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## The method development for pyrrolizidine alkaloids in plant material by liquid chromatography mass spectrometry

Hye-Young Park, Sheen Hee Kim, Seung a Jeong and Gil Jin Kang  
Ministry of Food and Drug Safety, South Korea

Pyrrolizidine alkaloids (PAs) are toxins present in many plants belong to the families of *Asteraceae*, *Boraginaceae* and *Fabaceae*. PAs are secondary plant metabolites with carcinogenic and genotoxic properties. The toxins in comfrey include PAs and their N-oxides, which are generally the predominant natural form of PAs. The purpose of this study is to develop the LC-MS/MS method for the analysis of PAs in plant material. Mass spectral acquisition was done in the positive or negative ion mode applying multiple reactions monitoring for PAs. The results indicated that the solvent mixture of 0.05 M sulfuric acid in 50% methanol was the best compromise for extracting the analytes from food supplements. The estimated recovery rates at spiking levels 1 to 10 µg/kg ranged from 78.4 to 116.6% with relative standard deviations <25%. The applicability of this method will be used in the chromatographic determination test of PAs to analyze plant material and its products in Korea.

### Biography

Hye-Young Park is a Research Scientist at National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety, South Korea.

phy797@korea.kr

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