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Temperature modulated occular *in situ* gelling system of Ofloxacin using poloxamer

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Designing of ocular dosage form offers complicated issues. Numerous protective mechanisms are present in the eye to prevent the absorption of drug candidate from the corneal membrane. The poor bioavailability and therapeutic response exhibited by conventional ophthalmic solutions due to rapid pre-corneal elimination of the drug may be overcome by the use of *in situ* gel forming systems that are instilled as drops into the eye and then undergo a sol-gel transition in the cul-de-sac. *In-situ* forming polymeric formulations drug delivery systems is in solform before administration in the body, but once administered, undergoes gelation *in-situ* to form a gel. The formulation of gel depends upon factors like temperature modulation, pH changes, presence of ions and ultra-violet irradiation, from which drug gets released in sustained and controlled manner. The present investigation deals with formulation and evaluation of pluronic® based *in situ* gel of Ofloxacin. *In vitro* drugrelease studies indicated that the formulated in situ gel retained the drug better than the conventional dosage forms. The formulations were therapeutically efficacious, sterile, stable and provided controlled release of the drug over a period of time. These results demonstrate that the developed system is an alternative to conventional ophthalmic drops, patient compliance, industrially oriented and economical.

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