



## A Novel Ca(II) Complex for Inhibiting Growth of Human Nasopharyngeal Carcinoma Cells

Li-Li DAI §, Hong-Lin WU §, Xue-Hua ZHOU, Yuan LI, Song LUO & Zhao-Hui CHEN \*

Department of Otolaryngology Head and Neck Surgery,  
Affiliated Hospital of Hangzhou Normal University, Hangzhou, Zhejiang, China

**SUMMARY.** By using the flexible carboxylic organic ligand H<sub>3</sub>TATB and 1D chain-like secondary building unit, a new Ca(II)-coordination polymer, namely  $\{[Ca_3(TATB)_2(H_2O)_2](DMA)_4\}_n$  (**1**, H<sub>3</sub>TATB = 4,4',4''-s-triazine-1,3,5-triyltri-p-aminobenzoate, DMA = *N,N*-dimethylacetamide) has been synthesized under solvothermal conditions. Single crystal X-ray structural analysis reveals that compound **1** features a non-interpenetrating 3D networks with 1D rhombic channels running along the  $\alpha$  axis. The antitumor activity of compound **1** and its corresponding organic ligand H<sub>3</sub>TATB were then investigated against three human nasopharyngeal carcinoma cell lines (CNE1, HONE1 and C666-1) by MTT assay. It was found that compared with H<sub>3</sub>TATB, compound **1** exerted rather potent activities against all of these cell lines.

**RESUMEN.** Mediante el uso del ligando orgánico carboxílico flexible H<sub>3</sub>TATB y una unidad de construcción secundaria en forma de cadena 1D, se construyó un nuevo polímero de coordinación de Ca(II), a saber  $\{[Ca_3(TATB)_2(H_2O)_2](DMA)_4\}_n$  (**1**, H<sub>3</sub>TATB = 4,4',4''-s-triazina-1,3,5-triiltri-p-aminobenzoato, DMA = *N,N*-dimetilacetamida), sintetizado en condiciones solvotérmicas. El análisis estructural de rayos X de cristal único revela que el compuesto **1** presenta una red 3D no interpenetrante con canales rómbicos 1D que discurren a lo largo del eje  $\alpha$ . La actividad antitumoral del compuesto **1** y su correspondiente ligando orgánico H<sub>3</sub>TATB se investigaron luego contra tres líneas celulares de carcinoma nasofaríngeo humano (CNE1, HONE1 y C666-1) por ensayo de MTT. Se encontró que en comparación con H<sub>3</sub>TATB, el compuesto **1** ejerció actividades bastante potentes contra todas estas líneas celulares.

**KEY WORDS:** coordination polymer, nasopharyngeal carcinoma, X-ray.

\* Author to whom correspondence should be addressed. *E-mail:* zhaohui\_chen666@163.com

§ These authors contributed equally to this paper.