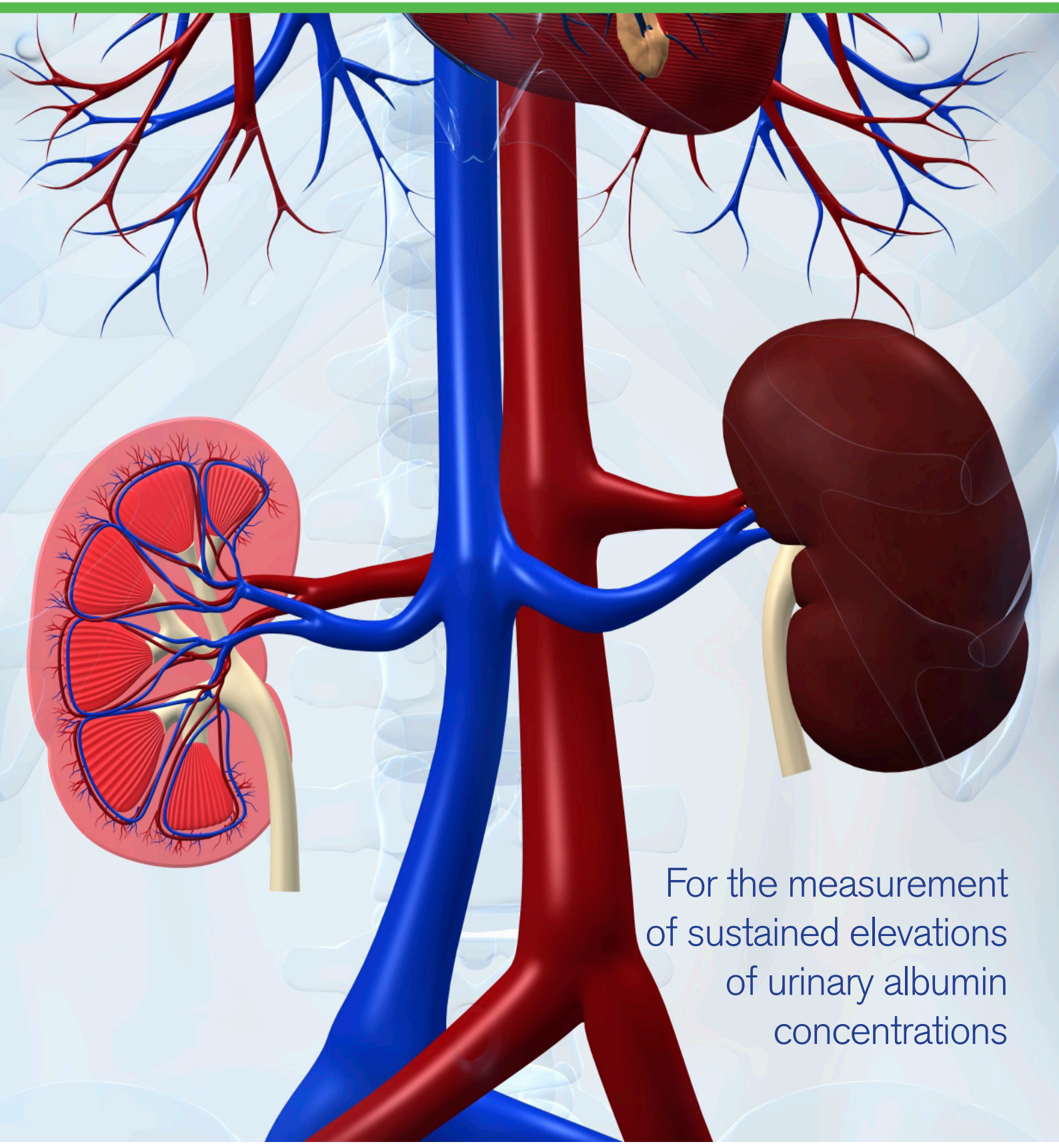
Microalbumin



For the measurement of sustained elevations of urinary albumin concentrations

RANDOX
clinical diagnostic solutions

Microalbumin

WHAT IS MICROALBUMIN?

Kidney function may be assessed through measurement of albumin levels in the urine. Normal kidney function entails filtering of waste products from the blood across tiny capillaries in the glomerulus. Kidney malfunction results when the capillaries become blocked, causing waste products to remain in the blood and important proteins are lost from the blood into the urine. Kidney deterioration is progressive and begins with small amounts of albumin leaking into the urine. This is known as microalbuminuria and indicates early signs of nephropathy. The term 'micro-' refers to low concentrations of urinary albumin. Progression of kidney disease will lead to larger amounts of albumin leaking into the urine which may develop further to end stage renal disease. Kidney disease is a major concern in diabetic patients and early detection and treatment may slow the onset and progression of the condition.

	Albumin Levels (mg/day)
Normal	2-20
Microalbuminuria	20-300
Macroalbuminuria	>300

CLINICAL SIGNIFICANCE

Albumin is one of the major plasma proteins. In normal circumstances, albumin molecules are too large to cross the glomerular basement membrane, therefore, albumin is usually present in very low concentration in urine. Damage to the glomerular basement membrane can alter its permeability and albumin is then able to enter the urine. Sustained elevations of urinary albumin concentrations are called Microalbuminuria.

HOW IS MICROALBUMIN MEASURED?

Randox manufacture an immunoturbidimetric method for the determination of urinary albumin. Antibody specific for human serum albumin binds albumin in the undiluted urine sample. The absorbance at 340 nm of the resulting turbid solution is proportional to the concentration of albumin in the sample.

HIGH PERFORMANCE REAGENTS

Wide measuring range - 5-220 mg/l.

Excellent Precision - The following coefficients of variation were obtained on a Hitachi™ 717 analyser.

	Microalbumin Mean (mg/l)	Mean %CV	n
Intra-assay precision	21.2	4.76	20
	48.0	3.18	20
	11.6	4.41	20
Intra-assay precision	28.4	2.17	20
	56.8	3.94	20
	142.8	4.78	20

Excellent Sensitivity - 5 mg/l.

Unopened vial stability - 24 months.

Sample Type - Urine.

Interference - The following concentrations of interfering substances were not found to affect the assay.

Ascorbic Acid	4 g/l
Bilirubin	250 mg/l
Creatinine	4 g/l
Gentamicin	10 g/l
Glucose	40 g/l
Paracetamol	5 g/l
Potassium chloride	10 g/l
Sodium chloride	20 g/l
Urea	40 g/l

Antigen excess (Prozone) - effects are not detected in this assay until Albumin levels are > 1430 mg/l.

Recovery - The assay exhibits a mean recovery of 99.9% across the measuring range.

Completely Automated Protocols - are available for a range of analysers.

Calibration - Liquid calibrators supplied with the kits.

Product Description	Size	Cat. No.
Microalbumin	R1 3x100 ml	MA2423
(2-shot) (Liquid)	R2 5x7 ml	
Microalbumin	R1 1x60 ml	MA2426
(2-shot) (Liquid)	R2 1x7 ml	
Dimension®	4x50 T	MA2864
Daytona™	R1 6x20 ml	MA3828
	R2 3x8 ml	
Microalbumin Calibrators	6x2 ml	MA1567
Microalbumin Control level 1&2	6x1 ml	MA1361

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