Simultaneous Determination of Meclizine Hydrochloride and Pyridoxine Hydrochloride in Binary Mixture and Tablets Form

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Abstract

Two methods were developed for the determination of meclizine hydrochloride and pyridoxine hydrochloride in their binary mixture or in tablets form.

The first method was spectrofluorimetric method which is based on measuring the native fluorescence of each drug in 0.1M hydrochloric acid without interference from each other. For meclizine hydrochloride, the relative fluorescence intensity was measured at 292 nm when excited at 230 nm and for pyridoxine hydrochloride; the relative fluorescence intensity was measured at 397 or 773 nm when excited at 230 or 290 nm, respectively.

Fluorescence intensity versus concentration is linear over concentration range of 1.2 -4 µgml-1 for meclizine hydrochloride and 0.2-1.6 µgml-1 or 4-24 µgml-1 for pyridoxine hydrochloride at 397 nm or at 773 nm, respectively.

The second method was HPLC method for the determination of mixture of meclizine hydrochloride and pyridoxine hydrochloride which were separated and quantified on Zorbax ODS C18 column. Elution was carried out using a mixture of acetonitrile: 0.05M potassium dihydrogen phosphate (70: 30 v/v) adjusted to pH 3.0 with o-phosphoric acid, as a mobile phase at flow rate 2 ml/min and UV detection at 230nm.

The proposed methods were sensitive, precise and applicable for the determination of the drugs in pharmaceutical dosage form.

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