ABSTRACT

Purpose: To establish RP-HPLC for simultaneous estimation of Metformin and Glimepiride in bulk and tablet dosage form.

Method: The RP-HPLC method was developed by using Phenomenex-Luna C_{18} (250 x 4.6 mm id, 5 µm) with a mobile phase containing acetonitrile: water (80:20 v/v), flow rate of 1 ml/min and UV detection at 230 nm. The proposed method was validated for linearity, accuracy, precision, LOD, LOQ. Linearity, accuracy and precision were found to be well within the acceptance limit. The method was linear over the concentration range of 10-60 µg/ml for Metformin and 2-12 µg/ml Glimepiride respectively whereas the regression coefficient (r^2) was found to be 0.9999 for Metformin and 0.9998 for Glimepiride. The accuracy of proposed method was determined by recovery study and percentage recovery found to be 100.1-100.66 % for Metformin and 100.8-101.4 % for Glimepiride respectively. The limit of detection of proposed method was found to be 0.340 µg/ml for Metformin and 0.108 µg/ml for Glimepiride respectively whereas the limit of quantitation was found to be 1.041 µg/ml for Metformin and 0.330 µg/ml for Glimepiride. The method was validated statistically and results compare with ICH parameter.

The proposed method was simple, accurate, precise and robust for analysis of Metformin and Glimepiride in bulk and tablet dosage forms.