Ling Huang, J Anal Bioanal Tech 2016, 7:5(Suppl)
http://dx.doi.org/10.4172/2155-9872.C1.025

Assessment of Feng-Liao-Chang-Wei-Kang as a potential inducer of cytochrome P450 3A4 and pregnane X receptors

Ling Huang
Hainan Medical University, China

Feng-Liao-Chang-Wei-Kang (FLCWK) is a traditional Chinese patent medicine that mainly consists of *Daphniphyllum calycinum* roots and *Polygonum hydropiper*. As a complex containing several types of flavonoids, FLCWK has potential effects on the drug metabolism enzyme P450 3A4(CYP3A4) and nuclear receptors. This study aims to explore the effects of FLCWK on CYP3A1 (CYP3A4's homolog in rats) in rats and to determine whether FLCWK could participate in the processes of hPXR- and hCAR-mediated transactivation of CYP3A4. The effects of FLCWK on CYP3A1 mRNA, protein expression and catalytic activity levels in Sprague-Dawley(SD) rat liver tissues were detected using real-time PCR, western blotting and high-performance liquid chromatography (HPLC) assays. The effects of hPXR and hCAR on CYP3A4 transcriptional activity were examined using luciferase reporter gene assays. Futher study of FLCWK on the *CYP3A4* gene expression mediated by PXR pathway was investigated by transient transfection of PXR siRNA. This study found that FLCWK could significantly increase the *CYP3A1* mRNA gene and protein expression levels and CYP3A1 activity in SD rats. In PXR-CYP3A4 co-transfected cells, FLCWK could significantly induce CYP3A4 luciferase activity mediated by PXR. PXR-knockdown (transfected with siPXR construct) decreased the CYP3A4 mRNA level than in the control cells transfected with corresponding vector. Taken together, these findings suggest that FLCWK could significantly up-regulate CYP3A4 levels via the PXR-mediated pathway. This effect should be taken into consideration to predict any potential drug-drug interactions between FLCWK and other co-administered drugs.

Biography

Ling Huang has completed her PhD from School of Pharmacy of Sun Yat-sen University. She has published more than 10 papers in reputed journals and has been serving as an Editorial Board Member of repute.

puer6@163.com

Notes: