

## Preparation and Evaluation of Solid Dispersions of Candesartan Cilexetil by Mechanochemical Co-grinding

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**SUMMARY.** In the present work, solid dispersions (SDs) of candesartan cilexetil (CC) and hydroxypropyl methylcellulose acetate succinate (HPMCAS) were prepared by mechanochemical co-grinding. The optimized co-grinding parameters were as follows: milling speed, 200 rpm; milling time, 2 h; CC/HPMCAS ratio, 1: 7. Results of differential scanning calorimetry, X-ray diffraction and Fourier transform infrared spectroscopy indicated that CC was in an amorphous state in SDs. The tests of physicochemical property showed that, compared with pure drug and physical mixture, the solubility, dissolution and stability of CC were substantially improved in SDs.

**RESUMEN.** En el presente trabajo se prepararon dispersiones sólidas (SD) de candesartán cilexetil (CC) y acetato de succinato de hidroxipropilmetilcelulosa (HPMCAS) mediante co-molienda química. Los parámetros de co-molienda optimizados fueron los siguientes: velocidad de fresado 200 rpm; tiempo de molienda 2 h; Relación CC/HPMCAS 1: 7. Los resultados de la calorimetría diferencial de barrido, la difracción de rayos X y la espectroscopia infrarroja de transformada de Fourier indicaron que CC estaba en un estado amorfo en SD. Las pruebas de propiedades fisicoquímicas mostraron que, comparando la droga pura y la mezcla física, la solubilidad, disolución y estabilidad de CC mejoraron sustancialmente en las SD.

**KEY WORDS:** candesartan cilexetil, co-grinding, hydroxypropyl methylcellulose acetate succinate, solid dispersions, solubility.

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