BioSystems
REAGENTS & INSTRUMENTS

ACID PHOSPHATASE (ACP)

Continuous-spectrophotometric
SFBC

Instrument: KONE SPECIFIC

Principle of the method

Acid phosphatase (ACP) catalyzes in acid medium the hydrolysis of the phosphate group from α-naphtyl phosphate. The α-naphtol formed reacts with a diazonium salt (Fast Red TR) originating a chromogen. The catalytic concentration is determined from the rate of chromogen formation, measured at 405 nm. Tartrate is used as a specific inhibitor of the prostatic fraction.

Samples

Serum.
Acid phosphatase is unstable in serum. Measure immediately or add 1 drop of Reagent C per mL serum. Acid phosphatase in acidified serum is stable for 6 days at 2-8ºC.

Reagent preparation

Working Reagent: Stopper the vial with the cap containing α-naphtyl phosphate and press the red button until the solute falls into the vial. Add 10 mL of Reagent A1 (Total ACP) or 10 mL of Reagent A2 (Non Prostatic ACP). Cap and shake until dissolved. Stable for 10 days at 2-8ºC.

Performance characteristics

- Interferences: Hemolysis and bilirubin interfere.
- Linearity: Up to 150 U/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	ACP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	ACP	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	844
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	**TEST FLOW DISPENSING**	
Male reference (low/high)	0 / 10	Sample with Water/Reag. (W/R)	R
Female reference (low/high)		Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 150	Sample volume (µL)	10
Dilution limit (low/high)	0 / 50	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	100
Main wavelength	405	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	300
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	I		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

TRIGLYCERIDES

Enzymatic-spectrophotometric
GLYCEROL PHOSPHATE OXIDASE/PEROXIDASE

Instrument: **KONE SPECIFIC**

Principle of the method

Triglycerides in the sample originates, by means of some coupled reactions, a coloured complex that can be measured by spectrophotometry.

Samples

Serum or plasma.
Stable for 5 days at 2-8ºC.
Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Reagent preparation

Reagent is ready to be used

Performance characteristics

- Interferences: Hemoglobin (10 g/L) does not interfere. Bilirubin (2.5 mg/dL) may intefere. Other drugs and substances may interfere.
- Linearity: Up to 600 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	TRIG	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	TRIG	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	Y
Male reference (low/high)	60 / 170	Bias correction (Y/N)	N
Female reference (low/high)	60 / 170		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 500	Concentration	0
Dilution limit (low/high)	0.0 / 500	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	510
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	300		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

PROTEIN (URINE)

Spectrophotometric
PYROGALLOL RED

Instrument: KONE SPECIFIC

Principle of the method

Protein in the sample reacts with pyrogallol red and molybdate in acid medium forming a coloured complex which can be measured by spectrophotometry.

Samples

Urine, cerebrospinal fluid. Stable for 8 days at 2-8 ºC.

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Linearity: Up to 4 g/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	PROT-URINE	Lin (1), Bias (2), Non lin (3)	1
Test Identification	PROT-URINE	Single/Duplicate std (S/D)	S
Sample type	U	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	50 / 140	Bias correction (Y/N)	N
Female reference (low/high)	50 / 140		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0 / 4000	Concentration	0
Dilution limit (low/high)	0.0 / 100	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	600
Sample volume (µL)	3	Side wavelength	0
		Side wavelength weight	1.000
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	150	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	500		
Followed by mixing time (s)	0		

Vers. 0306

BioSystems
REAGENTS & INSTRUMENTS

PROTEIN

Spectrophotometric
BIURET

Instrument: KONE SPECIFIC

Principle of the method

Protein in the sample reacts with copper (II) ion in alkaline medium forming a coloured complex that can be measured by spectrophotometry.

Samples

Serum, heparinized plasma.
Stable for 8 days at 2-8ºC.
Anticoagulants other than heparin should not be used.

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Interferences: Hemoglobin (0.2 g/L) and bilirubin (15 mg/dL) interfere. Moderate lipemia does not affect the results.
- Linearity: Up to 150 g/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	PROT	Lin (1), Bias (2), Non lin (3)	1
Test Identification	PROT	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	g/L		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	65 / 80	Bias correction (Y/N)	N
Female reference (low/high)	65 / 80		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 150	Concentration	0
Dilution limit (low/high)	0.0 / 100	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	**TEST FLOW / MEASUREMENT**	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	3	Side wavelength	0
		Side wavelength weight	1.000
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	150	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	300		
Followed by mixing time (s)	0		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

PHOSPHORUS

Spectrophotometric
PHOSPHOMOLYBDATE/UV

Instrument: **KONE SPECIFIC**

Principle of the method

Inorganic phosphorus in the sample reacts with molybdate in acid medium forming a phosphomolybdate complex that can be measured by spectrophotometry.

Samples

Serum, plasma, urine.
Phosphorus in serum or plasma is stable for 7 days at 2-8ºC. EDTA and fluoride may be used as anticoagulants.

Reagent preparation

Working Reagent: Mix 35 mL Reagent A + 15 mL Reagent B. Mix thoroughly. Stable for 12 months at 15-30ºC.

Performance characteristics

- Interferences: Do not use hemolyzed sera.
- Linearity: Up to 20 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	PHOS	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	PHOS	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/Dl		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	2.7 / 4.5	Bias correction (Y/N)	N
Female reference (low/high)	2.7 / 4.5		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 15.0	Concentration	0.0
Dilution limit (low/high)	0.0 / 10.0	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	340
Sample volume (µL)	3	Side wavelength	0
Sample/Std diluent position	1	Side wavelength weight	1
Diluted sample volume (µL)	2	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	220	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300	* assigned by the operator	
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

MAGNESIUM

Spectrophotometric
CALMAGITE

Instrument: KONE SPECIFIC

Principle of the method

Magnesium in the sample reacts with calmagite in alkaline medium forming a coloured complex that can be measured by spectrophotometry. EGTA is included in the reagent to remove calcium interference.

Samples

Serum, heparinized plasma.
Magnesium in serum or plasma is stable for 10 days at 2-8ºC.
Anticoagulants other than heparin should not be used.

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Linearity: up to 4 mg/dL.
- Interferences: Hemoglobin (1.5 g/L), bilirubin (20 mg/dL) and calcium (20 mg/dL) do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	MG	Lin (1), Bias (2), Non lin (3)	1
Test Identification	MG	Single/Duplicate std (S/D)	D
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	2		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	1.80 / 2.10	Bias correction (Y/N)	N
Female reference (low/high)	1.80 / 2.10		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 4.00	Concentration	0
Dilution limit (low/high)	0.0 / 4.00	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	510
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1.000
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

LDL CHOLESTEROL

Precipitation/Enzymatic-spectrophotometric
POLIVINYL SULPHATE-CHOLESTEROL OXIDASE/PEROXIDASE

Instrument: **KONE SPECIFIC**

Principle of the method

Low density lipoproteins (LDL) in the sample precipitate with polivinyl sulphate. The supernatant contains low density lipoproteins (LDL). LDL cholesterol concentration is calculated by substracting cholestrol values in serum from supernatant values after being precipitated. The LDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples

Serum. Stable for 24 hours at 2-8ºC.

Sample preparation

Precipitation:

1.- Pipette into labelled centrifuge tubes: 0.2 mL Sample + 0.1 mL Reagent B
2.- Mix thoroughly and let stand for 15 minutes at room temperature
3.- Centrifuge at a minimum of 4000 r.p.m. for 15 minutes
4.- Carefully collect the supernatant

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Linearity: up to 500 mg/dL.
- Interferences: Hemoglobin (1 g/L), bilirubin (10 mg/d/L) and acid ascorbic (0.1 mmol/L) interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	LDL-C	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	LDL-CHOL	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	/ 150	Bias correction (Y/N)	N
Female reference (low/high)	/ 150		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 500	Concentration	0
Dilution limit (low/high)	0.0 / 500	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	510
Sample volume (µL)	4	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	300		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

CHOLESTEROL LDL
DIRECT
DETERGENT

Instrument: **KONE SPECIFIC**

Principle of the method
A specific detergent hydrolizes the cholesterol from high density lipoproteins (HDL), very low density lipoproteins (VLDL) and chylomicrons, the cholesterol esters are broken down by cholesterol esterase and cholesterol oxidase in a non-color forming reaction. The second detergent, present in the reagent B, solubilizes cholesterol from low density lipoproteins (LDL) in the sample. The LDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples
Serum, EDTA-treated plasma or sodium heparinized plasma collected by standard procedures.
LDL cholesterol in serum is stable for 5 days at 2-8ºC.

Reagent preparation
Reagent 1: Use the Reagent A.
Reagent 2: Use the Reagent B.

Performance characteristics
- Detection limit: 0.28 mg/dL
- Linearity: up to 990 mg/dL.
- Interferences: Hemoglobin (5 g/L), lipemia (triglycerides 12.9 g/L) nad bilirrubin (20 mg/dL) do not interfere. Other drugs and substances may interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	LDL DIRECT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	LDL DIRECT	Single/Duplicate std (S/D)	D
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.010 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	39 / 130	Bias correction (Y/N)	N
Female reference (low/high)	39 / 130		
Child reference	39 / 130	Name of 1. standard	S0
Test limit (low/high)	0.28 / 990	Concentration	0
Dilution limit (low/high)	0.28 / 990	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	660
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	150	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	50		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300		
Followed by mixing time (s)	0		

Vers. 0409

BioSystems
REAGENTS & INSTRUMENTS

CHOLESTEROL LDL

DIRECT
POLYMER/DETERGENT

Instrument: **KONE SPECIFIC**

Principle of the method

Combined action of polymers and detergents solubilizes cholesterol from low density lipoproteins (LDL) in the sample, but not from high density lipoproteins (HDL), very low density lipoproteins (VLDL) and chylomicrons. The LDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples

Serum collected by standard procedures.
LDL cholesterol in serum or plasma is stable for 4 days at 2-8ºC.

Reagent preparation

Reagent 1: Use the Reagent A.
Reagent 2: Use the Reagent B.

Performance characteristics

- Detection limit: 3.5 mg/dL
- Linearity: up to 450 mg/dL.
- Interferences: Hemoglobin (10 g/L) does not interfere. Lipemia (triglycerides 5 g/L) and bilirubin (10 mg/dL) may interfere. Other drugs and substances may interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	LDL DIRECT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	LDL DIRECT	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	* / 130	Bias correction (Y/N)	N
Female reference (low/high)	* / 130		
Child reference		Name of 1. standard	S0
Test limit (low/high)	3.5 / 450	Concentration	0
Dilution limit (low/high)	3.5 / 450	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	700
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	210	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	213	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	70		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

IRON
Spectrophotometric
FERROZINE

Instrument: **KONE SPECIFIC**

Principle of the method
Transferrin-bound ferric ions in the sample are released by guanidinium and reduced to ferrous by means of hydroxylamine. Ferrous ions react with ferrozine forming a coloured complex that can be measured by spectrophotometry.

Samples
Serum or heparinized plasma.
Stable for 7 days at 2-8ºC.

Reagent preparation
Reagent 1: Use the Reagent A.
Reagent 2: Use the Reagent B.

Performance characteristics
- Interferences: Do not use hemolyzed sera.
- Linearity: Up to 1000 µg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	IRON FE	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	IRON FE	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	µg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	70 / 160	Bias correction (Y/N)	N
Female reference (low/high)	55 / 145		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 600	Concentration	0
Dilution limit (low/high)	0.0 / 600	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	575
Sample volume (µL)	30	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	140	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	0	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	35		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300		
Followed by mixing time (s)	0		

Vers. 0304

HDL CHOLESTEROL

Precipitation/Enzymatic-spectrophotometric
PHOSPHOTUNGSTATE/Mg^{2+}-CHOLESTEROL OXIDASE/PEROXIDASE

Instrument: **KONE SPECIFIC**

Principle of the method

Very low density lipoproteins (VLDL) and low density lipoproteins (LDL) in the sample precipitate with phosphotungstate and magnesium ions. The supernatant contains high density lipoproteins (HDL). The HDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples

Serum or plasma. Stable for 7 days at 2-8ºC.
Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Precipitation Procedure:

1. Pipette into labelled centrifuge tubes:

Sample	0.2 mL
Reagent A	0.5 mL

2. Mix thoroughly and let stand for 10 minutes at room temperature.
3. Centrifuge at a minimum of 4000 r.p.m. for 10 minutes.
4. Carefully collect the supernatant.

Reagent preparation

Reagent B is ready to be used.

Performance characteristics

- Linearity: up to 200 mg/dL.
- Interferences: Hemoglobin (1 g/L), bilirubin (10 mg/d/L) and acid ascorbic (0.1 mmol/L) interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	HDL-C	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	HDL-C	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	30 / 70	Bias correction (Y/N)	N
Female reference (low/high)	30 / 70		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 200	Concentration	0
Dilution limit (low/high)	0.0 / 200	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	510
Sample volume (µL)	10	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	300		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

CHOLESTEROL HDL

DIRECT
DETERGENT

Instrument: **KONE SPECIFIC**

Principle of the method

The cholesterol from low density lipoproteins (LDL), very low density lipoproteins (VLDL) and chylomicrons, is broken down by the cholesterol oxidase in an enzymatic accelerated non-color forming reaction. The detergent present in the reagent B, solubilizes cholesterol from high density lipoproteins (HDL) in the sample. The HDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples

Serum collected by standard procedures.
HDL cholesterol in serum or plasma is stable for 7 days at 2-8ºC. EDTA, lithium or sodium heparin may be used as anticoagulants

Reagent preparation

Reagent 1: Use the Reagent A.
Reagent 2: Use the Reagent B.

Performance characteristics

- Detection limit: 0.5 mg/dL
- Linearity: up to 200 mg/dL.
- Interferences: Hemoglobin (10 g/L), lipemia (triglycerides 18 g/L) nad bilirrubin (60 mg/dL) do not interfere. Other drugs and substances may interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	HDL DIRECT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	HDL DIRECT	Single/Duplicate std (S/D)	D
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)		Bias correction (Y/N)	N
Female reference (low/high)			
Child reference		Name of 1. standard	S0
Test limit (low/high)	1.3 / 150	Concentration	0
Dilution limit (low/high)	1.3 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	600
Sample volume (µL)	2.0	Side wavelength	700
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	150	Blank with water cuvette (Y/N)	N
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	50		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300		
Followed by mixing time (s)	0		

Vers. 0409

BioSystems
REAGENTS & INSTRUMENTS

CHOLESTEROL HDL

DIRECT
POLYMER/DETERGENT

Instrument: **KONE SPECIFIC**

Principle of the method

Combined action of polymers and detergents solubilizes cholesterol from high density lipoproteins (HDL) in the sample, but not from low density lipoproteins (LDL), very low density lipoproteins (VLDL) and chylomicrons. The HDL cholesterol is then spectrophotometrically measured by means of some coupled reactions.

Samples

Serum collected by standard procedures.
HDL cholesterol in serum or plasma is stable for 7 days at 2-8ºC. Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Reagent preparation

Reagent 1: Use the Reagent A.
Reagent 2: Use the Reagent B.

Performance characteristics

- Detection limit: 1.3 mg/dL
- Linearity: up to 150 mg/dL.
- Interferences: Hemoglobin (10 g/L) does not interfere. Lipemia (triglycerides 1.25 g/L) and bilirubin (20 mg/dL) may interfere. Other drugs and substances may interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	HDL DIRECT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	HDL DIRECT	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	35 / 60	Bias correction (Y/N)	N
Female reference (low/high)	35 / 60		
Child reference		Name of 1. standard	S0
Test limit (low/high)	1.3 / 150	Concentration	0
Dilution limit (low/high)	1.3 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	510
Sample volume (µL)	2.0	Side wavelength	700
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	210	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	213	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	70		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300		
Followed by mixing time (s)	0		

Vers. 0311

BioSystems
REAGENTS & INSTRUMENTS

GLUCOSE

Enzymatic-spectrophotometric
GLUCOSE OXIDASE/PEROXIDASE

Instrument: **KONE SPECIFIC**

Principle of the method

Glucose in the sample originates, by means of some coupled reactions, a coloured complex that can be measured by spectrophotometry.

Samples

Serum, plasma.
Stable for 7 days at 2-8ºC.
Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Linearity: up to 500 mg/dL.
- Interferences: Hemoglobin (0.3 g/L), bilirubin (15 mg/dL) and ascorbic acid (10 mg/dL) do not interfere. Moderate lipemia does not affect the results.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	GLU	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	GLU	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	Y
Male reference (low/high)	76 / 110	Bias correction (Y/N)	N
Female reference (low/high)	76 / 110		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0 / 500	Concentration	0
Dilution limit (low/high)	0 / 500	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	**TEST FLOW / MEASUREMENT**	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	510
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	600		
Followed by mixing time (s)	0		

Vers. 0312

BioSystems
REAGENTS & INSTRUMENTS

GAMMA-GLUTAMYLTRANSFERASE (γGT)

Continuous-spectrophotometric
IFCC

Instrument: KONE SPECIFIC

Principle of the method

Gamma-glutamyltansferase (γ-GT) catalyzes the transfer of the γ-glutamyl group from γ-glutamyl-3-carboxy-4-nitroanilide to glycylglycine, liberating 3-carboxy-4-nitroaniline. The catalytic concentration is determined from the rate of 3-carboxy-4-nitroaniline formation.

Samples

Serum.
Gamma-glutamyltransferase in serum is stable for 5 days at 2-8 ºC.

Reagent preparation

Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently.
Stable for 2 months at 2-8 ºC.

Performance characteristics

- Linearity: up to 300 U/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	GGT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	GGT	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	1111
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	300	TEST FLOW DISPENSING	
Male reference (low/high)	15 / 60	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	10 / 40	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 300	Sample volume (µL)	10
Dilution limit (low/high)	0 / 300	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	100
Main wavelength	405	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	I		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

Vers. 0311

BioSystems
REAGENTS & INSTRUMENTS

FRUCTOSAMINE

Kinetic-spectrophotometric
NBT

Instrument: KONE SPECIFIC

Principle of the method

Serum glycated proteins reduce nitroblue tetrazolium (NBT) salts in alkaline medium. The rate of formazan formation at a given temperature is proportional to the serum concentration of glycated proteins.

Samples

Serum.
Stable for 1 week at 2-8ºC and for 2 months at -20ºC.
Hemolysed samples are not suitable for testing.

Reagent preparation

Reagent is ready to use.

Performance characteristics

- Linearity: up to 7 mmol/L.
- Interferences: Hemoglobin (up to 100 mg/dL), uric acid (up to 15 mg/dL), lipemia and bilirubin (up to 2 mg/dL) do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	FRUC	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	FRUC	Single/Duplicate std (S/D)	D
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mmol/L		
Number of decimals in result	2		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	15
		Relative error (%)	10
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	2.00 / 2.80	Bias correction (Y/N)	N
Female reference (low/high)	2.00 / 2.80		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.00 / 7.00	Concentration	0.0
Dilution limit (low/high)	0.5 / 25.0	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	15	Side wavelength	0
Sample/Std diluent position		Side wavelength weight	1
Diluted sample volume (µL)	11:25	EP (1), 2-point (2), kin. (3)	2
	REAGENT 1	Measurement time (s)	180
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	300	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	600	* assigned by the operator	
Followed by mixing time (s)	0		

Vers. 0301

BioSystems
REAGENTS & INSTRUMENTS

CREATININE

Kinetic-spectrophotometric
ALKALINE PICRATE

Instrument: **KONE SPECIFIC**

Principle of the method

Creatinine in the sample reacts with picrate in alkaline medium forming a coloured complex. The complex formation rate is measured in a short period to avoid interferences.

Samples

Serum, plasma, urine.
Creatinine in serum or plasma is stable for 24 hours at 2-8ºC.
Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Reagent preparation

Working Reagent: Mix equal volumes of Reagent A and Reagent B. Mix thoroughly.
Stable for 2 months at 2-8ºC.

Performance characteristics

- Interferences: Hemoglobin (0.1 g/L), bilirubin (10 mg/dL), protein and ketonic bodies do not interfere.
- Linearity: Up to 20 mg/dL (serum or plasma).

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CREA	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CREA	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 2.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 1.500	Bias correction (Y/N)	N
Male reference (low/high)	0.6 / 1.5		
Female reference (low/high)	0.6 / 1.5	Name of 1. standard	S0
Child reference		Concentration	0
Test limit (low/high)	0.0 / 15	Name of 2. standard	S1
Dilution limit (low/high)	0.0 / 10	Concentration	*
TEST FLOW DISPENSING		**TEST FLOW / MEASUREMENT**	
Sample with Water/Reag. (W/R)	W	Temperature (C)	37
Sample with reagent number	1	Main wavelength	510
Washing liquid for sample	20	Side wavelength	0
Sample volume (µL)	15	Side wavelength weight	1
Diluted sample volume (µL)	5	EP (1), 2-point (2), kin. (3)	2
	REAGENT 1	Measurement time (s)	60
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	170	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	60	* assigned by the operator	
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

CREATINE KINASE (CK)

Continuous-spectrophotometric
IFCC

Instrument: KONE SPECIFIC

Principle of the method

Creatine kinase (CK) catalyzes the phosphorylation of ADP, in the presence of creatine phosphate, to form ATP and creatine. The catalytic concentration is determined from the rate of NADPH formation, measured at 340 nm, by means of the hexokinase (HK) and glucose-6-phosphate dehydrogenase (G6P-DH) coupled reactions.

Samples

Serum.
Creatine kinase in serum is stable for 7 days at 2-8ºC.

Reagent preparation

Working Reagent: Reconstitute the contents of a Reagent B vial with 2.5 mL (if 20 x 2.5 mL size) or 15 mL (if 10 x 15 mL size) of Reagent A. Swirl gently. Stable for 15 days at 2-8ºC.

Performance characteristics

- Linearity: up to 900 U/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CK	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CK	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	3333
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	TEST FLOW DISPENSING	
Male reference (low/high)	24 / 195	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	24 / 170	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 800	Sample volume (µL)	5
Dilution limit (low/high)	0 / 600	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	100
Main wavelength	340	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	I		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

Vers. 0203

BioSystems
REAGENTS & INSTRUMENTS

CHOLESTEROL

Enzymatic-spectrophotometric
CHOLESTEROL OXIDASE/PEROXIDASE

Instrument: **KONE SPECIFIC**

Principle of the method

Free and esterified cholesterol in the sample originates, by means of some coupled reactions, a coloured complex that can be measured by spectrophotometry.

Samples

Serum or plasma.
Stable for 7 days at 2-8ºC.
Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

Reagent preparation

Reagent is ready to be used

Performance characteristics

- Interferences: Hemoglobin (3 g/L), ascorbic acid (0.3 mmol/L) and bilirubin (0.25 mmol/L) interfere. Lipemia does not affect results.
- Linearity: Up to 1000 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CHOL	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CHOL	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	123 / 200	Bias correction (Y/N)	N
Female reference (low/high)	123 / 200		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 600	Concentration	0
Dilution limit (low/high)	0.0 / 600	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	510
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	300		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

CALCIUM

Spectrophotometric
ARSENAZO III

Instrument: KONE SPECIFIC

Principle of the method

Calcium in the sample reacts with arsenazo III forming a coloured complex that can be measured by spectrophotometry.

Samples

Serum, heparinized plasma, urine.
Calcium in serum or plasma is stable for 10 days at 2-8 ºC.
Anticoagulants other than heparin should not be used.

Reagent preparation

Reagent is ready to be used.

Performance characteristics

- Linearity: Up to 18 mg/dL.
- Interferences: Hemoglobin (1.5 g/L), bilirubin (20 mg/dL), magnesium (10 mg/dL) and phosphate (20 mg/dL) do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CA	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CA	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	9.0 / 10.7	Bias correction (Y/N)	N
Female reference (low/high)	9.0 / 10.7		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 15.0	Concentration	0
Dilution limit (low/high)	0.0 / 10.0	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	650
Sample volume (µL)	4	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	240	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	180		
Followed by mixing time (s)	0		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

TOTAL BILIRUBIN

Spectrophotometric
DIAZOTIZED SULFANILIC

Instrument: **KONE SPECIFIC**

Principle of the method

Total bilirubin in the sample reacts with diazotized sulfanilic in acid medium forming a coloured complex that can be measured by spectrophotometry. Both direct (conjugated with glucuronate) and indirect (unconjugated) bilirubin couple with diazo in the presence of cetrimide. The terms "direct" and "total" refer to the reaction characteristics of serum bilirubin in the absence or presence of solubilizing (accelerating) reagents, and are only approximately equivalent to the conjugated and unconjugated fractions.

Samples

Serum.
Stable for 20 days at 2-8 ºC and protected from light.

Reagent preparation

Reagent 1: Use the Reagent A-T.
Reagent 2: Use the Reagent B.

Performance characteristics

- Linearity: Up to 15 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	BIL-T	Lin (1), Bias (2), Nonlin (3)	2
Test Identification	BIL-T	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 1.1	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 1.1		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 15.0	Concentration	0
Dilution limit (low/high)	0.0 / 10.0	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	10	Main wavelength	540
Sample volume (µL)	20	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	5	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	160	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	60	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	40		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	180		
Followed by mixing time (s)	0		

Vers. 0304

BioSystems
REAGENTS & INSTRUMENTS

DIRECT BILIRUBIN

Spectrophotometric
DIAZOTIZED SULFANILIC

Instrument: **KONE SPECIFIC**

Principle of the method

Direct bilirubin in the sample reacts with diazotized sulfanilic acid forming a coloured complex that can be measured by spectrophotometry. The terms "direct" and "total" refer to the reaction characteristics of serum bilirubin in the absence or presence of solubilizing (accelerating) reagents, and are only approximately equivalent to the conjugated and unconjugated fractions.

Samples

Serum.
Stable for 2 days at 2-8 ºC and protected from light.

Reagent preparation

Working Reagent: Transfer the contents of one Reagent B vial into a Reagent A-D bottle. Mix thoroughly.
Stable for 20 days at 2-8ºC.

Performance characteristics

- Linearity: Up to 15 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	BIL-D	Lin (1), Bias (2), Nonlin (3)	2
Test Identification	BIL-D	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 0.3	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 0.3		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 15.0	Concentration	0.0
Dilution limit (low/high)	0.0 / 10.0	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	**TEST FLOW / MEASUREMENT**	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	10	Side wavelength	660
		Side wavelength weight	1
Diluted sample volume (µL)	5	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	170	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	300	* assigned by the operator	
Followed by mixing time (s)	0		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

ASPARTATE AMINOTRANSFERASE (AST/GOT)

Continuous-spectrophotometric
IFCC

Instrument: KONE SPECIFIC

Principle of the method

Aspartate aminotransferase (AST or GOT) catalyzes the transfer of the amino group from aspartate to 2-oxoglutarate, forming oxalacetate and glutamate. The catalytic concentration is determined from the rate of decrease of NADH, measured at 340 nm, by means of the malate dehydrogenase (MDH) coupled reaction.

Samples

Serum.
Aspartate aminotransferase in serum is stable for 7 days at 2-8ºC.

Reagent preparation

Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently.
Stable for 2 months at 2-8ºC.

Performance characteristics

- Linearity: up to 500 U/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	AST	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	AST	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	2232
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	TEST FLOW DISPENSING	
Male reference (low/high)	0 / 42	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	0 / 42	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 500	Sample volume (µL)	4
Dilution limit (low/high)	0 / 500	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	160
Main wavelength	340	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	D		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

BioSystems
REAGENTS & INSTRUMENTS

ALANINE AMINOTRANSFERASE (ALT/GPT)

Continuous-spectrophotometric
IFCC

Instrument: KONE SPECIFIC

Principle of the method

Alanine aminotransferase (ALT or GPT) catalyzes the transfer of the amino group from alanine to 2-oxoglutarate, forming pyruvate and glutamate. The catalytic concentration is determined from the rate of decrease of NADH, measured at 340 nm, by means of the lactate dehydrogenase (LDH) coupled reaction.

Samples

Serum.
Alanine aminotransferase in serum is stable for 7 days at 2-8ºC.

Reagent preparation

Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently.
Stable for 2 months at 2-8ºC.

Performance characteristics

- Linearity: up to 500 U/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	ALT	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	ALT	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	2232
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	TEST FLOW DISPENSING	
Male reference (low/high)	0 / 41	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	0 / 41	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 500	Sample volume (µL)	4
Dilution limit (low/high)	0 / 500	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	160
Main wavelength	340	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	D		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

BioSystems
REAGENTS & INSTRUMENTS

ALKALINE PHOSPHATASE (ALP)

Continuous-spectrophotometric
AMP BUFFER (IFCC)

Instrument: **KONE SPECIFIC**

Principle of the method

Alkaline phosphatase (ALP) catalyzes in alkaline medium the transfer of the phosphate group from 4-nitrophenylphosphate to 2-amino-2-methyl-1-propanol (AMP), liberating 4-nitrophenol. The catalytic concentration is determined from the rate of 4-nitrophenol formation, measured at 405 nm.

Samples

Serum, plasma.
Alkaline phosphatase in serum or plasma is stable for 7 days at 2-8ºC.
Heparin may be used as anticoagulant.

Reagent preparation

Working Reagent: Dissolve the powder of a Reagent B vial with 20 mL of the Reagent A bottle (if 10x20 mL size) or dissolve the contents of a Reagent B vial with the entire volume of a Reagent A bottle (if 5x100 mL size).
Stable for 2 months at 2-8ºC.

Performance characteristics

- Linearity: up to 1200 U/L.
- Interferences: Fluoride, oxalate, citrate and EDTA as anticoagulants interfere. Hemolysis interferes due to the alakline phosphatase content in red cells.

Instrument settings

GENERAL PARAMETERS		**CALIBRATION**	
Test short name	ALP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	ALP IFCC	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	2764
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	**TEST FLOW DISPENSING**	
Male reference (low/high)	26 / 117	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	26 / 117	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 1200	Sample volume (µL)	3
Dilution limit (low/high)	0 / 600	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	150
Main wavelength	405	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	I		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

Vers. 0206

BioSystems
REAGENTS & INSTRUMENTS

ALKALINE PHOSPHATASE (ALP)

Continuous-spectrophotometric
DEA BUFFER

Instrument: KONE SPECIFIC

Principle of the method

Alkaline phosphatase (ALP) catalyzes in alkaline medium the transfer of the phosphate group from 4-nitrophenylphosphate to diethanolamine (DEA), liberating 4-nitrophenol. The catalytic concentration is determined from the rate of 4-nitrophenol formation, measured at 405 nm.

Samples

Serum, plasma.
Alkaline phosphatase in serum or plasma is stable for 7 days at 2-8ºC.
Heparin may be used as anticoagulant

Reagent preparation

Working Reagent: Dissolve the powder of a Reagent B vial with 20 mL of the Reagent A bottle (if 10x20 mL size) or dissolve the contents of a Reagent B vial with the entire volume of a Reagent A bottle (if 5x100 mL size).
Stable for 2 months at 2-8ºC.

Performance characteristics

- Linearity: up to 690 U/L.
- Interferences: Fluoride, oxalate, citrate and EDTA as anticoagulants interfere. Hemolysis interferes due to the alkaline phosphatase content in red cells.

Instrument settings

GENERAL PARAMETERS		**CALIBRATION**	
Test short name	ALP DEA	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	ALP DEA	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	U/L	Factor	2764
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 0.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 0.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.000	Bias correction (Y/N)	N
Linearity in %	10		
Linearity in concentration	20	**TEST FLOW DISPENSING**	
Male reference (low/high)	90 / 280	Sample with Water/Reag. (W/R)	R
Female reference (low/high)	90 / 280	Sample with reagent number	1
Child reference		Washing liquid for sample	0
Test limit (low/high)	0 / 1000	Sample volume (µL)	3
Dilution limit (low/high)	0 / 600	Diluted sample volume (µL)	2
			REAGENT 1
TEST FLOW / MEASUREMENT		Reagent position	*
Temperature (C)	37	Reagent volume (µL)	150
Main wavelength	405	- mixing between cells (Y/N)	Y
Side wavelength	0	- with synchronization (Y/N)	N
Side wavelength weight	1	Followed by mixing time (s)	0
EP (1), 2-point (2), kin. (3)	3	Incubation time (s)	120
Measurement time (s)	60	Followed by mixing time (s)	0
Increasing/decr. react. (I/D)	I		
Blank with water cuvette (Y/N)	Y	* assigned by the operator	
EP/KIN blank measurem. (E/K)	E		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

ALBUMIN

Spectrophotometric
BROMOCRESOL GREEN

Instrument: KONE SPECIFIC

Principle of the method

Albumin in the sample reacts with bromocresol green in acid medium forming a coloured complex that can be measured by spectrophotometry.

Samples

Serum.
Stable for 3 days at 2-8ºC.

Reagent preparation

Reagent is ready to be used

Performance characteristics

- Interferences: Hemoglobin (1 g/L) and bilirubin (25 mg/dL) interfere.
- Linearity: Up to 70 g/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	ALB	Lin (1), Bias (2), Non lin (3)	1
Test Identification	ALB	Single/Duplicate std (S/D)	D
Sample type	S	Calib. repeat time (minutes)	0
Result unit	g/L		
Number of decimals in result	0		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	N
Male reference (low/high)	30 / 50	Bias correction (Y/N)	N
Female reference (low/high)	30 / 50		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 70	Concentration	0
Dilution limit (low/high)	0.0 / 70	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	630
Sample volume (µL)	10	Side wavelength	0
		Side wavelength weight	1.000
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	2	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	200	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0404

BioSystems
REAGENTS & INSTRUMENTS

UREA/BUN

Enzymatic-spectrophotometric
ULTRAVIOLET

Instrument: **KONE SPECIFIC**

Principle of the method

Urea in the sample consumes, by means of some coupled reactions, NADH that can be measured by spectrophotometry.

Samples

Serum, plasma, urine.
Stable for 7 days at 2-8ºC.
Heparin is recommended as anticoagulant.

Reagent preparation

Working Reagent: Transfer the contents of one Reagent B vial into a Reagent A bottle. Mix thoroughly.
Stable for 2 months at 2-8ºC.

Performance characteristics

- Interferences: Ammonium salts of the anticoagulants interfere.
- Linearity: Up to 300 mg/dL.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	UREA	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	UREA	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/dL		
Number of decimals in result	0	Linear conc. axis (Y/N)	Y
Photometric/Electrol. (P/E)	P	Absolute error (mA)	5
Automatic acceptance	N	Relative error (%)	5
		Window 1 (min/max)	0.000 / 2.000
CHECK LIMITS		Window 2 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Automatic acceptance (Y/N)	N
Initial absorb. (min./max.)	0.000 / 2.500	Bias correction (Y/N)	N
Male reference (low/high)	10 / 55		
Female reference (low/high)	10 / 55	Name of 1. standard	S0
Child reference		Concentration	0
Test limit (low/high)	0.0 / 150	Name of 2. standard	S1
Dilution limit (low/high)	0.0 / 100	Concentration	*
TEST FLOW DISPENSING		TEST FLOW / MEASUREMENT	
Sample with Water/Reag. (W/R)	R	Temperature (C)	37
Sample with reagent number	1	Main wavelength	340
Washing liquid for sample	0	Side wavelength	0
Sample volume (µL)	2	Side wavelength weight	1
Diluted sample volume (µL)	2	EP (1), 2-point (2), kin. (3)	3
	REAGENT 1	Measurement time (s)	30
Reagent position	*	Increasing/decr. react. (I/D)	D
Reagent volume (µL)	220	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	60	* assigned by the operator	
Followed by mixing time (s)	0		

Vers. 0107

BioSystems
REAGENTS & INSTRUMENTS

ALBUMIN (URINE)

Turbidimetry
LATEX

Instrument: **KONE SPECIFIC**

Principle of the method

Albumin in the urine sample causes agglutination of the latex particles coated with anti-human albumin. The agglutination of the particles is proportional to the albumin concentration and can be measured by turbidimetry.

Reagent preparation

Reagent 1: Use the Diluent.
Reagent 2: Use the Latex.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	MAU	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	MAU	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 15.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 15.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 130	Concentration	0
Dilution limit (low/high)	0.0 / 130	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	250	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	0	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	30		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0206

BioSystems
REAGENTS & INSTRUMENTS

ALBUMIN (URINE)

Turbidimetry
LATEX

Instrument: KONE SPECIFIC

Principle of the method

Albumin in the urine sample causes agglutination of the latex particles coated with anti-human albumin. The agglutination of the particles is proportional to the albumin concentration and can be measured by turbidimetry.

Samples

Urine. Stable for 7 days at 2-8ºC.
Urine should be centrifugated before analysis.

Reagent preparation

Working Reagent: Pour the contents of a Latex vial into a Diluent bottle. Mix thoroughly.
Stable for 8 hours at 2-8ºC.

Performance characteristics

- Linearity: up to 130 mg/L.
- The zone effect will cause to obtain falsely low values when albumin is present in the sample at a concentration higher than 1000 mg/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	MAU	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	MAU	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	Y
Male reference (low/high)	0.0 / 15.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 15.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 130	Concentration	0
Dilution limit (low/high)	0.0 / 130	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	540
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	280	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

BioSystems
REAGENTS & INSTRUMENTS

ALBUMIN (URINE)

Turbidimetry
LATEX

Instrument: KONE SPECIFIC

Principle of the method

Albumin in the urine sample causes agglutination of the latex particles coated with anti-human albumin. The agglutination of the particles is proportional to the albumin concentration and can be measured by turbidimetry.

Samples

Urine. Stable for 7 days at 2-8 ºC.

Reagent preparation

Working Reagent: Pour the contents of a Latex vial into a Diluent bottle. Mix thoroughly.
Stable for 8 hours at 2-8 ºC.

Performance characteristics

- Detection limit: 0.9 mg/L albumin
- Linearity limit: 130 mg/L albumin
- The zone effect will cause to obtain falsely low values when albumin is present in the sample at a concentration higher than 1000 mg/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	MAU	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	MAU	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	Y
Male reference (low/high)	0.0 / 15.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 15.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 130	Concentration	0
Dilution limit (low/high)	0.0 / 130	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	**TEST FLOW / MEASUREMENT**	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	540
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	280	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0410

BioSystems
REAGENTS & INSTRUMENTS

C-REACTIVE PROTEIN (CRP)

Turbidimetry
LATEX

Instrument: **KONE SPECIFIC**

Principle of the method

Serum C-reactive protein (CRP) causes agglutination of the latex particles coated with anti-human C-reactive protein. The agglutination of the latex particles is proportional to the CRP concentration and can be measured by turbidimetry.

Samples

Serum.
Stable for 7 days at 2-8 ºC.
Hemolyzed or lipemic samples are not suitable for testing.

Reagent preparation

Reagent 1: Use the Diluent.
Reagent 2: Use the Latex.

Performance characteristics

- Linearity: Up to 150 mg/L.
- Detection limit: 1.0 mg/L
- Interferences: Rheumatoid factors, up to 200 IU/mL, do not interfere.

Instrument settings

GENERAL PARAMETERS		**CALIBRATION**	
Test short name	CRP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CRP	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 5.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 5.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 150	Concentration	0
Dilution limit (low/high)	0.0 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	**TEST FLOW / MEASUREMENT**	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	200	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	0	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	50		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0410

BioSystems
REAGENTS & INSTRUMENTS

C-REACTIVE PROTEIN (CRP)

Turbidimetry
LATEX

Instrument: KONE SPECIFIC

Principle of the method

Serum C-reactive protein (CRP) causes agglutination of the latex particles coated with anti-human C-reactive protein. The agglutination of the latex particles is proportional to the CRP concentration and can be measured by turbidimetry.

Samples

Serum. Stable for 7 days at 2-8ºC.
Hemolyzed or lipemic samples are not suitable for testing.

Reagent preparation

Reagent 1: Use the Diluent.
Reagent 2: Use the Latex.

Performance characteristics

- Linearity: up to 150 mg/L.
- Interferences: Rheumatoid factors, up to 200 IU/mL do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CRP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CRP	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 6.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 6.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 150	Concentration	0
Dilution limit (low/high)	0.0 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	225	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	0	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	25		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0212

BioSystems
REAGENTS & INSTRUMENTS

C-REACTIVE PROTEIN (CRP)

Turbidimetry
LATEX

Instrument: KONE SPECIFIC

Principle of the method

Serum C-reactive protein (CRP) causes agglutination of the latex particles coated with anti-human C-reactive protein. The agglutination of the latex particles is proportional to the CRP concentration and can be measured by turbidimetry.

Samples

Serum.
Stable for 7 days at 2-8 ºC.
Hemolyzed or lipemic samples are not suitable for testing.

Reagent preparation

Working Reagent: Pour the contents of a Latex vial into a Diluent bottle. Mix thoroughly.
Stable for 20 days at 2-8ºC.

Performance characteristics

- Linearity: Up to 150 mg/L.
- Detection limit: 1.0 mg/L
- Interferences: Rheumatoid factors, up to 200 IU/mL, do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CRP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CRP	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	Y
Male reference (low/high)	0.0 / 5.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 5.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 150	Concentration	0
Dilution limit (low/high)	0.0 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	540
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	250	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0410

BioSystems
REAGENTS & INSTRUMENTS

C-REACTIVE PROTEIN (CRP)

Turbidimetry
LATEX

Instrument: KONE SPECIFIC

Principle of the method

Serum C-reactive protein (CRP) causes agglutination of the latex particles coated with anti-human C-reactive protein. The agglutination of the latex particles is proportional to the CRP concentration and can be measured by turbidimetry.

Samples

Serum. Stable for 7 days at 2-8ºC.
Hemolyzed or lipemic samples are not suitable for testing.

Reagent preparation

Working Reagent: Pour the contents of a Latex vial into a Diluent bottle. Mix thoroughly.
Stable for 20 days at 2-8 ºC.

Performance characteristics

- Linearity: up to 150 mg/L.
- Interferences: Rheumatoid factors, up to 200 IU/mL do not interfere.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	CRP	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	CRP	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 1.500	Automatic acceptance (Y/N)	Y
Male reference (low/high)	0.0 / 6.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 6.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 150	Concentration	0
Dilution limit (low/high)	0.0 / 150	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	W	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	20	Main wavelength	540
Sample volume (µL)	2	Side wavelength	0
		Side wavelength weight	1
Sample/Std diluent position	0	EP (1), 2-point (2), kin. (3)	1
Diluted sample volume (µL)	1.5	Measurement time (s)	0
	REAGENT 1	Increasing/decr. react. (I/D)	I
Reagent position	*	Blank with water cuvette (Y/N)	Y
Reagent volume (µL)	250	EP/KIN blank measurem. (E/K)	E
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0	* assigned by the operator	
Incubation time (s)	120		
Followed by mixing time (s)	0		

Vers. 0212

BioSystems
REAGENTS & INSTRUMENTS

ALBUMIN (URINE)

Turbidimetry
LATEX

Instrument: **KONE SPECIFIC**

Principle of the method

Albumin in the urine sample causes agglutination of the latex particles coated with anti-human albumin. The agglutination of the particles is proportional to the albumin concentration and can be measured by turbidimetry.

Samples

Urine. Stable for 7 days at 2-8 ºC.

Reagent preparation

Reagent 1: Use the Diluent.
Reagent 2: Use the Latex.

Performance characteristics

- Detection limit: 0.9 mg/L albumin
- Linearity limit: 130 mg/L albumin
- The zone effect will cause to obtain falsely low values when albumin is present in the sample at a concentration higher than 1000 mg/L.

Instrument settings

GENERAL PARAMETERS		CALIBRATION	
Test short name	MAU	Lin (1), Bias (2), Nonlin (3)	1
Test Identification	MAU	Single/Duplicate std (S/D)	S
Sample type	S	Calib. repeat time (minutes)	0
Result unit	mg/L		
Number of decimals in result	1		
Photometric/Electrol. (P/E)	P	Linear conc. axis (Y/N)	Y
Automatic acceptance	N	Absolute error (mA)	5
		Relative error (%)	5
CHECK LIMITS		Window 1 (min/max)	0.000 / 2.000
Residual net abs. (bichrom.)	0.000	Window 2 (min/max)	0.000 / 2.000
Initial absorb. (min./max.)	0.000 / 2.000	Automatic acceptance (Y/N)	N
Male reference (low/high)	0.0 / 15.0	Bias correction (Y/N)	N
Female reference (low/high)	0.0 / 15.0		
Child reference		Name of 1. standard	S0
Test limit (low/high)	0.0 / 130	Concentration	0
Dilution limit (low/high)	0.0 / 130	Name of 2. standard	S1
		Concentration	*
TEST FLOW DISPENSING			
Sample with Water/Reag. (W/R)	R	TEST FLOW / MEASUREMENT	
Sample with reagent number	1	Temperature (C)	37
Washing liquid for sample	0	Main wavelength	540
Sample volume (µL)	2.0	Side wavelength	0
Sample/Std diluent position	0	Side wavelength weight	1
Diluted sample volume (µL)	10	EP (1), 2-point (2), kin. (3)	1
	REAGENT 1	Measurement time (s)	0
Reagent position	*	Increasing/decr. react. (I/D)	I
Reagent volume (µL)	220	Blank with water cuvette (Y/N)	Y
- mixing between cells (Y/N)	Y	EP/KIN blank measurem. (E/K)	E
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	0	* assigned by the operator	
Followed by mixing time (s)	0		
	REAGENT 2		
Reagent volume (µL)	55		
- mixing between cells (Y/N)	Y		
- with synchronization (Y/N)	N		
Followed by mixing time (s)	0		
Incubation time (s)	120		
Followed by mixing time (s)	0		