Stability-Indicating Densitometric Determination of Some Angiotensin II Receptor Antagonists in Presence of Their Degradation Products

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Abstract:

A simple, selective, precise, and stability-indicating thin-layer chromatographic method has been developed and validated for analysis of some angiotensin II receptor antagonists (AIIRAs), namely, Losartan potassium (Los-K), Irbesartan (Irb), and Candesartan cilexetil (Cand) in the bulk drug and in pharmaceutical formulations (tablets). The method was based on using TLC plates pre-coated with silica gel G 60 on aluminum sheets as stationary phase and the development system was performed using chloroform:methanol (9:1) giving well separated and compact spots for all the studied drugs (RF values 0.41–0.53). The separated spots were characterized by viewing under the UV lamp, then visualized as orange spots by spraying with Dragendorff’s reagent and measured by densitometry. Under the optimum chromatographic conditions, linear relationships were obtained between response and concentrations of each studied drug with high correlation coefficients (0.9985–0.9994). Good accuracy and precision were successfully obtained for the analysis of tablets containing each drug alone or combined with diuretic drug hydrochlorothiazide (HCTZ). No interferences could be observed from the co-formulated HCTZ, commonly encountered excipients present in tablets as well as the degradation products. The results were compared successfully with reported methods and can be used as a stability-indicating assay.

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