

## Therapeutic Effect of Ca(II) Complex on Radiation Induced Oral Mucositis by Reducing the Content of IL-18 and TNF- $\alpha$ Inflammatory Cytokines in Saliva

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**SUMMARY.** In the present study, a novel coordination polymer (CP) based on Ca(II), that is,  $[Ca^{II}(4-HBA)(CH_3COO)(H_2O)(DMF)]_n$  (1, 4-HBA is 4-hydroxybenzoic acid, DMF is dimethyl formamide), has been generated via applying DMF as the solvent under solvothermal synthesis condition. The content of IL-18 and TNF- $\alpha$  inflammatory cytokines in saliva was measured with ELISA assay. Next, the real time RT-PCR was used to determine the activation of the NF- $\kappa$ B in the oral mucosa epithelial cells after compound therapy.

**RESUMEN.** En el presente estudio, un nuevo polímero de coordinación (CP) basado en Ca(II), es decir,  $[Ca^{II}(4-HBA)(CH_3COO)(H_2O)(DMF)]_n$  (1, 4-HBA es 4-hidroxibenzoico ácido, DMF es dimetilformamida), se ha generado mediante la aplicación de DMF como disolvente en condiciones de síntesis solvotérmica. El contenido de citoquinas inflamatorias IL-18 y TNF- $\alpha$  en saliva se midió con ensayo ELISA. A continuación, se utilizó la RT-PCR en tiempo real para determinar la activación del NF- $\kappa$ B en las células epiteliales de la mucosa oral después de la terapia compuesta.

**KEY WORDS:** coordination polymer, ELISA assay, radiation induced oral mucositis,

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