



## Strong Inhibition Capability of Wogonin towards UDP-Glucuronosyltransferase (UGT) 1A1 and 1A3

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**SUMMARY.** The flavonoid wogonin has been reported to exhibit inhibition towards one of the most important drug-metabolizing enzymes (DMEs) cytochrome P450 (CYP), including CYP1A2. The present study aims to investigate the inhibition of UDP-glucuronosyltransferases (UGTs) by wogonin, trying to broaden the inhibition profile of wogonin towards DMEs. The inhibition of wogonin towards UGT1A1 and UGT1A3 was investigated using 4-methylumbelliferone glucuronidation reaction as probe reaction. Concentration-dependent inhibition behaviour of wogonin towards UGT1A1 and UGT1A3 was detected. Both Dixon plot and Lineweaver-Burk plot demonstrated that the inhibition of wogonin towards UGT1A1 and UGT1A3 was best fit the competitive inhibition type, and the inhibition kinetic parameters ( $K_i$ ) were calculated to be 1.4  $\mu\text{M}$  and 0.02  $\mu\text{M}$  for UGT1A1 and UGT1A3, respectively. All these information was very helpful for guidance of safe application of clinical drugs when co-administration of wogonin-containing herbs.

**KEY WORDS:** Enzyme inhibition profile, UDP-glucuronosyltransferases (UGTs), Wogonin.

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