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A simple, accurate GC analytical technique for the determination of phthalates, commonly used as plasticizers during the manufacturing process of PVC bags, in blood component preparations was developed and validated. The blood component preparations were extracted with n-hexane. The n-hexane layer was evaporated to dryness and the residue was dissolved in 1 mL of n-hexane and analyzed by GC and GC/MS. A linear response was found for a variety of phthalates tested within the range 0.5~99.5 ㎍/L with correlation coefficient (r) greater than 0.99. These results suggested that this method could be applied to determine the phthalates released from the blood component preparations.

[PD4-6] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Determination of L-FMAUS, a new L-FMAU derivative, in rat plasma and urine by high-performance liquid chromatography

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A high-performance liquid chromatographic method using the liquid extraction procedure was developed for the determination of L-FMAUS, a new L-FMAU derivative, in rat plasma and urine using 3-aminophenyl sulfone as an internal standard. A 100-μl aliquot of distilled water containing the L-cysteine (100 mg/ml) was added to a 100-μl aliquot of biological sample. L-Cysteine was employed to protect binding between 5'-thiol of I and protein in the biological sample. After vortex-mixing for 30 s, a 50-μl aliquot of the mobile phase containing the internal standard (10 μg/ml of 3-aminophenyl sulfone) and a 1-ml aliquot of ethyl acetate were added. After vortex-mixing and centrifugation at 9000 g for 4 min, the ethyl acetate layer was collected and dried under nitrogen gas. The residue was reconstituted with a 100-μl aliquot of the mobile phase, centrifuged, and a 50-μl aliquot of the supernatant was injected directly onto a C_{18} reversed-phase column. The mobile phases, 50 mM KH_2PO_4 (pH = 2.5) : acetonitrile (85:15, v/v) for rat plasma and 50 mM KH_2PO_4 (pH 2.5) : acetonitrile : methanol (85:10:5, v/v/v) for urine sample, were run at a flow-rate of 1.2 ml/min. The column effluent was monitored by an ultraviolet detector set at 265 nm. The retention times for I and the internal standard were approximately 9.7 and 12.5 min, respectively, in plasma samples and the corresponding values in urine samples were 16.8 and 14.9 min. The detection limits for I in rat plasma and urine were 0.1 and 0.5 μg/ml, respectively. The coefficients of variation of the assay (within-day and between-day) were generally low; below 8.60% for plasma and 8.86% for urine. No interferences from endogenous substances were found.

[PD4-7] [04/18/2003 (Fri) 13:30 - 16:30 / Hall P]

Determination of tiropramide in human plasma by LC/MS/MS

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A liquid chromatography-tandem mass spectrometric (LC/MS/MS) method for the determination