

Inhibitory Activity of 0D/2D Coordination Complexes Combined with High Intensity Focused Ultrasound on Uterine Fibroids

Xiu-Xia LU¹ & Jie ZENG^{2*}

¹ Department of Ultrasonic, Ningde City Hospital, Affiliated Hospital of Fujian Medical University, Ningde, Fujian, China

² Department of Gynecology, Wuhan Children's Hospital (Wuhan Maternal and Child Healthcare Hospital), Tongji Medical College Huazhong University of Science & Technology, Wuhan, Hubei, China

SUMMARY. In the present study, two coordination complexes based on Zn(II) ion as nodes have been generated in success with the reaction between of different ligands and $Zn(NO_3)_2 \cdot 6H_2O$ under the similar reaction conditions, and the chemical composition of the two compounds are $[Zn_4(L_1)_4(DMF)_4 \cdot 2DMF]_n$ (1, $H_2L_1 = 2,2'-(1,4\text{-phenylenebis(methylene)})\text{bis(sulfanediyl)dinicotinic acid}$) and $[Zn(L_2)(DMF)]_n$ (2, $H_2L_2 = 2,2'-(1,2\text{-phenylenebis(methylene)})\text{bis(sulfanediyl)dinicotinic acid}$). For the treatment of the uterine fibroids, the Cell Counting Kit-8 kit was carried out for the detection of the uterine fibroids viability. Additionally, the Annexin V-FITC/PI apoptosis assay was also conducted and the apoptosis levels of the uterine fibroids were determined.

RESUMEN. En el presente estudio, se han generado con éxito dos complejos de coordinación basados en iones Zn(II) como nodos con la reacción entre diferentes ligandos y $Zn(NO_3)_2 \cdot 6H_2O$ en condiciones de reacción similares, y la composición química de los dos compuestos son $[Zn_4(L_1)_4(DMF)_4 \cdot 2DMF]_n$ (1, $H_2L_1 = \text{ácido } 2,2'-(1,4\text{-fenileno bis(metileno)})\text{bis(sulfanodil)}\text{dinicotínico}$) y $[Zn(L_2)(DMF)]_n$ (2, $H_2L_2 = \text{ácido } 2,2'-(1,2\text{-fenileno bis(metileno)})\text{bis(sulfanodil)}\text{dinicotínico}$). Para el tratamiento de los miomas uterinos se realizó el kit Cell Counting Kit-8 para la detección de la viabilidad de los miomas uterinos. Además, también se realizó el ensayo de apoptosis de Anexina V-FITC/PI y se determinaron los niveles de apoptosis de los fibromas uterinos.

KEY WORDS: Coordination complex, uterine fibroids, Kit-8 kit, V-FITC/PI

* Author to whom correspondence should be addressed. E-mail: zengjie198101@163.com