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Two Co(II) Coordination Polymers: Crystal Structures and Treatment Activity on Brain Injury Combined with Ratanasampil (RNSP)

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SUMMARY. Two new Co(II)-containing coordination polymers, as known as $\{[Co(L)(H_2O)_2]\cdot 2H_2O\}_n$ (1) and $\{[Co(L)(H_2O)_2]\cdot 1.5\ H_2O\}_n$ (2) have been obtained by reaction of the metal salt $Co(NO_3)_2\cdot 6H_2O$ with the T-shaped ligand (4-3'-pyridyl-,6-4'-carboxylphenyl)picolinic acid (H_2L) in the solvothermal reaction environments. Their therapeutic modalities against the local brain injury combined with rnsp were evaluated. First of all, the content of the inflammatory cytokines released into the cerebrospinal fluid after the added compound combined with RNSP was detected with ELISA assay. Moreover, the activity of JAK/STAT3 signaling pathway was evaluated by real time RT-PCR.

RESUMEN. Dos nuevos polímeros de coordinación que contienen Co(II), conocidos como $\{[Co(L)(H_2O)_2]\ 2H_2O\}$ *n* (1) y $\{[Co(L)(H_2O)_2]\ 1.5\ H_2O\}_n$ (**2**) se han obtenido por reacción de la sal metálica $Co(NO_3)_2\ 6H_2O$ con el ligando en forma de T (4-3'-piridil-,6-4'-carboxilfenil)ácido picolínico (H_2L) en los entornos de reacción solvotermales. Se evaluaron sus modalidades terapéuticas contra el daño cerebral local combinado con RNSP. En primer lugar, el contenido de las citocinas inflamatorias liberadas en el líquido cefalorraquídeo después de que se detectara el compuesto añadido combinado con RNSP con el ensayo ELISA. Además, la actividad de la vía de señalización JAK/STAT3 se evaluó mediante RT-PCR en tiempo real.

KEY WORDS: Coordination polymers, brain injury, RNSP

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