

## DETECTION AND EXTRACTION PROCESS OF CHLOROGENIC ACID FROM *TARAXACUM OFFICINALE*

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### Abstract

Chlorogenic acid is a phenolic compound with antibacterial, antioxidant and antiviral effects. At present, the research on extraction of chlorogenic acid mainly focuses on natural products such as *Eucommia ulmoides* and honeysuckle. The *Taraxacum officinale* is more widely distributed and produces. However, there were few studies on extraction technology of chlorogenic acid from *Taraxacum officinale*. The aim of this research was to investigate detection and extraction process of chlorogenic acid from *T. officinale*.

*Taraxacum officinale* was used as the materials, and high performance liquid chromatography (HPLC) was used as a reference method to determine the content of chlorogenic acid in the extract solution. And its extraction process was optimized by orthogonal experimental design method.

The results showed that the HPLC detection method of chlorogenic acid from *Taraxacum officinale* was 5% methanol elution condition 0 ~ 5 min., 5 - 15% methanol elution condition 5 ~ 15min , 15 - 5% methanol elution condition 15 ~ 20min., 5 % methanol elution condition 20 ~ 25 min., and the buffer salt was 1‰ phosphoric acid aqueous solution, and the wavelength was 350 nm. The method was stable and reliable. The extraction technology of chlorogenic acid was researched from multiple factors, the best parameters of the technology were obtained that the ultrasonic temperature is 80 °C, the solid-liquid ratio is 1 : 30, the solvent concentration is 50%, and the ultrasonic time is 40 min., then the extraction rate can reach 1.921%.

This study obtained the detection method and optimized the extraction process of chlorogenic acid in *Taraxacum officinale*, and it provided a research basis for the development and utilization of *Taraxacum officinale* medicinal value.

**Key words:** *Taraxacum Officinale*, Chlorogenic Acid, High performance liquid chromatography, Orthogonal, Ultrasonic extraction.