Optimasi dan validasi metode analisis gabapentin dalam plasma secara in vitro dan in vivo dengan kromatografi cair kinerja tinggi-fluoresensi

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Abstrak

Gabapentin, an anticonvulsant drug is used in the treatment of epilepsy, which has small dose therapeutic in blood plasma. Therapeutic drug monitoring (TDM) needs sensitive and specific analytical method.

The aim of this study was to obtaine optimized method for analytical gabapentine in plasma (in vitro) with High Performance Liquid Chromatography - fluorescence and validation the method. The method involves derivatization of the primary amine group of gabapentin with dansyl chloride produce flurescence agent and could be analyzed with high performance liquid chromatography-fluorescence.

In this research was used column Lichrosphere C18 ,10 μm, 250 x 10 μm, reverse phase with mobile phase 50 mmol/L sodium dihydrogen phosphate in 50 % acetonitrile. Flow rate of 1.7 mL/minutes, and fluorometric detection (excitation and emission wavelength ; 318 nm and 510 nm). For the range concentration of 0.1 ? 10 μg/mL have correlation coefficients of the calibration curves (r) is 0.9982 with a lower limit of quantification of gabapentin in 30 ng/mL. The results of validation method fulfilled for the given criterias.