

UNIVERSITI TEKNOLOGI MARA

**WOUND HEALING PROPERTIES OF MARINE
ENDOPHYTIC FUNGI EXTRACTS ON SPRAGUE-
DAWLEY RATS.**

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ABSTRACT

Burn wound that is mainly caused by heat can cause damage to the skin if it happens to be in contact with. Second degree burn wounds will cause damage to the papillary and reticular dermis. Previous study had shown that the marine endophytic fungi have a potent antimicrobial and anti-cancer properties. However, some research were conducted on the extracts and their potential in wound burn wound healing. Thus, in this study the potential of three marine endophytic fungi extracts on second degree burn wound healing was investigated. Marine endophytic fungi were isolated from the three different species of seaweed namely *Gracilaria coronopifolia* (CN), *Gracilaria arucata* Zannardini (MV) and *Acanthophora spicifera* (ED1). Circular second degree burn wounds were created on the dorsal region of rats and treated with positive control (silver sulphadiazine, SSD), negative control (Tween 20) and the marine endophytic fungi methanol extracts (CN, MV and ED1). The fastest rate of healing was observed for the CN extract ($80.2 \pm 2.01\%$) as compared to other groups. This finding represent the first reported investigation of 2nd degree burn wound healing marine endophytic fungi extracts. Marine endophytic fungi extracts have a potential as an alternative for burn wound healing agent.

CHAPTER 1

INTRODUCTION

1.1 Background of study

Wounds are the disruption of functional continuity of cells and tissues at site of injury, which is caused by insults to the tissue sites by physical, chemical, microbiological or immunological processes. Wounds can be the lead causes of physical disabilities (Ghosh & Gaba, 2013). Whereby healing is a survival mechanism and represents an attempt to maintain the normal anatomical structure and function (Samaneh Ghasemi Fard, 2011). Humans and all animals have the capabilities of healing wounds through continuous tissue repair and tissue regeneration. However, these capabilities can be impaired by several factors such are age, stress, health and immunity conditions, severity and types of wound and others (Ghosh & Gaba, 2013; Guo & DiPietro, 2010). To avoid such physical disabilities, the treatment given must ensure that it minimizes the unfavorable effects (Samaneh Ghasemi Fard, 2011).