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Simultaneous Quantification of Amlodipine Besylate and Losartan Potassium by A Validated UPLC Method

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ABSTRACT:

Objective: A simple, sensitive and specific spectrophotometric methods have been developed and validated for determination and quantification of Amlodipine besylate and Losartan potassium in the tablet dosage form. The determination was carried out on UPLC system using BEH C18 column (2.1×50 mm, 1.7μ m particle size) at wavelength of 240 nm using PDA detector. Mobile phase of methanol: 1N HCl (1:1) consisting was pumped through column at a flow rate of 1ml/min, buffer of sodium dihydrogen orthophosphate, triethyl amine (pH: 4.0 ± 0.05) was used and column temperature was kept at 25°C .

Result: The retention time of Amlodipine besylate and Losartan potassium were found to be 1.43 min and 2.50 min. The system suitability parameters for Amlodipine besylate and Losartan potassium such as theoretical plates were found to be 2921.27 and 5970.89, the resolution was found to be 2.25 and 7.80. The linearity study for Amlodipine besylate and Losartan potassium was found in concentration range of 10-50 $\mu\text{g/ml}$ and correlation coefficients were found to be 0.9996 and 0.9998, % mean recovery were found to be 88.7 % and 91.32 %, %RSD for repeatability were 0.78 % and 0.99 %. LOD values were found to be 0.07, 0.10 and LOQ values were found to be 0.24 and 0.32 respectively.

Conclusion: The method was validated in terms of linearity, precision, accuracy, specificity, robustness and stability of solution, system suitability as per ICH guidelines. The results of study showed that the proposed UPLC method is simple, accurate, precise, sensitive, robust and cost effective and can be used in estimation of Amlodipine besylate and Losartan potassium in pharmaceutical dosage form.

Keywords: Amlodipine besylate, Losartan potassium, UPLC, Spectrophotometric method

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