



Microalbumin Turbilatex Quantitative determination

Cat. No. 101-0481

Size 1x40 ml/1x6.5 ml

PRINCIPLE:

Latex particles coated with anti-human albumin are agglutinated when mixed with samples containing albumin. The agglutination causes an absorbance change, dependent upon the albumin contents of the patient sample, that can be interpolated in a calibration curve prepared with different calibrators of different albumin contents.

CLINICAL SIGNIFICANCE:

The significant increasing albumin concentration in the urine has been used some years as a predictive value of incipient nephropathy and cardiovascular disease in diabetic patients. Microalbuminuria has also been associated with hypertension and risk of cardiovascular disease in non-diabetic patients. Microalbuminuria occurs in response to acute inflammatory conditions such as ischemia, trauma and thermal injury, surgery, pancreatitis, and inflammatory bowel disease. In many of these conditions, albumin excretion increases within minutes or hours of the initiating stimulus. The degree of microalbuminuria is proportional to the severity of the inflammatory process.

REAGENTS:

1. Reagent 1 (1x40 ml)

Glycine buffer pH 8.2

Sodium azide 0.6 g/L

2. Reagent 2 (1x6.5 ml)

Albumin Latex

Optional: 101-0482 Microalbumin Calibrator * 1x1 ml

101-0483 Microalbumin Control 1x2 ml

* The concentration of Microalbumin of the calibrator is stated on the vial label.

PREPARATION AND STABILITY:

R.1: Ready to use.

R.2: Ready to use: It should be gently mixed before to use.

Calibration curve: Prepare dilutions of the albumin calibrator using 9 g/L saline as diluent:

Dilution	1	2	3	4	5
Calibrator, µl	0	25	25	50	100
NaCl 9g/L, µl	100	175	75	50	0
Factor	0	0.125	0.25	0.5	1.0

Multiply the albumin calibrator concentration by the corresponding dilution factor indicated in the table to obtain the albumin concentration of the different calibrators.

All the components of the kit are stable until the expiration date on the label when stored at 2-8°C. Do not freeze.

SAMPLES:

Fresh urine. Stable 8 days at 2-8°C.

Centrifuge urine specimens. Test urine specimens using albumin strips. If the result is negative (< 300 mg/L), test the specimens undiluted. If the result is positive (> 300 mg/L), dilute the specimen with NaCl 9 g/L solution to obtain a concentration below 120 mg/L.

PROCEDURE:

Wavelength: 405 nm (400-450)
Cuvette: 1 cm light path
Temperature: 37 °C
Zero: distilled water

Pipette into a cuvette:	Calibrator	Sample
Calibrator	10 µl	--
Sample	--	10 µl
R1 Buffer	850 µl	850 µl
R2 LAtex	150 µl	150 µl
Mix and read the absorbance after 10 seconds (A ₁) and after 3 minutes (A ₂) of the latex addition		

CALCULATION:

Calculate the absorbance differences $A_2 - A_1$ for each albumin calibrator, and plot the values found against the albumin concentration in a calibration curve. Albumin concentration in the sample is calculated by interpolation its $A_2 - A_1$ value on the calibration curve.

Chronolab has instruction sheets available for several automatic analyzers.

REFERENCE VALUES:

Up to 15 mg/L.

Each laboratory should establish its own reference range

PERFORMANCE CHARACTERISTICS:

- Measurement interval:* 5-120 mg/L, under the described assay conditions. The measurement range depends on the sample to reagent ratio. The upper limit of the range will be higher by decreasing sample volume, although the sensitivity will be reduced.
- Prozone effect:* No prozone effect was detected upon 1000 mg/L.
- Sensitivity:* Values less than 5 mg/L give non reproducible results.

REFERENCES:

Winocour PH. BMJ 1992; 304: 1196- 1197
Marshall SM. Diabetic Medecine 1991; 8: 706-711
Osberg Y et al. Clin Chem 1990; 36: 1428-1430
Gosling P. Ann Clin Biochem 1995; 32: 439-441