UNIVERSITI TEKNOLOGI MARA MALAYSIA

EFFECT OF CO-CULTIVATION OF SELECTED FUNGAL ENDOPHYTE WITH OTHER MICROORGANISMS DURING THE SECONDARY METABOLITES PRODUCTION

SITI ROHAIZAH BT OTHMAN
2006875873

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ABSTRACT

3PR3 is an endophyte fungal that was use in this experiment for culturing with selected microorganisms (HAB10R12, *Red Actinomycetes*, MB14, Seaweed and B20P). B20P discontinued from this experiment because contamination occured even repeating three times. High Performance Liquid Chromatography (HPLC) is performed by eluting on silica-packed column under pressure; by pumping mobile phase acetonitrile (ACN). Up to 3mL/min, the column particle size packing material (stationary phase). Antimicrobial testing by using sample of *Escherichia coli* and *Candida albicans* were collected and recorded.

CHAPTER 1

INTRODUCTION

1.1 General Introduction

Natural products traditionally have participated as significant role in drug discovery and were the "root" of most early medicines. Over the last few years advances in alternative drug discovery methods such as rational drug design and combinatorial chemistry have placed great pressure upon natural product drug discovery programs and during this period most major pharmaceutical companies have ended or considerably scaled down their natural product operations. However, despite the promise of these alternative drug discovery methods, there is still a shortage of lead compounds progressing into clinical trials. This is especially the case in therapeutic areas such as oncology, immunosuppression, and metabolic diseases where natural products have played a central role in lead discovery (Butler, 2005).

Microorganism was can not live alone. Fungi are the decomposer and can obtain their own nutrients from other living organism. Their growth in influenced by humidity, sunlight, and heat. Disease causing microbes that have been resistant to drug therapy are an increasing public health problem. In spite of the availability of effective drugs and vaccines, the battle against infectious diseases is far from over. Not only they continue to cause a large number of infections and deaths, particularly in developing countries, but the emergence and spread of antimicrobial resistance is now threatening to