



## Comparison of the Inhibitory Potential of Glycyrrhetic Acid and Glycyrrhizic Acid towards UDP-Glucuronosyltransferase (UGT) 2B15

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**SUMMARY.** The aim of the present study is to compare the inhibitory effects of liver UDP-glucuronosyltransferase (UGT) 2B15 by glycyrrhizic acid and glycyrrhetic acid, which are the bioactive ingredients isolated from licorice, an herbal medicine derived from the dried roots and rhizomes of *Glycyrrhiza* species. The results showed that glycyrrhetic acid exhibited stronger inhibition towards UGT2B15, indicating that deglycosylation process played an important role in the inhibitory potential towards UGT isoforms. Furthermore, data fitting using Dixon and Lineweaver-Burk plots showed that the inhibition of glycyrrhetic acid towards UGT2B15 was best fit to competitive type. The second plot using the slopes from Lineweaver-Burk plots vs. glycyrrhetic acid concentrations was employed to calculate the inhibition kinetic parameters ( $K_i$ ), and the values were calculated to be  $0.35 \mu\text{M}$  for UGT2B15. All these results remind us the possibility of UGT2B15 inhibition-based licorice-drug interaction.

**KEY WORDS:** Herb-drug interaction, Licorice, Glycyrrhizic acid, Glycyrrhetic acid, UDP-glucuronosyltransferase (UGT) 2B15.

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