



## Enhancement of Dissolution Profile of Gliclazide by Solid Dispersion Adsorbates

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**SUMMARY.** This article investigates enhancement of the dissolution profile of gliclazide, an antidiabetic drug, using the combination of solid dispersions and melt adsorption techniques. Poloxamer and PEG 6000 were utilized as hydrophilic carriers for solid dispersions preparation and lactose selected on the basis of preliminary studies was utilized as an adsorbent for the preparation of solid dispersion adsorbates. The techniques of FTIR spectroscopy, differential scanning calorimetry (DSC), and X-ray diffractometry (XRD) were performed to characterize the solid dispersions and to identify the physicochemical interaction between drug and carriers. Dissolution rate of gliclazide was higher in case of solid dispersion adsorbates as compared to solid dispersion alone and one of the marketed products. Thus the solid dispersion adsorbates can be successfully used for improvement of dissolution rate of gliclazide.

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**KEY WORDS:** Adsorption, Dissolution enhancement, Solid dispersions.

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