Development of a high-performance liquid chromatographic method for bioequivalence study of flavoxate tablets

葉健全

Sheu;M.T.;Yeh;G.C.;Ke;W.T.;Ho;H.O.

摘要

Abstract

An improved HPLC method was developed for the concentration determination of the metabolite of flavoxate, 3-methyl-flavone-8-carboxylic acid (MFCA), in plasma in an attempt to compare two flavoxate tablet formulations. This HPLC method was validated by examining the precision and the accuracy for inter-day and intra-day runs in a linear concentration range of 0.1-24 microg/ml. The coefficients of variation (C.V.) of inter-day and intra-day assays were 0.24-7.18% and 0.06-5.70%, respectively. The standard errors of mean (S.E.M.) were -0.004-8.68% and -2.52-4.86% for inter-day and intra-day assays, respectively. Bioequivalence of the two formulations was determined on 12 normal healthy male volunteers in a single-dose, two-period, two-sequence, two-treatment crossover study. MFCA plasma concentrations were analyzed with this validated HPLC method. The normal pivotal parameters, AUC(0-last), AUC(0-inf) and Cmax, were calculated and compared using the SAS General Linear Model computer program. The two one-sided t distribution test was also performed, as well as the 90% confidence-interval method, for the mean difference of the three pivotal parameters. The results suggest that these two flavoxate tablet formulations are non-bioequivalent when orally administered in a 400-mg dose of two tablets. This result was consistent with the in vitro dissolution of these two formulations.