UNIVERSITY TEKNOLOGI MARA

TLC Profiling of Malaysian Herbs

MUHD IZZAT BIN ISHAK

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This research project is done to fulfill the requirement for the subject PHM 555 (Research Instrumentation) for part 7 students Bachelor of Pharmacy Universiti Teknologi Mara Malaysia. The purpose of this subject is to develop skills for students on how to make a research on certain topic and how to present it in official way. The main purpose of the research is to develop a profile of Malaysian herbs using thin layer chromatography (TLC).

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ABSTRACT

Malaysian traditional herbs have been used for years by Malay old folk to treat various diseases. There are interests from certain party to develop drug based Malaysian herbs. however there is lacks of techniques to validate this plants. The purpose of this study is to develop chromatogram using thin layer chromatography to produce Malaysian herbs own chromatographic profile. The chromatogram then can be used to do quality control to validate product that claims to contain extracts of Malaysian herbs.

The sample and extraction of plants has been done by the PHM555 students from year 2007. From the extracts thin layer chromatography is carried out to produce the best chromatogram by determining the best solvent system to successfully separate chemical components of Malaysian herbs on the TLC plate.

CHAPTER 1

INTRODUCTION

Malaysian traditional medicine (TM) has a long therapeutic history over years and is currently still serving many of the health needs of some peoples especially the people live in rural part of Malaysia. However, despite its existence and continued use over many years, traditional medicine has not been officially recognized in Malaysia and most countries. Consequently, education, training and research in this area have not been accorded due attention and support. The quantity and quality of the safety and efficacy data on TM are far from sufficient to meet the criteria needed to support its use worldwide. The reason for the lack of research data is mostly due to lack of adequate or accepted research methodology for evaluating TM [1]. Current existing approaches for quality assessment can not fulfill the practical requirements of the safety and efficacy of traditional medicine. One of these reasons might be that, unlike a chemically synthetic drug of high purity, a TM or its formula may consist of hundreds of complex phytochemicals and many of them are in low amount. Moreover, there usually exists variability within the same herbal materials. As a result, it becomes very difficult or impossible in most cases to identify most of these components and obtain reliable chromatographic fingerprints that represent pharmacologically active and chemically characteristic components is not an easy or trivial work. Fortunately, chromatography offers very powerful separation ability, such that the complex chemical components in TM extracts can be separated into many relatively simple sub-fractions.