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In Vitro-In Vivo Prediction of Drug-Drug Interaction between Demethylzeylasteral and Zidovudine (AZT)

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***SUMMARY*. Demethylzeylasteral, a bioactive compound isolated from *Tripterygium wilfordii* Hook F., has multiple therapeutic utilizations. Potential drug-drug interaction between demethylzeylasteral and zidovudine (AZT) was determined in the present study. Given that UDP-glucuronosyltransferase (UGT) 2B7-catalyzed glucuronidation is the major elimination pathway, the inhibitory effect of demethylzeylasteral towards human liver microsomes (HLMs)-catalyzed AZT glucuronidation was evaluated. The results showed that demethylzeylasteral exhibited dose-dependent inhibitory behaviour towards AZT glucuronidation. The competitive inhibition type was determined, and the inhibition kinetic parameter (K_i) was calculated to be 27.1 μM. Given that the therapeutic dose of demethylzeylasteral is significantly lower than the K_i value, the risk of demethylzeylasteral-AZT interaction is relatively low. However, the complicated pharmacokinetic factors can influence the *in vitro-in vivo* extrapolation (IVIVE). Therefore, these *in vitro* data should be explained with caution.**

KEY WORDS: Demethylzeylasteral, *Tripterygium wilfordii* Hook F., Zidovudine (AZT),

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