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Urine metabolomics study on unilateral ureteral obstruction induced renal fibrosis in rats and intervention effects of total aglycone extracts of *Scutellaria baicalensis*

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Renal fibrosis (RF) is the final common pathological process to chronic renal failure caused by various kidney diseases. In the present study, we investigated effects of Total Aglycone Extracts of *Scutellaria baicalensis* (TAES) on some RF closely related parameters in unilateral ureteral obstruction (UUO) rats, and a urine metabolomics method, based on gas chromatography-mass spectrometry (GC/MS), was developed to monitor metabolic alterations. In the metabolomics study, the metabolic perturbations induced by UUO were reversed based on pattern recognition analysis and different metabolites associated with RF were identified. Ontology-based enrichment analysis by BiNChE aids in the interpretation of difference metabolites and relevant disturbed pathways were extracted by MetPA analysis. Our findings indicate that TAES have positive effects on UUO-induced RF in rats, meanwhile, metabolomics method coupled with metabolites enrichment analysis is useful to reveal the pathogenesis of diseases and action mechanism of medicine on the whole body.

Biography

Yongyu Zhang got his degree of PhD of Pharmacy in Meiji Pharmaceutical University, Tokyo, Japan in 2000, and now works as a Doctoral supervisor in Shanghai University of Traditional Chinese Medicine, Shanghai, China. In addition, he works as the adjunct Research Fellow of research center for drug metabolism, Shanghai Institute of Pharmacology, Chinese Academy of Sciences and the jury of the National Natural Science Funds of China. He also has been authorized two US patents and has published more than 40 SCI papers.

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