determine the antinociceptive and anti-inflammatory properties of aqueous extracts of *Lignosus rhinocerus* (AELR). The antinociceptive and anti-inflammatory property of AELR was examined using three different assays namely the abdominal constriction test, hot plate test, and formalin test. In the abdominal constriction test, 100% AELR showed significant effect on the peripheral antinociceptive mechanism. It was also shown that hot plate test produce positive outcome towards the central antinociceptive assay. Interestingly the effect in formalin early phase test was also inhibited by AELR. These present results demonstrated that the AELR was found to exhibit antinociceptive property via central and peripheral mechanism. In addition it was found that the late phase of formalin test was blocked by AELR which be the evidence for the anti-inflammatory property. Furthermore both antinociceptive and anti-inflammatory effects of AELR showed concentration independent activity. It was proven that aqueous extracts of *Lignosus rhinocerus* have the antinociceptive and anti-inflammatory properties.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introductory paragraph

This Introductory paragraph will look at the definitions of nociceptive and antinociceptive. This chapter will also provide the statement of the problem, the objective of this research, the significance of the study, the research question, hypothesis, and information of *Lignosus rhinocerus* or also known as Kulat Susu Harimau.

#### 1.1.1 Definition of Nociceptive

Nociceptive can be defined as condition describing nerves fibers, endings, or pathways that are concerned with the condition of pain (Oxford Concise Medical Dictionary).

#### 1.1.2 Definition of Antinociceptive

Anti-nociceptive is the substance or known as the treatment of relieving pain (Anonymous 2000).