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Short Communication

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Investigation of the Influence of Ginsenoside C-K towards the Glucuronidation Metabolism of Estradiol

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***SUMMARY*. Ginsenoside C-K (20-O-D-glucopyranosyl-20(S)-protopanaxadiol) is the protopanaxadiol (ppd) type metabolite derived from the hydrolysis of ginsenoside Rb1, Rb2, and Rc by the intestinal bacteria. Because previous literatures have shown that the intestinal bacteria-catalyzed hydrolysis product exerts stronger inhibitory ability towards drug-metabolizing enzymes-catalyzed metabolism of xenobiotics, the present study aims to directly study the inhibition of C-K towards the estradiol-3-glucuronidation reaction. Concentration-dependent inhibition of C-K towards estradiol-3-glucuronidation was detected. Furthermore, the reaction rate was determined using various concentrations of C-K and estrodiol. Dixon plot and Lineweaver-Burk plot were employed to determine the inhibition kinetic type, and the second plot using the slopes from the Lineweaver-Burk plot *versus* C-K's concentrations was used to calculate the inhibition kinetic parameter (K_i). Noncompetitive inhibition type was demonstrated for the inhibition of C-K towards estradiol-3-glucuronidation reaction, and the inhibition kinetic parameter (K_i) was calculated to be 58.8 μM. All these results indicated the necessary monitoring the hemostasis of estradiol in the body when using compound C-K and ginseng.**

KEY WORDS: C-K, Estradiol, Glucuronidation.

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