Two Novel Pyran Annulated Heterocyclic Compounds for Inhibiting Growth of Human Osteosarcoma Cells

Chunpu LI 1,2 §, Dongmei GUO 3 §, Jian ZHAO 2, Kaigang ZHANG 2, & Lin NIE 1 *

1 Department of Orthopedics, Qilu Hospital, Shandong University, Jinan, Shandong, 250012, China
2 Department of Orthopedics & 3 Department of Hematology, The Central Hospital of Taian, Taian, Shandong, 271000, China

SUMMARY. Two new pyran annulated heterocyclic compounds (1 and 2) were synthesized and characterized via IR, 1H NMR, HRMS, and single crystal X-ray crystallography. The two compounds exhibited potent antitumor activities inhibiting the growth of two human osteosarcoma cell lines (MG-63 and U-2 OS), especially compound 2, which showed more effective action than 5-FU as a standard antitumor drug.

RESUMEN. Dos nuevos compuestos heterocíclicos pirano anillados (1 y 2) fueron sintetizados y caracterizados a través de IR, 1H NMR, HRMS y cristalografía monocristalina de rayos X. Los dos compuestos exhibieron actividades antitumorales potentes que inhiben el crecimiento de dos líneas celulares de osteosarcoma humano (MG-63 y U-2 OS), especialmente el compuesto 2, que mostró una acción más eficaz que el 5-FU como una droga antitumoral estándar.

KEY WORDS: antitumor, crystal, pyran.

§ These authors contributed equally to this work.
* Author to whom correspondence should be addressed: E-mail: nie_lin66@163.com