Abstrakt

Charles University in Praque, Faculty of Pharmacy in Hradec Králové

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Name of Degree Paper: Use of liquid chromatography in pharmaceutical analysis III.

The purpose of this thesis was bioanalytical evalution of quetiapine and its two biologically active metabolites 7-hydroxyquetiapine and norquetiapine using High Performance Liquid Chromatagraphy.

Separation was performed on zirconia reversed-phased column ZirChrom®-PBD (150x4,6 mm, 5 μm). The retention behaviour of those three analytes was examined at different types of mobile phase, changing strenght and pH of buffer and changing levels of organic compound (ACN) in eluent.

The finally mobile phase consisted of two components:

- MF A – acetate buffer, 6mM, pH 4,0:ACN in a ratio 90:10 (v/v)
- MF B – 10mM trifluoroacetic acid, pH 1,9:ACN in a ratio 40:60 (v/v)

The flow rate was 1 ml/min, the temperature was set at 30°C. The detection was carried out at 254 nm. The separation was performed by gradient elution.

The analytes were isolated from plasma using LLE. LLE was validated according to FDA and ICH. Flunitrazepam was used as the internal standard. Specificity, accuracy, precision, recovery, linearity, robustness, limit of detection a quantification and stability were monitored.