

原著

外部精度管理用試料を検査所に郵送後の有機 溶剤尿中代謝産物の濃度変動

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Changes in the Concentrations of Urinary Metabolites of Solvents Contained in the Specimens Prepared for External Quality Controls after Mailing

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Abstract

The hippuric acid, methylhippuric acid and mandelic acid were spiked into artificial prepared urine and human urine, and used as specimens for external quality controls. These specimens were sent to the three laboratories located in Tokyo metropolis, Osaka city and Okayama city. Then concentrations of three acids and creatinine were measured in the laboratories. The ratio of the concentrations of three acids in artificial prepared urine measure in the three laboratories tested to those in the laboratory, where specimens were prepared and sent, was about 100 percent under the mailing condition at 0~4°C and at -20°C. The ratios of three acids in human urine was about 98 per cent under the condition at -20°C and slightly lower ratio was obtained at 0~4°C in human urine. The three acids were spiked in artificial prepared urine and in human urine, and then these specimens were freeze-dried and mailed to three laboratories at 0~4°C. The ratios of three acids in artificial prepared urine and those in human urine were above 98 percent. The results indicate that the three acids in artificial urine and human urine are useful under mailing condition at 0~4°C and at -20°C, though slight lower values are shown in human urine at 0~4°C and can be useful under sending condition at -20°C. The freeze-dried artificial and human urines are useful under mailing condition at 0~4°C.

要約

外部精度管理の実情に近い条件のもとで、有機溶剤の尿中代謝産物である馬尿酸、メチル馬尿酸、マンデル酸を人工尿、ヒト尿に加えた試料について、郵送した後の濃度を、東京都、大阪市、岡山市に存在する3検査機関で測定した上述の3種類の尿中代謝産物の郵送後の値の、郵送前の研究室の値に対する比率(回収率)を求めた。その成績として、液性試料で冷蔵保存(0~4°C)、冷凍保存(-20°C)下の郵送では、人工尿は郵送前のほぼ100%の値を示した。ヒト尿中の馬尿酸、メチル馬尿酸、クレアチニンは凍結保存では98%を示したが、冷蔵保存では郵送前よりやや低い値を示した。凍結乾燥した人工尿、ヒト尿の冷蔵保存下の郵送では、3種の代謝産物はほぼ98%以上の値を示し、実用可能な事が推定された。
