



Spectrum-Effect Relationships between HPLC Fingerprints and Anti-Tumor Activities of the Volatile Oil from *Curcumae wenyujin*

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SUMMARY. The fingerprints of the volatile oil from *Curcuma wenyujin* Y.H.Chen & C.Ling were established by high performance liquid chromatography (HPLC) and the anti-tumor activities of its volatile oil were evaluated in sarcoma 180 (S180) tumor-bearing mice by intraperitoneal administration. The spectrum-effect relationships between HPLC fingerprints and anti-tumor activities were investigated using partial least squares (PLS). The results showed that a close correlation existed between the spectrum-effect relationships. Furandiene, germacrone and curdione in the HPLC fingerprints might be the main anti-tumor components. The anti-tumor activities of the volatile oil from *C. wenyujin* were related with the main active constituents. This work provides a general model of the combination of HPLC and anti-tumor effect *in vivo* to study the spectrum-effect relationships of the volatile oil from *C. wenyujin*, which would be helpful to demonstrate the sesquiterpenoids of *C. wenyujin* have *in vivo* anti-tumor activities.

RESUMEN. Las huellas dactilares del aceite volátil de *Curcuma wenyujin* Y.H.Chen & C. Ling fueron establecidos por cromatografía líquida de alto rendimiento (HPLC) y las actividades antitumorales de su aceite volátil fueron evaluados en el sarcoma 180 (S180) EN ratones portadores de tumores mediante administración intraperitoneal. Las relaciones espectro-efecto entre las huellas dactilares de HPLC y las actividades anti-tumorales fueron investigadas utilizando mínimos cuadrados parciales (PLS). Los resultados mostraron que existía una estrecha correlación entre las relaciones espectro-efecto. Furandieno, germacrona y curdiona podría ser los principales componentes anti-tumorales. Las actividades antitumorales del aceite volátil de *C. wenyujin* estaban relacionados con los principales componentes activos. Este trabajo ofrece un modelo general *in vivo* de la combinación de HPLC y el efecto antitumoral para estudiar las relaciones espectro-efecto del aceite volátil de *C. wenyujin*, lo que sería útil para demostrar que los sesquiterpenoides de *C. wenyujin* tienen actividades antitumorales *in vivo*.

KEY WORDS: Anti-tumor activity, *Curcuma wenyujin*, HPLC Fingerprints, Spectrum-effect relationships, Volatile oil.

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