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UPLC-Q-TOF/MS-based screening and identification of the main alkaloids and their metabolites in rat plasma,urine and feces after oral administration of *Zanthoxylum nitidum* decoction

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Zanthoxylum nitidum (Roxb.) DC (Rutaceae), called Liangmianzhen in China, is used traditionally for several medicinal purposes. Its pharmacological effect have been primarily attributed to the presence of a number of alkaloids. However, due to lack of metabolism research, its main bioactive alkaloids *in vivo* is still unknown. A systematic method based on ultra-performance liquid chromatography/quadrupole-time-of-flight mass spectrometry (UPLC-Q-TOF/MS) technique combined with MetabolitePilot software was developed to speculate the metabolites and excretion profiles of the main alkaloids in *Zanthoxylum nitidum* decoction in rats plasma, urine and feces samples after oral administration of the decoction. As a result, 6 parent components and a total of 18 metabolites of 3 main alkaloids including magnoflorine (MF), α-allocryptopine (AC) and skimmianine (SA) were tentatively detected *in vivo*. All metabolites were detected including hydroxylated, demethylated, ketonization products and their sulfate and glucuronide conjugates. 11 metabolites were from the rat plasma, 14 from the urine and 8 from the feces. Among them, metabolites of AC and SA were reported firstly. In conclusion, the research provided useful information for further study of the pharmacology and mechanism of action of *Zanthoxylum nitidum* decoction *in vivo*.

Biography

Weiwen Chen obtained his PhD in cell biology in 1988 from the Xavier-Bichat Medical School, Université Paris Diderot-Paris 7, France. He is currently the Vice Principal of Guangzhou University of Chinese Medicine. His research interests focus on curing gastric-intestinal diseases using integrated traditional Chinese and western medicine, as well as on novel drugs R & D. He has published more than 100 papers in reputed journals.

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