Application of Green Chemistry for the Simultaneous Determination of Ceftriaxone Sodium in its Binary Mixture with Sulbactam Sodium in Human Plasma and dosage forms

Ramzia Ibrahim ,Nisreen F Abo-talib, Maha Medhat El-Hakeem, M Badawi N. Eldin

Abstract

Green chemistry aims to develop earth-friendly chemical processes and products that will prevent or minimize pollution and hazardous substances. In this work, the green chemistry was applied for the simultaneous determination of ceftriaxone sodium (CX) and sulbactam sodium (SL) via a sensitive, accurate, and precise high-performance liquid chromatography (HPLC) method. The method is applied for the simultaneous determination of the two drugs in the presence of ceftizoxime (active metabolite of ceftriaxone) in human plasma using cefotaxime as internal standard (IS). The analytes and the internal standard were separated using a mobile phase consisting of 0.005 M potassium dihydrogen phosphate buffer (pH 4.6) ï ethanol (92: 8, v/v) and detected at 220 nm. Analytes and internal standard were extracted from plasma by simple precipitation technique using methanol. The method also determined both

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