

# Identification of *Arctylodes Rhizoma* by Pharmacognosy and Determination of Atractylodin by UPLC

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## ABSTRACT

The botanical origin of *Arctylodes Rhizoma* is dried rhizome of *Arctylodes lancea* (THUNB.) DC. and *Arctylodes chinensis* (DC.) Koidz. Because of the morphological similarities of *Arctylodes* species, alternatives and adulterants were found and reported in literatures. In order to identify the botanical origins of commercial *Arctylodes Rhizoma* in Taiwan, 50 samples, purchased from market, were examined and compared with authentic materials by morphology, microscopy and thin layer chromatographic analysis. Identification approaches were thus established in this study and applied to identify botanical origins of samples. The results showed that all of 50 samples (100 %) were *Arctylodes Rhizoma*.

Atractylodin in crude drugs and Chinese medicinal preparations was examined by Ultra Performance Liquid Chromatography. Samples were analyzed on a 1.7  $\mu\text{m}$  ACQUITY BEH  $\text{C}_{18}$  reversed phase column with a gradient elution using varied proportion of water and acetonitrile as mobile phase and monitored at 330 nm. Regression equations revealed the linear relationship with correlation coefficients of 0.9994 and 0.9998 between the peak-area ratios of atractylodin to internal standard and concentration of atractylodin in crude drugs and Chinese medicinal preparations, respectively. The relative standard deviations of atractylodin ranged between 0.852~0.962%, 0.471~0.534% (intraday) and 0.964~1.369%, 0.708~1.562% (interday), respectively. The contents of the atractylodin in 50 crude *Arctylodes Rhizoma* samples were 0.062~0.388%, while in 10 Chinese medicinal preparations of *Arctylodes Rhizoma* were 0.024~0.229%.

**Key words:** *Arctylodes Rhizoma*, atractylodin, Chinese medicinal preparations, UPLC