

ANALYSIS OF THREE LUPANE TYPE TRITERPENOIDS IN *HELICTERES ANGUSTIFOLIA* BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY

Yoe-Ray Ku (顧祐瑞)^{a,b}, Jer-Huei Lin (林哲輝)^b, Kuo-Liang Lu (盧國樑)^{a,c}
Li-Kang Ho (何禮剛)^d and Yuan-Shiun Chang (張永勳)^a

^a*Institute of Chinese Pharmaceutical Sciences, China Medical College*

^b*National Laboratories of Foods and Drugs, Department of Health, Executive Yuan,*

^c*Chung Hwa Institute of Technology*

^d*Department and Institute of Pharmacology, National Yang-Ming University*

Kang-chih-ma (崗脂麻) is the dried roots and stems of *Helicteres angustifolia* (Sterculiaceae) and a commonly used folk herbal drug in Taiwan. It possesses antidotal, analgesic, anti-inflammatory and antibacterial effects and is known as a kind of tumor inhibitory plant. To evaluate the quality of *H. angustifolia*, a simple, rapid and accurate high-performance liquid chromatographic (HPLC) method was developed for the assay of three lupane type triterpenes: 3 β -acetoxy-27-benzoyloxylup-20(29)-en-28-oic acid methyl ester (methyl helicterate), 3 β -acetoxy-27-benzoyloxylup-20(29)-en-28-oic acid, 3 β -acetoxy-27-(p-hydroxyl)benzoyloxylup-20(29)-en-28-oic acid methyl ester. The HPLC system uses an Inertsil ODS-2 column by gradient elution with acetonitrile and water as the mobile phase and detected at UV 230 nm. Regression equations revealed good linear relationships (correlation coefficients: 0.9922-0.9997). The relative standard deviations of these three constituents ranged between 0.51-3.92 % (intraday) and 2.05-4.82 % (interday). The contents of these three constituents of the heartwood and the bark of the roots of *H. angustifolia* in five different samples have also been determined.