Der Pharmacia Lettre

Abstract

Reverse phase liquid chromatographic method for the

simultaneousestimation of antibiotic drugs: Metronidazole, nalidixic acid, tinidazole and norfloxacin

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A simple RP-HPLC method was developed for the simultaneous determination of Metronidazole [MTZ], Nalidixic acid [NA], Tinidazole [TZ] and Norfloxacin [NF] in pharmaceutical formulations. The chromatographic separation was achieved with the mobile phase Water, Acetonitrile and Methanol in the ratio of 50:30:20 (v/v), pH was adjusted to 4.25 with Orthophosphoric Acid, Prontosil ODS C18 Column (250 x 4.6 mm and 5?m) kept at room temperature and UV detection at 268nm. The compounds were separated isocratically at a flow rate of 0.8mL/min. The retention times for MTZ, TZ, NF and NA were 5.83, 7.27, 8.41 and 10.57min respectively. The method was validated according to the ICH guidelines. The validation characteristics included accuracy, precision, linearity, range, specificity, limit of quantization and robustness. The calibration curves were linear (r > 0.999) over the concentration range 20-120?g/mL for all the drugs in this study. The recoveries for all four compounds were more than 98%. No spectral or chromatographic interferences from the tablet excipients were found. This method was rapid and simple, does not require any sample extraction and was suitable for routine quality control analyses.

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