

# SOLUBILITY ENHANCEMENT TECHNIQUE FOR BCS CLASS II DRUG - ONDANSETRON HYDROCHLORIDE BY CO-CRYSTALLIZATION METHOD

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## ABSTRACT

The present study was aimed to increase solubility of ondansetron hydrochloride by preparing co-crystals by co-crystallization method using various co-formers. Co-crystals of ondansetron HCl were prepared using co-formers such as benzoic acid, aspirin, benzamide, para amino benzoic acid (PABA), urea and citric acid by solvent evaporation method. Co-crystals were characterized by FTIR, DSC, XRD and SEM. The solubility of ondansetron co-crystals was significantly higher than that of pure ondansetron HCl. The dissolution rate of co-crystals reported were in the range of 63-99% compared with pure ondansetron HCl i.e., 38.70% within 30 min. The FTIR indicated a shift in the characteristic peaks of the co-crystals but did not suggest any interaction between the co-former and the drug. DSC data indicated a change in the endotherm, resulting in a new melting point of the co-crystals. The XRD spectra demonstrated the presence of different crystalline phases. Besides, SEM demonstrated the formation of different solid phase in presence of co-formers.