Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **32** (4): 606-9 (2013)

Short communication
Received: January 31, 2013
Revised version: February 7, 2013
Accepted: February 7, 2013

Comparison of Cultured Hepatocytes Results with Human Liver Microsomes (HLMs) for the Glucuronidation Elimination of Zidovudine (AZT)

Hang SONG [1#], Yong TAO [2#], Cheng-Zhi ZHANG [3*], & Yuan-Da ZHOU [4]

[1] *PLA 324 hospital, No. 29 Jianxin East Road, Chongqing, China*
[2] *Pharmacy Department, First Branch &*
[3] *Pharmaceutical Department, The First Affiliated Hospital of Chongqing Medical University, No.1 Youyi Road, Chongqing, China*
[4] *Clinical Pharmacology, Chongqing Medical University, Chongqing, China*

***SUMMARY. In vitro* species study of pharmacokinetics will be helpful for selection of animal models for pharmacokinetic study of drugs in human. Hepatocytes and liver microsomes incubation systems are the most common methods. The aim of the present study was to evaluate the species difference of AZT's metabolism using liver microsomes, and compare the data with those using hepatocytes. The results showed that Hill equation can be used to fit the kinetic data obtained from human liver microsomes (HLMs), monkey liver microsomes (MkLM), dog liver microsomes (DLMs), and rat liver microsomes (RLMs). The K_m values for HLMs, DLMs, RLMs, and MkLMs were calculated to be 544.7 ± 88.3, 550.6 ± 49.3, 1074.3 ± 187.0, and 611.5 ± 43.8 μM, respectively. The V_{max} values were determined to be 19.9 ± 2.0, 3.6 ± 0.2, 4.3 ± 0.6, and 32.1 ± 1.2 pmol/min.mg protein. Similar with the hepatocytes data, the orders of intrinsic clearance rate were listed as follows: MkLM>HLM>DLM>RLM. All the above data showed that monkey is more suitable than other animals for predicting the pharmacokinetics of AZT in humans.**

KEY WORDS: Zidovudine (AZT), Species differences, Hepatocytes, Liver microsomes.

* Author to whom correspondence should be addressed. *E-mail:* zhouyuanda123456@163.com
\# Hang Song and Yong Tao contributed equally to this work.

ISSN 0326-2383