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20(S)-Protopanaxatriol (Ppt) Exhibits Inhibition Towards UDP-Glucuronosyltransferase (UGT)-Catalyzed Zidovudine Glucuronidation

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***SUMMARY*. Drug-drug interaction (DDI) is a challenging problem for treatment of HIV-infected patients. Zidovudine (AZT), prescribed under the names Retrovir and Retrovis, is the first U.S. government-approved antiretroviral drug used for the successful treatment of HIV/AIDS infectiousness. Given that ginseng is frequently utilized in combination with AZT and AZT is mainly eliminated by UDP-glucuronosyltransferase 2B7, the aim of present study is to investigate the inhibition of UGT2B7-catalyzed AZT glucuronidation by 20(S)-protopanaxatriol type (Ppt) which is the main ginsenoside absorbed into the plasma. The results showed that ppt competitively inhibited UGT2B7-catalyzed AZT glucuronidation, and the inhibition kinetic parameter (K_i) was determined to be 24.7 μM. Using the maximum plasma concentration of ppt (C_{max}), the alteration of area under the curve (AUC) of AZT was 6 %. All these results provide important information for understanding ginseng-AZT interaction. However, considering the complication of herbs and individuals, the *in vitro-in vivo* extrapolation (IV-IVE) results should be explained with more caution.**

KEY WORDS: Herb-drug interaction, Ginseng, UDP-glucuronosyltransferases (UGTs), Zidovudine (AZT).

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