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Short communication

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Deglycosylation Process of Ginsenosides does not Affect the Toxicity of Irinotecan

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***SUMMARY*. Herb-drug interaction between ginseng and irinotecan was investigated in the present study through determining the inhibition potential of ginsenosides towards the glucuronidation of SN-38 which has been widely accepted as the active metabolite to induce the toxicity. Human liver microsomes (HLMs)-catalyzed SN-38 incubation system was used. The results showed that ginsenosides Rg_3 and Rh_2 exhibited competitive inhibition towards the glucuronidation of SN-38. The similar IC_{50} values were found for the inhibition of ginsenosides Rg_3 and Rh_2 towards the glucuronidation of SN-38, indicating no effects of deglycosylation process of ginsenosides Rg_3 towards the inhibition capability towards SN-38 glucuronidation. In conclusion, the competitive inhibition of ginsenosides Rg_3 and Rh_2 towards SN-38 glucuronidation was demonstrated in the present study, indicating the potential herb-drug interaction between ginseng and irinotecan. Additionaly, the deglycosylation of Rg_3 to form Rh_2 did not alter the inhibition potential towards SN-38 glucuronidation.**

RESUMEN. Se ha investigado la interacción hierba-drogas entre el ginseng y el irinotecán a través de la determinación del potencial de inhibición de ginsenósidos hacia la glucuronidación de SN-38, que ha sido ampliamente aceptado como el metabolito activo para inducir la toxicidad. Se utilizaron microsomas de hígado humano (HLM) para catalizar el sistema de incubación SN-38. Los resultados mostraron que los ginsenósidos Rg_3 y Rh_2 exhibieron inhibición competitiva hacia la glucuronidación de SN-38. Se encontrston valores de CI_{50} similares para la inhibición de ginsenósidos Rg_3 y Rh_2 hacia la glucuronidación de SN-38, lo que indica que no hay efectos de deglicosilación de ginsenósidos Rg_3 sobre la capacidad de inhibición de glucuronidación de SN-38. En conclusión, la inhibición competitiva de ginsenósidos Rg_3 y Rh_2 hacia la glucuronidación SN-38 fue demostrada, lo que indica la posible interacción de hierbas con las drogas entre el ginseng y el irinotecán. Adicionalmente, la deglicosilación de Rg_3 para formar Rh_2 no alteró el potencial de inhibición de glucuronidación del SN-38.

KEY WORDS: Ginsenosides, Herb-drug interaction, Irinotecan, SN-38, Toxicity.

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