



In Vitro Evidence of Tacrolimus-Zidovudine (AZT) Interaction

Lin LIN *, Lei TAN, Jie YU, Bo HAN, Chao LI

*The Central Hospital of Tai'an, No. 29 Longtan Road, Tai'an City,
271000, Shaodong, China*

SUMMARY. With the improvement on the number of solid organ transplantation in the HIV-infected patients, the potential risk between immunosuppressants and anti-HIV drugs will increase. The aim of the present study is to evaluate the tacrolimus-zidovudine (AZT) interaction using *in vitro* human liver microsomes (HLMs) incubation system. The results showed that tacrolimus exhibited concentration-dependent inhibition towards HLMs-catalyzed AZT glucuronidation. Both Dixon plot and Lineweaver-Burk plot showed the competitive inhibition of AZT glucuronidation by tacrolimus. The plot with the slopes from the Lineweaver-Burk plot *versus* the concentrations of tacrolimus was the most common plot method to calculate the inhibition kinetic parameter (K_i), and the present study used this plot method to calculate the K_i value to be 379 μM . All these results indicated possible tacrolimus-AZT interaction, which will furtherly broaden the inhibition profiles between clinical drugs and AZT.

KEY WORDS: Tacrolimus, Zidovudine (AZT), Drug-drug interaction (DDI).

* Author to whom correspondence should be addressed. *E-mail:* tanlei271000@163.com