

UNIVERSITI TEKNOLOGIMARA

**MICROBIAL TRANSFORMATION OF
FUNEBRENE**

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ABSTRACT

Microbial transformation studies are vital to gain understanding the bioactivities of a new compound. Biotransformation has many advantages because it is easy to conduct, cheaper as well as promoting green chemistry. This study reviews α -funebrene, an interesting compound to undergo biotransformation process. α -funebrene is classified into group of sesquiterpenes which known as a naturally occurring substance. Biotransformation was observed on these two fungi; *Absidia Coerulea* and *Beauveria Bassiana*. The extraction was done after incubation of α -funebrene with the fungi at time course of day 5 and day 10. The extracts were then analysed through High Performance Liquid Chromatography (HPLC) with Diode Array Detector (DAD). Among these two fungi, extractions chromatogram profile of *Absidia Coerulea* shows more promising results compared to *Beauveria Bassiana*.

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Safety evaluation of a compound is a mandatory before proceed with human use. Safety and efficacy of an active principle should be assessed through bioactivities and metabolic studies. In order to administer foreign compound into human, it needs to metabolise either to be active metabolites or inactive metabolites. This study offers a better understanding of a compound that could involve in biotransformation.

In microbial transformation, fungi are chosen to be its foods. From history, microbial transformation is being proposed in 1974 when scientists found microorganisms able to perform same metabolism reactions in human (Duran & Elena, 2000). Probably this is because fungi and human cells are belonged to eukaryotic cells. Similar behaviour of cell consists of identical enzyme systems which then yield similar metabolites through biotransformation. Therefore, presently,