Title	Analysis of ultraviolet-absorbing compounds in human urine by high-performance liquid chromatography
Sub Title	
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Publisher	共立薬科大学
Publication year	1987
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.32 (1987.) ,p.45- 45
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000032-0045

Analysis of Ultraviolet-Absorbing Compounds in Human Urine by High-Performance Liquid Chromatography*

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High-performance liquid chromatography (HPLC) using macroreticular anion exchange resin offers much savings in time and tedium in analysis of body fluid over the conventional analytical methods. The technique has become practical in clinical laboratories. The separation of ultraviolet(UV)-absorbing compounds in biological fluids with this technique has been reported and several elution systems were proposed. We examined these systems with a view to obtaining a routine analytical method of human urine applicable to diagnostic purposes and propose a modified method.

The sample was eluted with a linear gradient of water to 0.25 M ammonium perchlorate-acetonitrile (85 : 15) at 0—50 min and with 0.25 M ammonium perchlorate-acetonitrile (85 :15) at 50—70 min and monitored with absorption at 254 nm. Column temperature was maintained at 60°C. Reproducible chromatograms were obtained and 68 well resoluted peaks were numbered. The storage of a urine sample at −20°C for 7 weeks did not significantly affect the chromatogram. The correlation coefficients of every pair of the numbered peaks were calculated to examine the daily variations and the individual difference of the UV-absorbing urine components.

* 本報告は *J. Liq. Chromarogr.*, **10**(13), 2993(1987) に発表.

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