Chromatographic determination of tamoxifen citrate in presence of some co-administered drugs

Merey, H. A.; Galal, M. M.; Salem, M. Y.; Abdel-Moety, E. M.

Abstract

Tamoxifen citrate (TC) is a selective estrogen receptor modifier (SERM) that is usually used in the treatment of breast cancer which is associated with high levels of cyclooxygenase enzyme. Some new non-steroidal anti-inflammatory drugs (NSAIDs) are effective in preventing estrogen receptor-positive tumors, which currently can be prevented and treated with drugs such as tamoxifen citrate. In this work, a high performance liquid chromatographic method is described for the determination of the (TC) in the presence of some usually prescribed NSAIDs, namely, ibuprofen or paracetamol. The analysis is carried out on Zorbax ODS C18 column using mobile phase consisting of methanol: 1 % triethylamine (89: 11, by volumes) at pH = 4 (adjusted using o-phosphoric acid) and flow rate of 1 ml/min. The method has been validated according to USP guidelines and the system suitability parameters have been calculated. The method is successfully applied for the determination of the drugs in pure powdered forms, pharmaceutical dosage formulations and in spiked plasma samples.

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