Determination of Z-butylidenephthalide in plasma by high-performance liquid chromatography.

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Abstract

An HPLC assay is described for the determination of Z-butylidenephthalide (Z-Bdph) in plasma. Plasma samples were cleaned up by extraction with 2% chloroform in n-hexane. Z-Bdph was separated on a normal-phase silica column with a mobile phase of chloroform-n-hexane (1:1). The limit of quantitation with UV detection at 254 nm for Z-Bdph in plasma was 0.01 microgram/ml. The recovery of Z-Bdph by organic solvent extraction of plasma was 99.5%. The intra-day and inter-day coefficients of variation and relative errors for Z-Bdph determination in plasma were both less than 10%. The present method was applied to pharmacokinetic studies of Z-Bdph in plasma after intravenous administration to rabbits.