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(57) Abstract :

The present invention relates to pharmaceutical processes and more particularly it discloses an efficient method aimed at enhancing the solubility of Rifapentine, medically pronounced as Rifamycin, an antibiotic that hinders the growth of bacteria thereby treating bacterial infections. The improvement of dissolution is due to reducing particle size of rifapentine and hence improving drug wettability and significantly improved dissolution. In vitro dissolution profiles of rifapentine from ICs containing various ratios of drug to HPß-CD in which max % drug release was obtained in batch AK1 (99.23±0.25). In the case of the physical mixtures, the small rise in solubility when compared to, pure rifapentine is due to the rapid formation of inclusion complexes in the dissolution medium or to the wetting effect of HPß-CD. Incidentally, HPß-CD has surfactant-like properties owing to the hydrophilicity of its exterior surface which can lower the interfacial tension between poorly soluble drugs and the dissolution medium, resulting in higher solubility.

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