

## Novel mass spectrometry method for the quantification of immuno-suppressant drug in human whole blood

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**Introduction:** Ciclosporin is an immunosuppressant drug widely used in organ transplantation to prevent rejection. It reduces the activity of the immune system by interfering with the activity and growth of T cells. It is a cyclic non-ribosomal peptide comprising of 11 amino acids. A novel high performance liquid chromatography positive ion electrospray ionization tandem mass spectrometry method was developed and validated for the quantification of Ciclosporin in human whole blood.

**Method:** The whole blood sample was precipitated using organic solvent and subsequently extracted using solid phase extraction. The analyte was separated using a gradient mobile phase on a reverse phase UPLC column to meet the demands of the clinical laboratory for speed of analysis and chromatographic resolution. Detection was carried out by MS/MS in the multiple reaction monitoring mode using the respective (M+H)<sup>+</sup> ions, m/z 1219.8 → 1202.9 for analyte and m/z 1233.9 → 1216.8 for the internal standard.

**Results:** The assay exhibited a linear dynamic range of 10-2000 ng/ml for Ciclosporin in human whole blood. The lower limit of quantification was 10 ng/ml with a relative standard deviation of less than 9.0%. No interference by endogenous substances or matrix effect was observed. The spiked blood samples were found to be stable at ambient temperature for 5 hrs, after long-term storage at -20°C for 30 days, and after 3 freeze-thaw cycles. The processed blood samples were found to be stable in autosampler for 72hrs at 5°C. A very short run time (2.5min) for each sample made it a high throughput method for estimation of clinical samples.

**Conclusion:** The method for estimation of Ciclosporin in human whole blood is thus successfully developed and validated.

## New spectrophotometric determination of glipizide in bulk and pharmaceutical dosage forms

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Glipizide is a sulfonyl urea class of drug mostly used for non-insulin dependent diabetes (type 2 Diabetis). A simple, sensitive, accurate and rapid UV spectrophotometric method has been developed in Phosphate buffer (pH 3.6) for the estimation of Glipizide in pure and its pharmaceutical dosage forms. The  $\lambda_{\max}$  was found to be at 230 nm. It obeys Beer-Lambert's law in the concentration range of 0.2-50 µg/ml. The method was validated with precision and accuracy studies according to ICH guidelines.

### Biography

B.Arathi Devi is a student of JSS College of Pharmacy, JSS University, Mysore. She has completed her B.Pharm from Vignan college of pharmacy. Presently she is Pursuing her M.Pharm Degree in the branch of Pharmaceutical analysis. Her current area of research is on analytical method development of novel drugs.

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