

# Identification of *Panax ginseng* C. A. Meyer and *Panax quinquefolium* L. in Market

WEN-HUI CHEN, FANG-SU LIU, CHI-FANG LO AND JER-HUEI LIN

Division of Research and Analysis

## ABSTRACT

*Panax ginseng* C. A. Meyer and *P. quinquefolium* L. (Araliaceae) are widely used in Chinese medicine as a remedy for a long time. Because of the morphological similarities and analogous chemical composition of *Panax* species, alternatives and adulterants were found and reported in literatures. In order to identify the botanical origins of commercial Ginseng Radix (*P. ginseng*) and Panacis Quinquefolii Radix (*P. quinquefolium*) in Taiwan, 93 samples, purchased from market, were distinguished from authentic materials by morphology, microscopy, TLC (thin layer chromatography), UPLC (Ultra Performance Liquid Chromatography) and PCR-DNA sequencing.

The results showed that 11 (23%) out of 47 Panacis Quinquefolii Radix samples were *P. ginseng*, all of 46 Ginseng Radix samples (100%) were correct. Based on the results, the adulteration of Panacis Quinquefolii Radix in market is very serious.

Key words : *Panax ginseng*, *Panax quinquefolium*, pharmacognosy, ginsenoside R<sub>g1</sub>, R<sub>b1</sub>, R<sub>e</sub> and R<sub>f</sub>, UPLC, PCR-DNA

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