

Joint Event

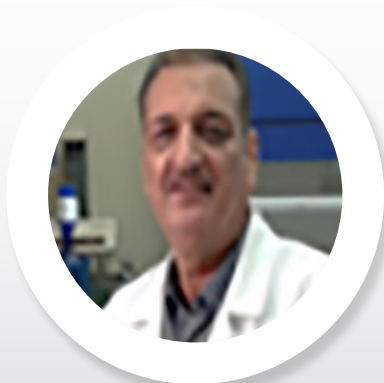
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Ion-pair reversed phase chromatography, the most applicable method for the analysis of drugs and their metabolites in body fluid, using metronidazole as a model

Ion-pair mode of chromatography can change the mechanism of separation on reversed-phase chromatography due to the use of ionic substances either cation or anion in the mobile phase. The ionic substance of long chain aliphatic compound will be adsorbed on the reversed phase stationary phase and its other radical will be ready to combine with opposite ions of the analytes. This tendency of the ionic substance to form ion pair with analyte governs the mechanism of separation and elution by polar mobile phase. For application of this technique to blood plasma or urine an additional step of centrifugation to the sample is needed before injecting directly to the column. In this work, Metronidazole drug was applied as a model and an oral tablet of 5 mg was taken by a volunteer. The urine sample was collected every hour for 12 hours. The method of chromatography consists of a column of C18 type (150X4.5 mm) and the mobile phase contains 30% acetonitrile in water with 0.5% of heptane sulfonate sodium, and the pH adjusted to 3.5 by acetic acid. The results of analysis indicated high efficiency of separation and the quantitative work proved good precision and accuracy.

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