

Three Validated Methods Of Simultaneous Determination Of Ofloxacin And Dexamethasone In Binary Mixture

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Abstract

Three selective precise and accurate methods were developed and validated for the simultaneous determination of ofloxacin and dexamethasone in bulk powder and pharmaceutical formulation, namely, derivative ratio spectrophotometric, densitometric and HPLC method. The first method is based on the use of derivative ratio spectrophotometric technique which allows the determination of ofloxacin and dexamethasone at 286,235 nm over concentration range 1-13.5 and 1-7 g mL for ofloxacin and dexamethasone, respectively. The second method is densitometric one which depended on the separation of silica gel plate using methanol-phosphate buffer (4:6 v/v) and pH adjusted to 5 with orthophosphoric acid as a developing system and the spots were scanned at 300 and 240 nm for ofloxacin and dexamethasone, respectively. The last method is HPLC using acetonitrile δ "H₂O (7:3, v/v) and pH adjusted to 6.08 as the mobile phase at a flow rate of 1.5 mL/min and UV detection at 254 nm. The suggested methods were successfully applied for simultaneous determination of ofloxacin and dexamethasone in bulk, laboratory prepared mixtures and pharmaceutical dosage form with good accuracy and precision. The results obtained by applying the proposed methods were statistically analyzed and compared with those obtained by the official methods.

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