

UNIVERSITI TEKNOLOGI MARA

**ANTIMICROBIAL ACTIVITY OF ENDOPHYTIC
FUNGAL EXTRACTS (11-L1A, 11-L3, 11-S3)**

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ABSTRACT

The main objective of this project is to identify fungal strains producing biologically active secondary metabolites. The study was performed by growing and extracting endophytic fungal isolates and determining the antimicrobial activity of these isolates for three different conditions (agar, broth static and broth shaking). Three fungal strains (11-L1A, 11-S3 and 11-L3) were cultivated and the cultivation is repeated until pure cultures were obtained. Mycelium from the pure cultures were subjected to the extraction process by using two solvents which is ethyl acetate and butanol. The pure extracts obtained were subjected to antimicrobial assay by using disc diffusion method. Several bacteria and fungi have been used to test against the extracts and the result had been recorded. Data on the fungi (microscopic images) and extracts were collected for their inclusion in a database developed at the Faculty of Pharmacy, UiTM.

CHAPTER 1

INTRODUCTION

1.1 General introduction

Nature has been a source of numerous medicines for treating various types of diseases in humans and animals for many years (Chin, Y. W., 2006, Berdy, J., 2005). It continues to be an abundant source of novel bioactive compound. With only five to fifteen percent of the approximately 250,000 species of plants systematically investigated, less than one percent of bacterial and five percent of fungal species are currently known, and the potential of novel microbial sources, particularly those found in extreme environments, seems unbounded (Cragg, G. M., 2005).

Natural products are naturally-derived metabolites and byproducts from microorganisms, plants, or animals. These products still play role in therapeutics either as active ingredient or as a source for synthesis or design of the agent. A universally used medicinal agent is aspirin, which is related to salicin, having its origins in the plant genera *Salix* and *Populous* (Cragg, G. M., 2005). In recent years a renewed interest in obtaining biologically active compounds from natural sources has been observed.