



## 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 at the wavelength of 215 nm. 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/L.

### EQUIPMENT AND REAGENTS

The Capel capillary electrophoresis system is used in measurements. Data acquisition, collection, processing, and output are performed using a personal computer running under Windows® operating system with Elforun software installed. All reagents must be of analytical grade or better.

### EXAMPLE OF A REAL ANALYSIS

**BGE:** borate, with SDS, pH 9.2

**Capillary:**  $L_{\text{eff}}/L_{\text{tot}}$  50/60 cm, ID 75  $\mu\text{m}$

**Injection:** 450 mbar  $\times$  s

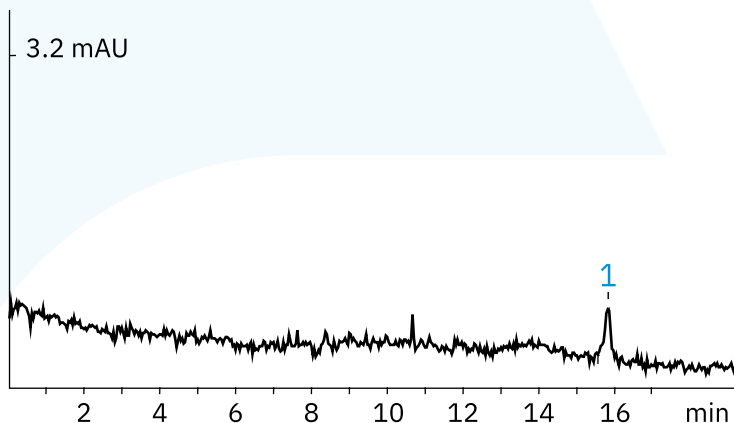
**Voltage:** 15 kV

**Detection:** 215 nm

**Sample:** urine of a healthy person

**Found:**

**1** – albumin 13 mg/L



**Sample:** urine of a patient with diabetes

**Found:**

**1** – albumin 117 mg/L

