Abstract

Tramadol is centrally acting opioid analgesic drug. It is converted in liver by the enzyme CYP2D6 into active substance *O*-desmethyltramadol, responsible for analgesia. In clinical practise it is used as racemate. Each enantiomer displays different properties: (-)-tramadol inhibits noradrenaline reuptake and (+)-tramadol, which is therapeutically more effective, inhibits serotonin reuptake. It is indicated for the treatment of mild to moderate pain.

This Bachelor's thesis deals with possibilities of determination of drug tramadol and its main metabolite in plasma by chromatographic separation methods, which are currently modern and progressive. Using chiral HPLC analysis with different types of detection, the drug was determined with high sensitivity and selectivity. Individual publications provide pharmacokinetic data of tramadol and its metabolite after oral administration of a single dose of drug to healthy volunteers. The determinations differ by chromatographic conditions, sample preparation, chemicals used and mainly total time of analysis. The results are stated and compared in the summary table.