ONLINE ISSN : 1348-2246
PRINT ISSN : 0910-6340

Analytical Sciences
Vol. 26 (2010) , No. 7 p.749

[PDF (336K)] [References]

Development of a UPLC-ESI-MS/MS Assay for 20(*S*)-Protopanaxadiol and Pharmacokinetic Application of Its Two Formulations in Rats

Meihua HAN[1)], Jing CHEN[2)], Shilin CHEN[1)] and Xiangtao WANG[1)]

1) Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences & Peking Union Medical College
2) Engineering Research Center of Natural Anticancer Drugs, Ministry of Education, Life Science and Environment Science Research Center, Harbin University of Commerce

(Received February 25, 2010)
(Accepted May 6, 2010)

An ultra-performance liquid chromatography-electrospray tandem mass spectrometry (UPLC-ESI-MS/MS) method was developed to investigate 20(*S*)-protopanaxadiol (PPD) pharmacokinetics in rats. Rat plasma samples were treated using a solid-phase extraction with satisfactory recovery (> 81%). The method showed an excellent sensitivity that the limit of detection (LOD) and the lower limit of quantitation (LLOQ) of PPD were 0.5 and 2 ng/mL, respectively. The method was applied to the evaluation of pharmacokinetics from two types of PPD formulations. The PPD emulsion showed more rapid and efficient drug absorption, and higher and more persistent plateau concentration of PPD in plasma than PPD oil solution. PPD emulsion was demonstrated to be a promising dosage form. In spite of lower plateau plasma drug concentration, PPD oil solution was characterized by the easiness in preparation and the persistent, durative plateau plasma concentration of PPD, there is room to further improve its bioavailability.

[PDF (336K)] [References]

Download Meta of Article[Help]
RIS
BibTeX

doi:10.2116/analsci.26.749
JOI JST.JSTAGE/analsci/26.749