

**STUDY ON THE TECHNOLOGY OF EXTRACTION OF THE
BIO-ACTIVE CONSTITUENTS AND THE METHOD OF QUALITY
CONTROL OF *RHIZOMA CHUANXIONG***

ABSTRACT

Szechwan Lovage Rhizoma is the dried rhizome of *Ligusticum chuanxiong* Hort. Chuanxiong is one of the traditional Chinese medicine. Chinese medicine which has the actions of promoting blood flow and *qi*, dispersing wind and relieving pain. Clinically, it is always used for the treatment of menstrual disorders, amenorrhea, dysmenorrhea, various types of pain such as abdominal pain, pricking pain in the chest and costal regions and pain due to traumatic injury, swelling, headache and arthritis.

Modern research usually concentrate on the pharmacological activity of the active crude extracts of Chuanxiong and their clinically use. However, chemical compositions and their therapeutic effects are rarely reported. Therefore, it is essential to find out the active ingredients which match with its therapeutic uses, and use them as the markers for the quality control of Chuanxiong.

The research was divided into two aspects – extraction of active ingredients and study of the quality control methods for Chuanxiong. The new methods could be set as reference standards for quality control of

Chuanxiong.

In the extraction of active components, ASE was used to extract three active ingredients, ligustrazine, ferulic acid and Z-Ligustilide in Chuanxiong. Different conditions were studied in order to optimize the extraction methods. Finally, the results obtained from ASE were compared with the traditional extraction methods for Chuanxiong.

In the active ingredient analysis, HPLC and GC-MS were used. Optimized conditions were studied for both methods and protocols were set. Then, 14 species of Chuanxiong with various origins were analyzed with the GC-MS protocol. Finally, fingerprints of Chuanxiong were established. All the studies show that GC-MS method is accurate, reproducible, easy to use and quick for the quality control of Chuanxiong with various origins.

Key words: Rhizoma chuanxiong, ligustrazine, ferulic acid, z-ligustilide, ASE, HPLC, GC-MS, quality evaluation