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High Performance Liquid Chromatography for Routine Monitoring of Serum Flecainide

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We developed a simple, rapid, and selective assay method for determination of serum flecainide by using solid phase extraction and reversed phase high performance liquid chromatography (HPLC) equipped with ordinary octadecylsilyl silica (ODS) column and ultraviolet (UV) detector. Serum samples spiked with the internal standard were treated by a disposable C₁₈-cartridge to extract flecainide. The flecainide and internal standard were separated on ODS column and were detected with an UV detector set at 298 nm. The mobile phase solvent consisting of 0.1 M 1-pentanesulfonic acid sodium salt, acetonitrile, and acetic acid (250:206:2.5 v/v) was used at the flow rate of 1.0 ml/min. The calibration curve for flecainide was linear at the concentration of 50-1500 ng/ml ($r = 0.9998$). The recoveries of flecainide from serum samples were 92-98%. The coefficient of variation (CVs) for intra- and inter-day assay were 1.3-4.8 and 3.2-6.9%, respectively. The method could be applied to routine monitoring of serum flecainide in the patients with tachyarrhythmia.