

RESEARCH ARTICLE

SIMULTANEOUS ESTIMATION OF VALSARTAN AND HYDROCHLOROTHIAZIDE IN SOLID DOSAGE FORM USING UV SPECTROSCOPY

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Received: October 18, 2011 / Revised: October 28, 2011 / Accepted: October 29, 2011

Simple, accurate, sensitive and precise ultraviolet spectrophotometric method for simultaneous estimation of Valsartan (VAL) and Hydrochlorothiazide (HTZ) in combined tablet dosage form have been developed and validated. Beer's law was obeyed in the concentration range of 0.5-3.5 mg/ml and 0.2-1.4 mg/ml in methanol at 248.5 and 271 nm for VAL and HTZ respectively. The recoveries were in the range of 99.00 ± 0.12 and 99.34 ± 0.03 for VAL and HTZ for simultaneous equation method. The method has been successfully applied for the analysis of VAL and HTZ in pharmaceutical formulations. The results of analysis were validated statistically that included parameters such as linearity, accuracy, precision, LOD, LOQ, recovery and robustness.

Key words: Absorptivity, Validation, Simultaneous equation, Robustness.

INTRODUCTION

Valsartan, chemically known as (S)-3-methyl-2-(N-{{2'-(2H-1, 2, 3, 4-tetrazol-5-yl) biphenyl-4-yl}methyl}pentanamido)butanoic acid, is an angiotensin II receptor antagonist and is used in the treatment of high blood pressure, congestive heart failure (CHF) or post-myocardial infarction (MI) (Saydam and Takka, 2007). It is official in United State Pharmacopoeia. Hydrochlorothiazide, chemically known as 6-chloro-1, 1-di-

oxo-3, 4-dihydro-2H-1, 2, 4-benzothiadiazine-7-sulfonamide, is a first-line diuretic (Real *et al* 2010) which is official in British Pharmacopoeia (Figure 1). A combination of VAL and HTZ in form of a tablet or capsule formulations is widely used for moderate to severe antihypertensive, not controlled by single agent (Siddiqui *et al* 2011). The official monographs describe the procedure for individual assay of VAL and HTZ.

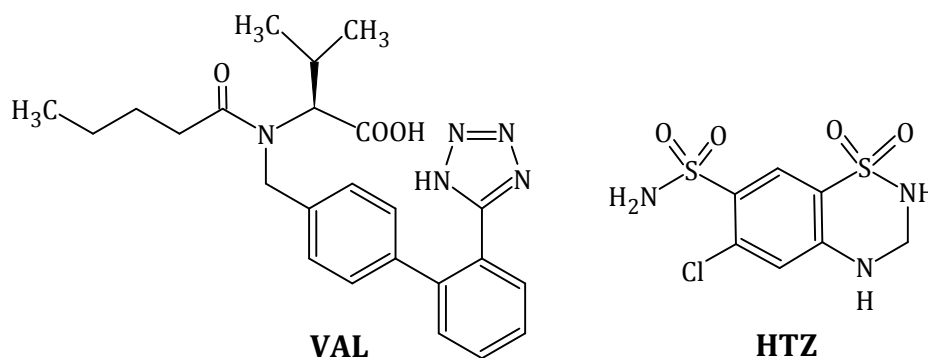


Fig. 1. Structures of Valsartan (VAL) and Hydrochlorothiazide (HTZ)