



Simultaneous Determination and Pharmacokinetics of Several Components in Danqi Soft Capsule by UPLC-TQ MS

Ying CUI^{1,3} #, Xiaojun GU² #, Yanxia MO² #, Feng GAO³,
Ying PANG³, Liu HONG⁴, Donglai ZHU⁴ * & Jian YANG⁵

¹ School of Biological Technology, Xi'an University, Xi'an 710065, PR China

² Ningbo Entry-Exit Inspection and Quarantine Bureau Technology Center, Ningbo 315211, PR China

³ Xiyuan Hospital of China Academy of Chinese Medical Sciences, Beijing 100091, China

⁴ Key Laboratory of Tobacco Chemistry of Yunnan Province,

China Tobacco Yunnan Industrial Co., Ltd, Kunming 650231, China

⁵ Institute of Chinese Materia Medica, Academy of Chinese Medical Sciences, Beijing 100700, China

SUMMARY. A simple, rapid and sensitive UPLC-TQ MS method for Simultaneous determination tanshinol, salvianolic acid B, tanshinone IIA, cryptotanshinone, ginsenoside R1, ginsenoside Rb1, and ginsenoside Rg1 in rat plasma was developed. Sample preparations were carried out by protein precipitation with acetonitrile, followed by the evaporation of the acetonitrile to dryness. The recovery, stability, inter- and intra-day precisions and accuracy for all samples were satisfactory. The method was applied to the pharmacokinetics study of these analytes after oral administration of DanQi soft capsules which is a new dosage form of DanQi formula to rats.

RESUMEN. Un método simple, rápido y sensible de UPLC-TQ MS para la determinación simultánea de tanshinol, ácido salvianólico B, tanshinona IIA, cryptotanshinone, ginsenosido R1, ginsenosido Rb1 y ginsenosido Rg1 en plasma de rata. Las preparaciones de muestra se llevaron a cabo mediante precipitación de proteínas con acetonitrilo, seguido de la evaporación del acetonitrilo a sequedad. La recuperación, estabilidad, la seguridad y la precisión inter- e intradía para todas las muestras fueron satisfactorias. El método se aplicó al estudio farmacocinético de estos analitos en ratas después de la administración oral de las cápsulas blandas DanQi, que es una nueva forma de dosificación de la fórmula DanQi.

KEY WORDS: active components, DanQi soft capsules, method validation, pharmacokinetics, UPLC-TQ MS.

These authors contributed equally to this work.

* Author to whom correspondence should be addressed. E-mail: qqqtqqq@163.com