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(54) Title of the invention : CIPROFLOXACIN HYDROCHLORIDE LOADED NANO MICELLE FOR OCULAR DRUG DELIVERY SYSTEM USING NON-IONIC ECO-FRIENDLY SURFACTANT

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(57) Abstract :

The present invention relates to the preparation of pluronic based Nano micelles of Ciprofloxacin Hydro chloride for ophthalmic drug delivery. pluronic-based micelles were prepared for ophthalmic delivery by incorporation of methyl alcohol as a dispersion agent and their surfaces were also modified by chitosan to improve their bioavailability. A Solvent emulsification by using the triblock copolymer method in aqueous system was employed. The physicochemical characterization of Pluronic-Chitosan nanomicelle including diameter, surface charge, morphology, turbidity, and entrapment efficiency demonstrates that they are very suitable as ophthalmic carrier. Furthermore, the in-vitro and ex- vivo studies indicate these micelles have sustained release behavior and good response. The mean particle size was found to be 233.4 nm with a small polydispersity index, 0.075. The % Entrapment efficiency of nanomicelle was more than 95 percent. After microbiological study, we can conclude that the nanomicelle are active against E. coli.

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