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Differential systemic exposure to galangin after oral and intravenous administration to rats

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Galangin (3,5,7-trihydroxyflavone) is present in high concentrations in *Alpinia officinarum* Hance. It shows multifaceted *in vitro* and *in vivo* biological activities. The number and position of hydroxyl groups in this molecule play an important role in these biological activities. In order to clarify the exposure of galangin after oral and intravenous administration to rats, two LC-MS/MS methods were developed and validated and successfully applied to analyze the parent drug molecules and aglycones liberated from plasma samples via β-glucuronidase hydrolysis. Our major findings were as follows: The routes of administration showed significant influences on the systemic exposure of galangin and its metabolites; galangin was preferentially glucuronidated after p.o. dosing but sulfated after i.v. medication; kaempferol conjugates were detected demonstrating that oxidation reaction occurred; however, both glucuronidation and sulfation were more efficient and; oral bioavailability of free parent galangin was very low. The results showed that systemic exposure to galangin and its metabolites was different in rat plasma between oral and intravenous administration. Further research is needed to characterize the structures of galangin conjugates and to evaluate the biological activities of these metabolites.

Biography

Junqing Zhang has completed his MD at 2013 from Nanjing University of Chinese Medicine. She is the Dean of the College of Pharmacy, Hainan Medical University. She has published more than 25 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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