



Bioanalytical Method Development and Validation of Estimation of Nimorazole by RP-HPLC in Human Plasma

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Abstract : Nimorazole is an antiprotozoal medicine used to treat infections caused by protozoa in the stomach, intestines, or genital areas. The main principle of this study was to develop RP-HPLC technique for the quantitative determination of Nimorazole in human plasma. The separation was accomplished by the isocratic method by using column C18 (Thermosil ODS), detection wavelength was 294 nm. The analyte was extracted in acetonitrile by liquid-liquid extraction. Acetonitrile: water in the ratio 30:70 was used as mobile phase for estimation of the drug in human plasma with a flow rate of 0.8 mL/min at a detection wavelength of 294 nm. Retention time was found to be 7.933 ± 0.23 min. The developed method was found to be linear over the concentration range of 60-360 $\mu\text{g/mL}$, with a correlation coefficient of 0.9991. The LOD and LOQ were found to be 10 $\mu\text{g/mL}$ and 40 $\mu\text{g/mL}$, respectively. The method ensure for Precision and % RSD was found to be less than 2 % and the mean % recovery was found to be 99.58%. This method was effectively and favourably applied to the plasma samples and it seems to be appropriate tool for regular therapeutic drug monitoring of anti-infective drugs.

Keywords: Bioanalytical method, RP-HPLC, Nimorazole.

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