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Method development and validation for simultaneous determination of sitagliptin phosphate and metformin hydrochloride by RP-HPLC in bulk and tablet dosage form

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A simple, selective and accurate Reverse phase High performance liquid chromatography method was developed and subsequently validated for Simultaneous estimation of Sitagliptin phosphate and Metformin hydrochloride in bulk and tablet dosage form. The separation of two drugs was achieved on Hi–Q Sil C–18 (250 mm × 4.6 mm) 5 µm column, at the flow rate of 1.2 ml/min. The mobile phase consists of Acetonitrile: Methanol: phosphate buffer (pH 4) in the ratio of 20:30:50 v/v/v. The detection was carried out using a UV-visible detector set at a wavelength of 266 nm. The retention times of Sitagliptin phosphate and Metformin hydrochloride were 4.867 and 2.067 min respectively. Calibration plots were linear over the concentration ranges of 25-150 µg/ml for Sitagliptin phosphate and 250-1500 µg/ml for Metformin hydrochloride. The Limit of detection was 0.29 and 0.43 µg/mL and the quantification limit was 0.95 and 0.89 µg/mL for Sitagliptin phosphate and Metformin hydrochloride respectively. Validation experiments were performed to demonstrate System suitability, linearity, accuracy, precision, specificity, and robustness. Commercial tablet formulation was successfully analyzed using the developed method and the proposed method is applicable to routine analysis for determination of Sitagliptin phosphate and Metformin hydrochloride in bulk and tablet dosage form.

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Stability study of rabeprazole in human plasma

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Rabeprazole is a substituted benzimidazole that inhibits gastric acid secretion and primarily used in the treatment of acid related disorders like GERD, Zollinger- Ellision syndrome, Peptic ulcer.

Drug stability during sample collection, processing and storage is an important factor for clinical bioanalysis. If drugs do not remain stable in a certain biofluid under the pre-specified sample processing or storage conditions, inaccurate drug concentration will be obtained, which will consequently affect drug pharmacokinetics/pharmacodynamics interpretation. Generally, degradation occurs naturally, is caused by exposure to light, or is the result of reaction with or catalyzation by the biofluid components.

Proposed work described stability of a proton pump inhibitors in plasma.

Biography

Anil kumar singh is pursuing M. Pharm in pharmaceutical chemistry at Sinhgad Institute of Pharmacy, Narhe, Pune.

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