

CHAPTER I

INTRODUCTION

Pueraria mirifica, a well-known Thai herb as White Kwao Krua has turned the world interests into commercialized development of the plant products in various forms. One problem initiated from this event was related with the quality control of the plant materials and products.

According to a large-scale survey of the distribution and diversity of the plants since 1998, at least 29 provinces are confirmed to be the existing habitat of the plants (Cherdshewasart unpublished data). A lot of studies have been submitted to evaluated for the quality of such a wide distributed wild species including, antioxidant test, evaluation for IC₅₀ by Brine Shrimp and MCF-7 test, anti-elastase test and HPLC fingerprint.

Analysis of the plant active ingredients by HPLC is an accepted analytical method for herbal material used in preparation of traditional medicines, dietary supplements, plant extract as well as cosmetics. Thus this method has been adapted for studying the diversity of Thai *P. mirifica*.

Besides, *Butea superba*, known as Red Kwao Krua and *Mucuna collettii*, known as Black Kwao Krua are becoming a great interest for commercialized development also. The 2 plants showed a promising development of anti-erectile dysfunction products as well as applications for animal feed industry. *B. superba* is widely distributed while *M. collettii* is limited distributed. Application of HPLC fingerprint could help evaluate for diversity of the wild plants as well.

Aims of the studies are as follows:

1. To establish a practical and reliable HPLC analytical conditions for active ingredient assay in *P. mirifica*.
2. To evaluate the diversity of active chemicals in *P. mirifica* in term of HPLC fingerprints in relation to available commercial markers with the investigated factors including location, climatic, genetics and differentiation of the plants.



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