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Simultaneous determination of pharmaceutical binary mixture using simple and selective spectrophotometric methods

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Two smart and simple spectrophotometric methods are developed and validated for simultaneous determination of Itopride hydrochloride (IT) and Rabeprazole sodium (RB) in their binary mixture namely; Constant Center method (CC) and Ratio difference method (RD). The calibration curves are linear over the concentration range of 10-110 µg /µL for Itopride hydrochloride and 4-44 µg /µL for Rabeprazole sodium, with mean recoveries 99.69 ± 0.391, 99.86 ± 0.440 for Itopride hydrochloride using CC and RD; respectively and 100.39 ± 0.537, 100.25 ± 0.458 for Rabeprazole sodium using CC and RD methods; respectively. The proposed methods are applied to pharmaceutical formulation without preliminary separation steps. To assess the speceficity of the methods, analysis of synthetic mixtures containing different ratios of the two studied drugs and their capsules dosage form is done. The statistical comparison shows that there is no significant difference between the results obtained by the proposed methods and the reported HPLC method with regard to both accuracy and precision.The applied methods are validated according to ICH guidelines and can be used for quality control laboratories for the studied mixture. The proposed methods have lower cost and more environmental friendly than the HPLC ones. The methods are also appropriate to be used in laboratories which have deficiency in liquid chromatographic instruments.

Biography

Heba Moustafa has completed her MSc and PhD degrees in pharamceutical analysis from faculty of Pharmacy, Cairo University-Egypt. She has extensive experiance in different analytical techniques and lately she focuses the horizoin on implementing green analytical chemistry principles in pharmaceuticals analysis. She has published more than 20 papers in highly reputed international journals and has been serving as reviewer for many highly esteemed journals.

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