

3<sup>RD</sup> GLOBAL SUMMIT ON

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### Pharmacokinetics, tissue distribution and excretion of gallic acid and protocatechuic acid after oral administration of *Polygonum capitatum* extract in rats

A sensitive, reliable and accurate HPLC-MS-MS method was developed and validated for the quantification of Gallic Acid (GA) and Protocatechuic Acid (PCA) in rat plasma, tissue and excretion. A single-step protein precipitation by acidic acetonitrile was used to prepare samples. GA, PCA and bergenin (internal standard, IS) were separated by using a  $C_{18}$  column and a mobile phase consisted of acetonitrile and water containing 0.1% formic acid running at a flow rate of 0.2 ml/min for 10 min. Detection and quantification were performed using a mass spectrometer by the Multiple-Reaction Monitoring (MRM) in positive electrospray ionization mode. The optimized mass transition ion pairs (m/z) for quantitation were [M+H]<sup>+</sup> 169.181→125.268 (GA), 152.918→109.244 (PCA) and 326.922→192.167 (IS), respectively. After oral administration of 0.36, 1.08 and 2.16 g•kg<sup>-1</sup> of *Polygonum capitatum* extract, respective values of pharmacokinetic parameters for GA and PCA were: t<sub>1/2</sub> 1128.52/42.81, 93.72/90.15 and 114.70/49.80min, C<sub>max</sub> 245.98/11.90, 477.20/24.66 and 805.76/31.04 ng•ml<sup>-1</sup>. Linear pharmacokinetics was established based on high correlation coefficients ( $\gamma > 0.90$ ) of pharmacokinetic parameters. The results of tissue distribution showed that GA mainly distributed in kidney, lung and liver, while PCA mainly distributed in kidney and lung. Less than 23.08% and 19.39% prototype of GA and PCA, respectively, were excreted from urine and feces path indicating that GA and PCA are extensively metabolized in rat.

### Biography

Xin Zhou has completed her PhD from West China School of Pharmacy, Sichuan University. She is currently the Director of Guizhou Engineering Laboratory for Quality Control & Evaluation Technology of Medicine, a premier herbal medicine quality control service organization. She has published more than 150 papers in reputed journals and has been serving as an Editorial Board Member of reputed.

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