

# MultiCare™

Quantitative immunochromatography analyzer



## Test items



### MultiCare™ HbA1c

- Sample : Whole blood
- Sample volume : 5  $\mu$ l
- Measurement range : 4.0-15.0 %
- Testing time : 3 min.



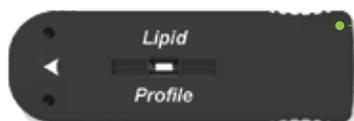
### MultiCare™ CRP

- Sample: Whole blood, Serum, Plasma
- Sample volume : 5  $\mu$ l
- Measurement range : Whole blood: 3-150 mg/L  
Serum, Plasma: 3-120 mg/L
- Testing time : 3 min.



### MultiCare™ U-Albumin

- Sample : Urine
- Sample volume : 3  $\mu$ l
- Measurement range : 5-300 mg/L
- Testing time : 3 min.



### MultiCare™ Lipid Profile

- Sample : Whole blood, Serum, Plasma
- Sample volume : 35  $\mu$ l
- Measurement range : TC : 100 - 450 mg/dL  
TG : 45 - 650 mg/dL  
HDL : 25 - 95 mg/dL  
Cal. LDL, LDL/HDL, non-HDL
- Testing Time : 3min.

## Analyzer Specifications

Method	Quantitative Immunochromatography
Dimension	163 mm x 96 mm x 52 mm
Weight	500g
Display	LCD
Data transfer	Mini USB cable, Bluetooth(optional)
Storage Capacity	999 Patient Data
Operating Temperature	15-32 °C / 59-90 °F
Humidity	30-80 %
Test kit storage temperature	2-30 °C / 36-86 °F
Optional Accessories	Thermal printer, Barcode Scanner

# Simple. Efficient. Reliable.

## 4 tests on 1 analyzer

HbA1c/ CRP/ U-Albumin  
/ Lipid Profile

## Fast and simple test procedure

Minimal training required  
3 minutes for a result

## Battery powered portable analyzer

Most suitable for making a decision  
at the point of care

## Room temperature storage condition

Wide range of storage temperature of  
test kits (2-30 °C / 36-86 °F)  
Shelf life : 18 months



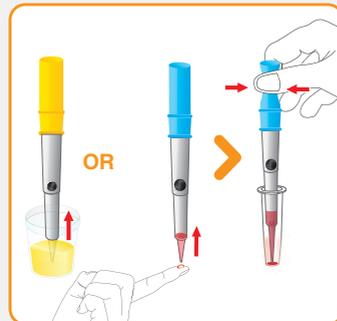
## Test procedure

### ⦿ HbA1c, CRP, U-Albumin

1 Insert a test panel.



2 Take sample and mix it with buffer solution.



3 Apply mixed sample to the test panel.



4 Check the result after 3 minutes.

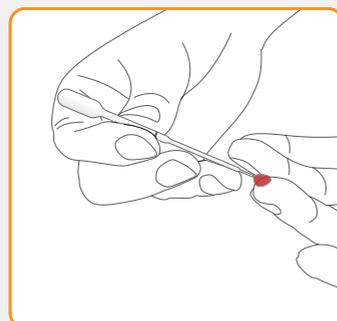


### ⦿ Lipid Profile

1 Insert a Lipid Profile test panel.  
After white calibration, remove  
the test panel.



2 Take 35ul of whole blood  
(Serum/plasma)



3 Apply the sample to the test  
panel and insert it again  
immediately.



4 Check the TC, TG, HDL, LDL,  
LDL/HDL and non-HDL results  
after 3 minutes.



## HbA1c

### Why HbA1c?

Two large-scale studies - the UK Prospective Diabetes Study (UKPDS) and the Diabetes Control and Complications Trial (DCCT) - demonstrated that improving HbA1c by 1% (or 11 mmol/mol) for people with type 1 diabetes or type 2 diabetes cuts the risk of microvascular complications by 25%.

Research has also shown that people with type 2 diabetes who reduce their HbA1c level by 1% are:

- **19%** less likely to suffer cataracts
- **16%** less likely to suffer heart failure
- **43%** less likely to suffer amputation or death due to peripheral vascular disease

### Standardization

MultiCare™ is CE marked to meet the European IVD Directive and has been anchored to the IFCC Reference Method.

The program is also certified by the NGSP as being traceable to the Diabetes Control and Complications Trial (DCCT).



### Reference range

The HbA1c test measures your average blood glucose for the past 2 to 3 months.

Normal	less than 5.7% (less than 38.8mmol/mol)
Prediabetes	5.7% to 6.4% (38.8mmol/mol~46.4mmol/mol)
Diabetes	6.5% or higher (47.5mmol/mol or higher)

## Lipid

## Profile

### High Cholesterol leads plaque in the arteries

Everyone age 20 and older should have their cholesterol measured at least once every 5 year. It is best to have a blood test called a "lipoprotein profile" to find out their cholesterol numbers. This blood test is done after a 9-to 12-hours fast and gives information about:

- Total Cholesterol
- LDL(BAD) cholesterol - the main source of cholesterol buildup and blockage in the arteries
- HDL(GOOD) cholesterol - helps keep cholesterol from building up in the arteries
- Triglycerides - another form of fat in your blood

### Reference range

- The American National Cholesterol Education Program (NCEP) Adult Treatment Panel (ATP) III recommends the following cut-off value:

LDL Cholesterol	<100 mg/dL (2.56 mmol/L)	optimal
	100-129 mg/dL (2.56-3.3 mmol/L)	near optimal
	130-159 mg/dL (3.3-4.0 mmol/L)	borderline high
	160-189 mg/dL (4.1-4.85 mmol/L)	high
	>189 mg/dL (4.85 mmol/L)	very high

HDL Cholesterol	<40 mg/dL (1.01 mmol/L)	low
	40 mg/dL (1.01-1.54 mmol/L)	borderline
	>60 mg/dL (1.54 mmol/L)	desirable
	<200 mg/dL (5.1 mmol/L)	desirable

Total Cholesterol	<200 mg/dL (5.1 mmol/L)	desirable
	200-240 mg/dL (5.1-6.1 mmol/L)	borderline high
	>240 mg/dL (6.1 mmol/L)	high

- The European Society of Cardiologists recommends the following:

LDL Cholesterol < 3 mmol/L (115 mg/dL)

HDL Cholesterol > 1 mmol/L (40 mg/dL)

Total Cholesterol < 5 mmol/L (190 mg/dL)

\*Resource : NIH Publication No. 05-3290 Originally printed May 2001/ Revised June 2005

## CRP

### 🔍 The acute phase response

CRP is one of a group of substances known as "acute phase reactants." Among all acute-phase reactants, CRP rises the fastest and is the most reliable indicator of clinical disease and its severity.

An increased CRP may be due to:

- Inflammatory disorders - eg> inflammatory arthritis, vasculitis, Crohn's disease
- Tissue injury or necrosis- eg> burns, necrosis, myocardial infarction, pulmonary embolus
- Infections
- Malignancy
- Tissue refection

### 🔍 Reduce unnecessary antibiotic prescribing

Many study shows that CRP testing in patients with acute cough/RTI many reduce antibiotic prescribing as CRP is increased by bacterial infections and generally less elevated in viral infections.

Upper respiratory tract infections (URTI) are mostly caused by virus in about 80% of cases. Antibiotic misuse for viral URTI is a serious problem that results in resistant strains of bacteria.

Careful use and interpretation of CRP testing in patients with RTI has the potential to benefit patients and to help GPs in the important struggle against antibiotic resistance.

### 🔍 CRP as an indicator of severity



## U-ALB

### 🔍 The usefulness of point of care testing for diagnosing and managing albuminuria

Urine albumin test can be used in many conditions including;

- Diabetic kidney disease.
- High blood pressure
- Congestive heart failure
- Metabolic syndrome
- kidney damage from nephrotic syndrome
- Cardiovascular disease

### 🔍 Nephropathy screening tool for diabetes

ADA recommends diabetes should have a urine test for albuminuria at least once a year.

- Type 1 patients with  $\geq 5$ -yr diabetes duration
- All type 2 patients starting at diagnosis

### 🔍 Reference range

Reference range (with normal urine volume)	
Normal values	< 30 mg/L
Microalbuminuria	20-200 mg/L
Clinical albuminuria	> 200 mg/L

## Ordering information

Item	Cat. No.	Description
System	03MA10	MultiCare™ Analyzer, MultiCare™ Check Strip
	03MA20	MultiCare™ Analyzer(Bluetooth), MultiCare™ Check Strip
Test kit	03MS10	MultiCare™ HbA1c Test Set(20ea), MultiCare™ HbA1c Buffer Tube(20ea)
	03MS20	MultiCare™ U-Albumin Test Set(20ea), MultiCare™ U-Albumin Buffer Tube(20ea)
	03MS30	MultiCare™ CRP Test Set(20ea), MultiCare™ CRP Buffer Tube(20ea)
	03MS40	MultiCare™ Lipid Profile Test Set(20ea), EziTube+ 35ul (10ea x 2)
Control	03ACS10	SDB HbA1c Control - Level 1(10ea), 2(10ea)
	03UCS10	SDB U-Albumin Control - Level 1(10ea), 2(10ea)
	03CCS10	SDB CRP Control - Level 1(10ea), 2(10ea)
	02LCS10	STANDARD™ Lipid Control Solution - Level 1(1vial), 2(1vial)
Printer	90TPRT10	STANDARD™ Thermal Printer
Printer Paper	90TPRTP11	STANDARD™ Thermal Printer Paper (Label type)
Accessory	90SL11	STANDARD™ Safety Lancet: 28G (100ea)
	90AS10	STANDARD™ Alcohol Swab (100ea)



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