Validation of an analytical procedure by using ultra – violet spectrophotometer

Abstract:

Ciprofloxacin is an antibiotic used to treat many cases of bacterial infection. This includes bone and joint infections and intra-adnominal injuries infections and some types of infectious diarrhea, respiratory tract infections and skin infections and typhoid fever, urinary tract infection and other different types of infection. In some other types of infection it is used along with other antibiotics**.**

The method validation is an important issue in pharmaceutical analysis because the process confirms that the analytical procedure employed for the analysis is suitable for the intended use and to show reliability of the method. All the validation parameters for quantitative analysis of Ciprofloxacin in pharmaceutical formulation were tested and validation data were evaluated according to their acceptance criteria. The aim of this work was the validation of analytical procedure Ciprofloxacin in pharmaceutical formulations using an ultra – violet (U.V) buffer solution in this method all the standards and samples solutions were prepared in solvent as (diluents) and used as the blank solution, the U.V detection was at 276n m, the calculations of results were treated using excel sheet.

Validation of the proposed method as carried out for accuracy, precision, linearity, range, specificity, limit of detection (LOD), limit of Quantization (LOQ) according to international conference on

harmonization guidelines (ICHG). The method is very selective and specific for the active ingredient and also is very sable. The calibration curve was linear for the concentrations in the range of 80%, 120% the correlation coefficient R_2 as found to be 0.9999 the LOD and LOQ as found to be to be 143.13 µg/ml and 433.72 µg/ml respectively , the recoveries of accuracy as found to be 99%, 100%, 99.5%.

This method is recommended for the future used for routine analysis of Ciprofloxacin in pharmaceutical formulation in pharmaceutical industry, due to its simplicity specificity, accuracy, and precision.