

Two Cu(II)-Based Coordination Polymers: Therapeutic and Protective Effect on Chronic Cervicitis

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SUMMARY. By employment of the mixed-ligand synthesis approach, two new copper(II) coordination polymers with the formulas of $\{[\text{Cu}(\text{L})(5\text{-HIP})]\cdot\text{H}_2\text{O}\}_n$ (1) and $[\text{Cu}(\text{L})(2,6\text{-NDC})]_n$ (2) were synthesized under solvothermal conditions employing 1,4-bis(benzimidazol-1-yl)-2-butylene (L) and aromatic dicarboxylic acids ligands (5-H₂HIP = 5-hydroxyisophthalic acid; 2,6-H₂NDC = 2,6-naphthalenedicarboxylic acid). Their application values on the chronic cervicitis were evaluated and the related mechanism was discussed as well. The ELIAS assay was conducted and the content of the inflammatory cytokines released into the cervical secretion was measured. The relative expression of the autophagy-related proteins in cervical epithelial cells was further determined with real time RT-PCR.

RESUMEN. Mediante el empleo del enfoque de síntesis de ligandos mixtos, dos nuevos polímeros de coordinación de cobre (II) con las fórmulas de $\{[\text{Cu}(\text{L})(5\text{-HIP})]\cdot\text{H}_2\text{O}\}_n$ (1) y $[\text{Cu}(\text{L})(2,6\text{-NDC})]_n$ (2) se sintetizaron en condiciones solvotérmicas empleando 1,4-bis(benzimidazol-1-il)-2-butileno (L) y ligandos de ácidos dicarboxílicos aromáticos (5-H₂HIP = ácido 5-hidroxiisofáltico; 2,6-H₂NDC = ácido 2,6-naftalenodicarboxílico). Se evaluaron sus valores de aplicación en la cervicitis crónica y también se discutió el mecanismo relacionado. Se realizó el ensayo ELIAS y se midió el contenido de citocinas inflamatorias liberadas en la secreción cervical. La expresión relativa de las proteínas relacionadas con la autofagia en las células epiteliales cervicales se determinó con RT-PCR en tiempo real.

KEY WORDS: chronic cervicitis, Cu(II) complexes, ELIAS assay, RT-PCR.

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