



DETERMINATION OF ALBUMIN CONCENTRATION IN URINE (DIAGNOSTICS OF MICROALBUMINURIA)

INTRODUCTION

The capillary electrophoresis method provides determination of albumin concentration in urine.

MEASUREMENT METHOD

Determination of albumin is based on electrophoretic migration of its anionic form in the electric field and its direct detection by measuring the UV absorption in the 215–220-nm range. Prior to analysis sample aliquot was desalted either by ultra-diafiltration or on the “Sephadex[®] G-25” column.

REFERENCE CONCENTRATION OF ALBUMIN IN URINE

The albumin content in urine of a healthy person is less than **20 mg/dm³**.

EQUIPMENT AND REAGENTS

The “CAPEL[®]-105/105M” capillary electrophoresis system is used in measurements.

Data acquisition, collection, processing and output are performed using a personal computer running under “WINDOWS[®] 2000/XP” operating system with installed dedicated software package for acquisition and processing of chromatography data.

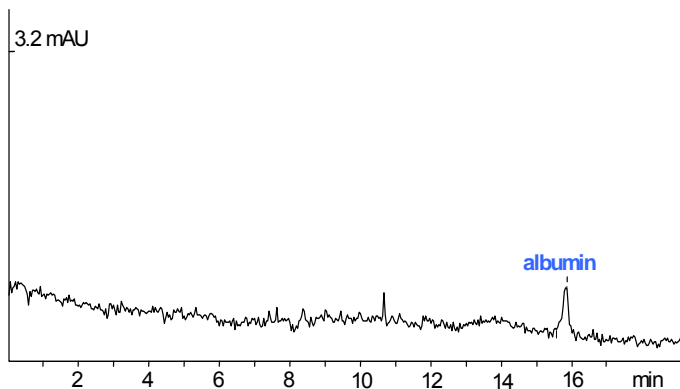
All reagents must be of analytical grade or higher.

EXAMPLES OF REAL ANALYSES

Buffer: borate, with SDS, pH 9.2
Capillary: L_{eff}/ L_{tot} 50/60 cm, ID 75 μm
Injection: 450 mbar x sec
Voltage: + 15 kV
Detection: 215 nm

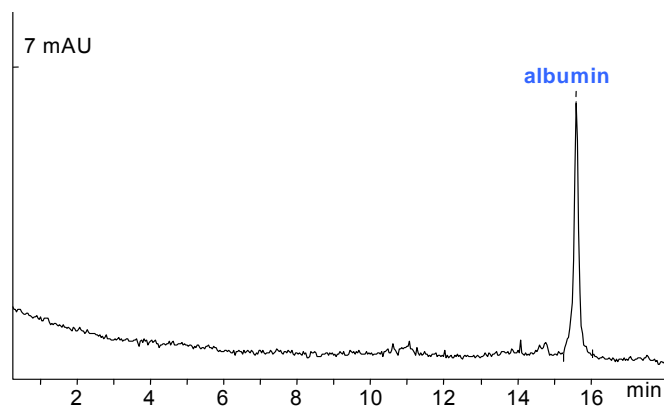
Sample: urine of a healthy person

Measurement results: detected albumin concentration 13 mg/dm³



Sample: urine of a patient with diabetes

Measurement results: detected albumin concentration 117 mg/dm³



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