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Investigation of the Inhibition of Liquiritigenin and Isoliquiritigenin towards the Metabolic Behaviour of Hypnotic Agent Propofol

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***SUMMARY*. Influence of propofol glucuronidation might result in the abverse effects due to the change of propofol's therapeutic window. The aim of the present study is to evaluate the inhibition of human liver microsomes (HLMs)-catalyzed propofol glucuronidation by liquiritigenin and isoliquiritigenin which are two important bioactive components of licorice, trying to predict the herb-drug interaction between propofol and licorice. The results showed that subtle difference between liquiritigenin and isoliquiritigenin induced stronger inhibition of isoliquiritigenin towards (HLMs)-catalyzed propofol glucuronidation. Data fitting with Dixon and Lineweaver-Burk plots indicated the competitive inhibition of isoliquiritigenin towards (HLMs)-catalyzed propofol glucuronidation, and the inhibition kinetic parameter (K_i) was determined to be 67.3 μM using second plot fitting the slopes from Lineweaver-Burk plot versus the concentrations of isoliquiritigenin. All these results remind us the potential propofol-licorice interaction, however, the *in vitro-in vivo* extrapolation should be carefully carried out using these *in vitro* parameters due to complex influencing factors.**

KEY WORDS: Propofol, licorice, glucuronidation, herb-drug interaction

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