**Simultaneous Assessment of Alogliptin Benzoate and Pioglitazone Hydrochloride in Tablet Dosage Form by RP-HPLC**

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| Abstract:  | A simple, accurate, precise and sensitive RP-HPLC method was developed and validated for simultaneous assessment of alogliptin benzoate and pioglitazone hydrochloride in combined tablet formulation. The proposed RP-HPLC method employed a reverse phase column (C18) and mobile phase with a composition of 0.2 % (v/v) triethylamine (pH 5.5 with orthophosphoric acid) and methanol (2:98, v/v) was utilized and a flow rate of 1 ml/min was employed. Quantification of effluents was monitored at 267 nm. Three symmetrical well resolved peaks of alogliptin, pioglitazone and benzoic acid (benzoic acid was separated from alogliptin benzoate) were obtained with retention time of 4.9291 ± 0.0337, 3.1759 ± 0.0058 & 2.248 ± 0.0024 min, respectively. Alogliptin and pioglitazone showed excellent linearity over the concentration range of 0.5-50 and 0.9-90 µg/ml, respectively. The developed method was then validated in accordance with ICH guidelines and applied in the determination of alogliptin benzoate and pioglitazone hydrochloride in the combined tablet dosage form. The formulation analysis revealed good agreement (98 - 101 % w/w) with the label claim for both the analytes by RP-HPLC method. Developed method was simple, sensitive and accurate, thus can be utilized for simultaneous determination of both the drugs in combined tablet dosage form.  |
| Keyword:  | Simultaneous Assessment, Alogliptin Benzoate, Pioglitazone Hydrochloride, Tablet Dosage Form, RP-HPLC  |
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