عنوان مقاله:

Solubility enhancement of glimperide: Development of solid dispersion by solvent melt method, characterization and dosage form development

محل انتشار:

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خلاصه مقاله:

The aim of the present work was to develop immediate release dosage form of the solid dispersion of glimperide (GLIM) for potential enhancement in the bioavailability. The solid dispersions of GLIM were prepared with PEG۶۰۰۰, PVP K۳۰ and Poloxamer ۱۸۸, in ۱:۱, ۱:۳ and ۱:۵ %w/w ratio by using solvent wetting and solvent melt method. The in vitro dissolution parameters (%DE۱۰min, %DE۳۰min, %DE۶۰min, T۵۰% and DP۳۰) were used to select the optimized solid dispersion that was characterized by IR, PXRD, DSC and SEM. The optimized solid dispersion of GLIM (GSDSM۳) was used as drug component for immediate release (IR) tablets that were evaluated for physical and pharmacopoeial parameters. The in vitro drug release studies identified G۴ as the optimized tablet with a cumulative drug release (CDR) of ۹۹.۳۴% in ۳۰ min in phosphate buffer, pH ۷.۴. The CDR was higher than the marketed tablet (۹۱.۱۵%, Amaryl®, Sanofiaventis), However, the f۱ and f۲ were ۱۰.۶ and ۵۲ respectively, which confirmed similarity of the dissolution profile(s). Accelerated stability studies confirmed stability up to ۶ months at ۴۰°C/۷۵% condition in the .HDPE bottle pack

کلمات کلیدی:

Glimperide, solid dispersion, solvent wetting method, solvent melt method, immediate release tablet