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(57) Abstract :
SUSTAINED RELEASE OF DIAZEPAM USING POLY (LACTIC-CO-GLYCOLIC ACID) AND PREPARATION METHOD THEREOF The present invention relates to diazepam – poly (lactic-co-glycolic acid) (PLGA) nanoparticles. The present invention provides a process for the preparation of Diazepam–PLGA nanoparticles in the size range of 109±3 nm. The process of the preparation of Diazepam–PLGA nanoparticles comprises of preparing organic phase by dissolving poly (D, L-lactic-co-glycolic acid) in dichloromethane solution having drug; preparing aqueous phase using polyvinyl alcohol solution having phosphate buffer saline; adding organic phase into aqueous phase at room temperature; removing organic solvents from the solution by stirring overnight at room temperature; sonicating the formulation at lower temperature; recovering the nanoparticles; washing recovered nanoparticles; lyophilizing the nanoparticles and storing the prepared nanoparticles in a vacuum desiccator. The Diazepam–PLGA nanoparticles wherein weight ratio of diazepam to poly (D, L-lactic-co-glycolic acid) is 1:7. The diazepam-PLGA nanoparticles prepared in the present invention are useful in the treatment of epilepsy.

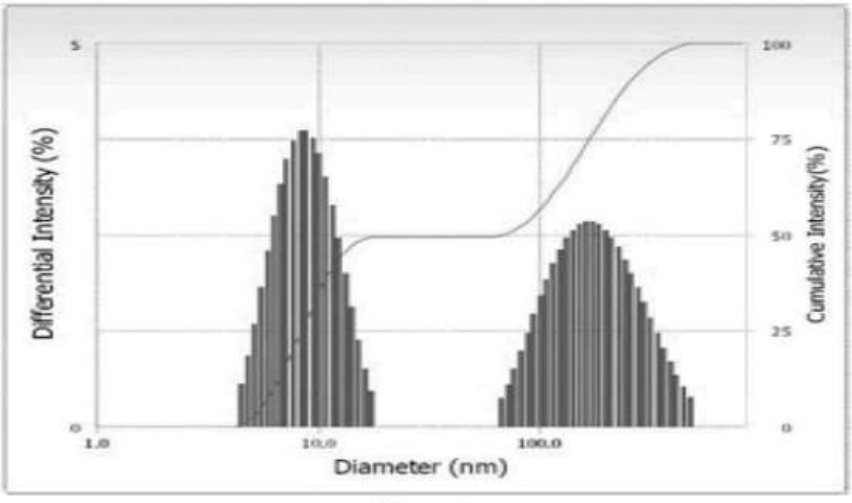

Figure 1

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