11. A Validated HPLC Method for Separation and Determination of Mefloquine Enantiomers in Pharmaceutical Formulation

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Abstract

A simple, rapid and validated method for separation and determination of mefloquine enantiomers was developed. Mefloquine was separated and quantitated on cyclodextrin chiral column Quest-CM carboxymethyl- BCD (250x4mm i.d., 5µm particle size) using a mixture of acetonitrile: 1% triethylammonium acetate buffer (pH = 4.5) (20:80 v/v) as a mobile phase at 20 ºC and a flow rate of 1 mL/min. The UV-detector was set at 240 nm. The applied HPLC method allowed the separation and quantification of mefloquine enantiomers with good linearity (r > 0.999) in the studied range. The relative standard deviations (RSD) were 0.865 and 0.907 for the mefloquine enantiomers with accuracy of 100.00 and 100.68. The limit of detection and limit of quantification of mefloquine enantiomers were found to be 5 and 15 µg/mL, respectively. The method was validated through the parameters of linearity, accuracy, precision and robustness. The HPLC method was applied for the quantitative determination of mefloquine in pharmaceutical formulations.