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Author: Mr. Bo Chen  
China, M16A2128@sina.com

Ms. Lin Gan  
China, ganlin.margaret@gmail.com

Dr. Yujuan Li  
China, liyujuan@bit.edu.cn

Dr. Xiaoqiong Li  
China, lixiaoqiong@bit.edu.cn

Prof. Fengyuan Zhuang  
Beihang University, China, zhuangfy@buaa.edu.cn

Mr. Yulin Deng  
Beijing Institute of Technology, China, deng@bit.edu.cn

COMPARATIVE STUDY ON PHARMACOKINETICS AND BIOAVAILABILITY OF LOUREIRIN B  
IN RATS UNDER NORMAL GRAVITY AND SIMULATED WEIGHTLESSNESS**Abstract**

Loureirin B is an effective compound extracted from Dragon's blood which shows great protective function in nervous and cardiovascular systems against radiation and weightlessness existing in space environment. In this paper, male SD rats were tail-suspended for 21 days to simulate weightlessness and pharmacokinetic profile and bioavailability of loureirin B were firstly studied using this model. A fully-validated LC-MS/MS method with rhein as internal standard was subjected to determine the concentration of loureirin B in rat plasma. Two peaks appeared in the concentration-time curve in simulated weightlessness condition. AUC<sub>0-t</sub> and C<sub>max</sub> significantly decreased in model group indicating great reduction of loureirin B absorption. Meanwhile, tail-suspension dramatically reduced the elimination rate constant (0.115 and 0.074 1/h for control and model group, respectively) and prolonged the biological half-time (6.098 and 9.918 h for control and model group, respectively). Bioavailability of model group (0.26%) showed a notable decrease compared with control group (0.51%) which might be due to the less absorption. In conclusion, simulated weightlessness could affect the disposition of loureirin B in rats.