**Comparison between RP-HPLC and HPTLC Techniques for the Analysis of Ethionamide**

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**Abstract**

Two simple, rapid, precise and accurate reverse phase high performance liquid chromatography (RP-HPLC) and high performance thin layer chromatography (HPTLC) methods were developed and validated for analysis of Ethionamide in bulk and its dosage form and results were compared statistically. The reverse phase HPLC method was achieved by injecting 20µl of the standard solution into HIBER\* C-18 (250 mm×4.6 mm, 5 µm) column, using a mobile phase composition of Water: Acetronitrile (20:80% v/v) and elusion programming have been done at a flow rate 1 ml/min. The eluted analytes detected at 222 nm wavelength. The HPTLC method was developed and validated on aluminum plates precoated with silica gel 60F254 as a stationary phase and Methanol: Toluene: Ammonia (3:7:0.1% v/v) as a developing system. Quantification was done at 288 nm wavelength. Both assays provided good linearity, accuracy, precision, specificity, limit of detection and limit of quantification for the analysis of Ethionamide in bulk and its dosage form. Both methods revealed reasonable validation parameters. A statistical comparison of the quantitative analysis of ethionamide in bulk and its dosage form revealed excellent accuracy and there is no any significant difference in both RP-HPLC and HPTLC method. As both methods were found to be equal, they therefore can be used for the analysis of ethionamide in bulk and its dosage form.

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