



ENHANCEMENT OF DOMPERIDONE DISSOLUTION RATE -VIA FORMULATION OF ADSORBATES AND CO ADSORBATES

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Abstract:

The aim of this study was to enhance the dissolution rate of water-insoluble, weakly basic antiemetic drug; Domperidone (DMP), through the formulation of adsorbates and co-adsorbates. Adsorption of drug onto the surface of three different adsorbents; Avicel PH 101, Florite R and Aerosil 200 was studied and Langmuir adsorption isotherms were constructed. Adsorbates of drug with the used adsorbents were prepared in different weight ratios by physical mixing, grinding and solvent evaporation methods. Co-adsorbates of drug with Aerosil 200 and Tween 80 were prepared by solvent evaporation method in different weight ratios. The prepared systems were physico-chemically characterized by Fourier- transform Infrared Spectroscopy (FT-IR), Differential Scanning Calorimetry (DSC) and powder X-ray diffractometry (P-XRD). FT-IR data confirmed the absence of any chemical interaction between DMP and the used adsorbents. P-XRD results confirmed the transformation of some systems from the crystalline state to the amorphous state which aided in the dissolution rate enhancement. Furthermore, the in-vitro dissolution rate of drug from these systems was studied which showed marked enhancement of DMP dissolution rate at both pH 1.2 and pH 6.8 (7 fold and 5 fold, respectively) compared to drug alone .It can be concluded that the dissolution rate

Keywords:

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