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HPTLC method for the determination of anti-cold mixture in tablets and in spiked human plasma

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A sensitive, accurate and selective high performance thin layer chromatography HPTLC method was developed and validated for the simultaneous determination of paracetamol (PAR), its toxic impurity 4-aminophenol (4-AP), pseudoephedrine HCl (PSH) and loratidine (LOR). The proposed chromatographic method has been developed using HPTLC aluminum plates precoated with silica gel 60 F254 using acetone: hexane: ammonia (4:5:0.1, by volume) as a developing system followed by densitometric measurement at 254 nm for PAR, 4-AP and LOR, while PSH was scanned at 208 nm. System suitability testing parameters were calculated to ascertain the quality performance of the developed chromatographic method. The method was validated with respect to USP guidelines regarding accuracy, precision and specificity. The method was successfully applied for the determination of paracetamol, pseudoephedrine HCl and loratidine in ATSHI® tablets. The 3 drugs were also determined in plasma by applying the proposed method in the ranges of 0.5-6 µg/band, 1.6-12 µg/band and 0.4-2 µg/band for paracetamol, pseudoephedrine HCl and loratidine, respectively. The results obtained by the proposed method were compared with those obtained by a reported HPLC method; there was no significance difference between both methods regarding accuracy and precision.

Biography

Nehal Fayek Farid holds a PhD degree and is currently an Assistant Professor of Analytical Chemistry at Faculty of Pharmacy, Beni Suef University, Egypt. She has published several papers in different chromatographic and spectroscopic methods of analysis and she is a potential Reviewer in many international journals.

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