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Analysis of Aristolochic Acids in Chinese Drugs by High Performance Thin-Layer Chromatography (HPTLC). A rapid and reliable HPTLC method was developed based on a TLC procedure published by the DAC[1]. It allows the visual detection of aristolochic acids (AA) with certainty at very low levels (400 pg of AA I/A absolute) in plant material and can therefore be used for screening of Chinese drugs to ensure their safety based on absence of AA. At least 5 AA are detected in *Aristolochia spp.* The method is suitable for establishing and documenting adulteration of *Stephania* raw material with less than 1% of *Aristolochia fangji*. The method is very specific and sensitive. Using scanning densitometry quantitative determination of AA can be performed at low concentrations (< 0.1 ppm) Validation data (ICH) including specificity, linearity, LOD, precision and accuracy is presented. The performance of the method is discussed based on a comparison to the HPLC - MS method investigated by FDA[2]. Qualitatively *Stephania tetandra* can be distinguished from various *Aristolochia spp., Asarum spp.* and other drugs, with similar Chinese names based on fingerprints.

HPTLC analysis is presented as a very useful complementary technique to the more sophisticated procedures used in legal cases.

[1] Deutscher Arzneimittel-Codex (DAC), **DAC-Probe 7, Prüfung auf Aristolochiasäure in pflanzlichen Drogen.** 2002, www.govi.de, dac@govi.de

[2] Flurer R, Jones M, Vela N, Ciolino L, Wolnik K: **Determination of Aristolochic Acid in Traditional Chinese Medicines and Dietary Supplements.** DFS/ORO/ORA, No. 4212. USFDA Forensic Chemistry Center, Cincinnati, Ohio