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医学研究

UPLC/Q-TOF MS鉴定人参皂苷Rh2在大鼠体内的代谢产物

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摘要

关键词

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Metabolism Investigation of Ginsenoside Rh2 in Rat Using UPLC/Q-TOF MS

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Abstract An ultra-high-performance liquid chromatography/quadrupole time-of-flight mass spectrometry (UPLC/Q-TOF MS) was used for the identification of metabolites in rats after oral administration of ginsenoside Rh2. The plasma, bile, urine and feces samples were collected after single oral administration of 50 mg•kg^{-1} Rh2 to rats. The samples were prepared by protein precipitation with acetonitrile. After comparison with the blank samples, identification of the metabolites and their structural elucidation were performed by investigating their accurate mass data, and product ion spectra obtained from positive and negative ion detection mode using MSE data collection function(where E represents collision energy). The results reveal that the major metabolic pathways of Rh2 include deglycosylation, oxygenation, desaturation and sulfate conjugation. Protopanaxadiol is detected in rat feces. Neither parent compound nor metabolites are found in rat urine. Glutathione adduct of Rh2 is found as one of the major metabolites in rat bile, and cysteine-adduct metabolites are detected in feces. These results are helpful for the understanding of Rh2 metabolism in rat.

Key words ultra-high-performance liquid chromatography/quadrupole time-of-flight mass spectrometry (UPLC/Q-TOF MS) ginsenoside Rh2 metabolite

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