

Development and validation of HPLC Method for Estimation of Clotrimazole from Microemulsion Formulation

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Abstract: *Background :* Clotrimazole is a broad-spectrum antifungal agent commonly used for topical treatment of fungal infections . Microemulsion based drug delivery have an advanced approach for enhancing solubility , stability , and bioavailability. Thus , microemulsion formulation were prepared, and the present study aim to develop an HPLC method for estimation of clotriazole in microemulsion formulation .

Result : A C18 column (Phenomenex Hypersilgold)(5 μ m, 250 \times 4.6 mm) was used. A mixture of ACN and water (100 ml water was added with 1 drop of 1 M OPA) (70:30 v/v) was selected as a mobile phase. The flow rate was controlled at 1.2 mL/min. The injection volume was 20 μ L. The wavelength detector was operated at 210 nm. The data were integrated with the PDA detector with EMPOWER software. This method was found to give a sharp peak of CTZ at a retention time of 4.6 min. No interfering peaks of other components in the formulations were seen, percent recoveries were within 100 \pm 2%, and %RSD was not higher than 2, indicating for a high degree of specificity, accuracy, and precision, respectively. The linear regression analysis data for the calibration curve also exhibited a good linear relationship. CTZ was extracted from a ME .

Conclusion : From the reported experiments, the present HPLC technique was successfully used for estimation of the CLT from the microemulsion formulation .

Keywords: HPLC, Microemulsion , Clotrimazole

