

# ACID PHOSPHATASE (ACP)

Continuous-spectrophotometric  
SFBC

## Instrument: SELECTRA-2

### Principle of the method

Acid phosphatase (ACP) catalyzes in acid medium the hydrolysis of the phosphate group from  $\alpha$ -naphthyl phosphate. The  $\alpha$ -naphthol 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. In acidified serum is stable for 6 days at 2-8°C.

### Reagent preparation

Working Reagent: Stopper the vial with the cap containing  $\alpha$ -naphthyl 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 2-8°C.

### Performance characteristics

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

### Instrument settings

Name	ACP	Prozone Check	No
Mode	Kinetic	Ref. Male Low	0 U/L
Wavelength	405 nm	Ref. Male High	10 U/L
Units	U/L	Ref. Female Low	0 U/L
Decimals	0	Ref. Female High	10 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	150 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	ACP	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.500
Sample		R. Abs. Deviation	0.150
Normal Volume	20 mL	Reagent Blank	Yes
Rerun Volume	10 mL	Cal. Low Limit	(...)
Delay, min. Time	289, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter	FACTOR: 1480
		... Data entered by the operator	
		* assigned value of standard	

# ALBUMIN

Spectrophotometric  
BROMOCRESOL GREEN

## Instrument: **SELECTRA-2**

### 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, plasma.  
Stable for 6 days at 2-8°C.

### Reagent preparation

Reagent is ready to use.

### Performance characteristics

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

### Instrument settings

Name	Albumin	Prozone Check	No
Mode	Endpoint	Ref. Male Low	35 g/L
Wavelength	620 nm	Ref. Male High	50 g/L
Units	g/L	Ref. Female Low	35 g/L
Decimals	1	Ref. Female High	50 g/L
Low Concentration	0 g/L	Correlation Factor	1.000
High Concentration	70 g/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Albumin	Low Absorbance	-0.100
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.100
Normal Volume	270 mL	R. Abs. High Limit	0.180
Rerun Volume	250 mL		
Sample		Reagent Blank	Yes
Normal Volume	4 mL	Cal. Low Limit	(...)
Rerun Volume	3 mL	Cal. High Limit	(...)
Incubation Time	11.5 min.	Factor	
... Data entered by the operator			
* assigned value of standard			

# ALKALINE PHOSPHATASE (ALP)

Continuous-spectrophotometric  
DEA BUFFER

## Instrument: **SELECTRA 2**

### 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 2-8°C.  
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 2-8°C.

### 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

Name	ALP DEA	Prozone Check	No
Mode	Kinetic	Ref. Male Low	90 U/L
Wavelength	405 nm	Ref. Male High	280 U/L
Units	U/L	Ref. Female Low	90 U/L
Decimals	0	Ref. Female High	280 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	690 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	ALP DEA	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.950
Sample		R. Abs. Deviation	0.150
Normal Volume	5 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
Delay, min. Time	32, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter	FACTOR: 2764
		... Data entered by the operator	
		* assigned value of standard	

# ALKALINE PHOSPHATASE (ALP)

Continuous-spectrophotometric  
AMP BUFFER (IFCC)

## Instrument: SELECTRA 2

### 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 2-8°C.  
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 2-8°C.

### Performance characteristics

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

### Instrument settings

Name	ALP IFCC	Prozone Check	No
Mode	Kinetic	Ref. Male Low	26 U/L
Wavelength	405 nm	Ref. Male High	117 U/L
Units	U/L	Ref. Female Low	26 U/L
Decimals	0	Ref. Female High	117 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	1200 U/L	Correlation Offset	0.000
Calibrator Name	(...)	Linearity Limit	10%
Repeat	3	Low Absorbance	-0.050
Number	1	High Absorbance	3.000
Concentration	*	R. Abs. Low Limit	-0.050
Interval	(...)	R. Abs. High Limit	0.950
Cut-off	No	R. Abs. Deviation	0.150
<b>MONO MODE</b>		Reagent Blank	Yes
Name	ALP IFCC	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	250 mL	If the test is run without calibration enter	FACTOR: 2764
Rerun Volume	250 mL	... Data entered by the operator	
Sample		* assigned value of standard	
Normal Volume	5 mL		
Rerun Volume	3 mL		
Delay, min. Time	32, 175 sec.		

# ALANINE AMINOTRANSFERASE (ALT)

Continuous-spectrophotometric  
IFCC

## Instrument: SELECTRA 2

### 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 2-8°C.

### Reagent preparation

MONO MODE.- Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently.

Stable for 2 months at 2-8°C.

DUAL MODE.- Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

- Interferences: High pyruvate in the sample will consume NADH during the delay time before measurements, reducing the linearity of the method.
- Linearity: Up to 500 U/L.

### Instrument settings

Name	ALT	Prozone Check	No
Mode	Kinetic	Ref. Male Low	0 U/L
Wavelength	340 nm	Ref. Male High	41 U/L
Units	U/L	Ref. Female Low	0 U/L
Decimals	0	Ref. Female High	41 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	500 U/L	Correlation Offset	0.000
Calibrator Name	(...)	Linearity Limit	10%
Repeat	3	Low Absorbance	0.800
Number	1	High Absorbance	2.500
Concentration	*	R. Abs. Low Limit	0.800
Interval	(...)	R. Abs. High Limit	2.200
Cut-off	No	R. Abs. Deviation	0.150
<b>MONO MODE</b>		Reagent Blank	Yes
Name	ALT	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	250 mL	Linearity Limit	10%
Rerun Volume	250 mL	Low Absorbance	0.800
Sample		High Absorbance	2.500
Normal Volume	12 mL	R. Abs. Low Limit	0.800
Rerun Volume	6 mL	R. Abs. High Limit	2.200
Delay, min. Time	70, 176 sec.	R. Abs. Deviation	0.100
<b>DUAL MODE</b>		Reagent Blank	Yes
Name	ALT	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	225 mL	Linearity Limit	10%
Rerun Volume	225 mL	Low Absorbance	0.800
Sample		High Absorbance	2.500
Normal Volume	12 mL	R. Abs. Low Limit	0.800
Rerun Volume	6 mL	R. Abs. High Limit	2.200
R2 Bottle	25 mL	R. Abs. Deviation	0.100
Normal Volume	25 mL	Reagent Blank	Yes
Rerun Volume	25 mL	Cal. Low Limit	(...)
Predilution	No	Cal. High Limit	(...)
Slope Blank	No	Factor	
Delay, min. Time	77, 132 sec.	If the test is run without calibration enter	FACTOR: -3466
		... Data entered by the operator	
		* assigned value of standard	

# a-AMYLASE

Continuous-spectrophotometric  
DIRECT SUBSTRATE

## Instrument: **SELECTRA 2**

### Principle of the method

$\alpha$ -Amylase catalyzes the hydrolysis of 2-chloro-4-nitrophenyl-maltotrioside (CNP-G3) to 2-chloro-4-nitrophenol (CNP). The catalytic concentration is determined from the rate of 2-chloro-4-nitrophenol formation, measured at 405 nm.

### Samples

Serum, plasma, urine.

$\alpha$ -Amylase in serum, plasma or urine is stable for 5 days at 2-8°C.

Heparin may be used as anticoagulant

### Reagent preparation

Reagent is ready to be used.

### Performance characteristics

- Linearity: up to 1300 U/L (serum) or 2600 U/L (urine).
- Interferences: Fluoride, oxalate, citrate and EDTA as anticoagulants interfere.

### Instrument settings

Name	AMYL DIRECT	Prozone Check	No
Mode	Kinetic		
Wavelength	405 nm	Ref. Male Low	0 U/L
Units	U/L	Ref. Male High	60 U/L
Decimals	0	Ref. Female Low	0 U/L
Low Concentration	0 U/L	Ref. Female High	60 U/L
High Concentration	1300 U/L		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	AMYLASE DIR.	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.250
Sample		R. Abs. Deviation	0.150
Normal Volume	5 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
Delay, min. Time	32, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter FACTOR: 3292	
		... Data entered by the operator	
		* assigned value of standard	

# α-AMYLASE

Continuous-spectrophotometric  
IFCC

## Instrument: **SELECTRA-2**

### Principle of the method

α-Amylase catalyzes the hydrolysis of 4-nitrophenyl-maltoheptaoside-ethylidene to smaller oligosaccharides which are hydrolyzed by α-glucosidase liberating 4-nitrophenol. The catalytic concentration is determined from the rate of 4-nitrophenol formation, measured at 405 nm.

### Samples

Serum, plasma, urine.

α-Amylase in serum or plasma is stable for 1 month at 2-8°C. Use heparin or EDTA as anticoagulant.

α-Amylase in urine is stable for 1 month at 2-8°C if pH is adjusted to approximately 7 before storage.

### Reagent preparation

Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently. Other volumes can be prepared in the proportion: 4 mL Reagent A + 1 mL Reagent B.

Stable for 20 days at 2-8°C.

### Performance characteristics

- Linearity: up to 1300 U/L (serum) or 2600 U/L (urine).
- Interferences: Lipemia (triglycerides 10 g/L) and bilirubin (20 mg/dL) do not interfere. Hemoglobin (10 g/L) interfere. Other drugs and substances may interfere.

### Instrument settings

Name	AMYL	Prozone Check	No
Mode	Kinetic	Ref. Male Low	28 U/L
Wavelength	405 nm	Ref. Male High	100 U/L
Units	U/L	Ref. Female Low	28 U/L
Decimals	0	Ref. Female High	100 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	1300 U/L	Correlation Offset	0.000
Calibrator Name	(...)	Linearity Limit	10%
Repeat	3	Low Absorbance	-0.100
Number	1	High Absorbance	3.000
Concentration	*	R. Abs. Low Limit	-0.100
Interval	(...)	R. Abs. High Limit	3.000
Cut-off	No	R. Abs. Deviation	0.300
<b>MONO MODE</b>		Reagent Blank	Yes
Name	AMYLASE	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	250 mL	If the test is run without calibration enter	FACTOR: 3042
Rerun Volume	250 mL	... Data entered by the operator	
Sample		* assigned value of standard	
Normal Volume	8 mL		
Rerun Volume	6 mL		
Delay, min. Time	129, 195 sec.		

# ASPARTATE AMINOTRANSFERASE (AST)

Continuous-spectrophotometric  
IFCC

## Instrument: SELECTRA 2

### 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 2-8°C.

### Reagent preparation

MONO MODE.- Working Reagent: Pour the contents of the Reagent B into the Reagent A bottle. Mix gently.

Stable for 2 months at 2-8°C.

DUAL MODE.- Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

- Interferences: High pyruvate in the sample will consume NADH during the delay time before measurements, reducing the linearity of the method.
- Linearity: Up to 500 U/L.

### Instrument settings

Name	AST	Prozone Check	No
Mode	Kinetic	Ref. Male Low	0 U/L
Wavelength	340 nm	Ref. Male High	42 U/L
Units	U/L	Ref. Female Low	0 U/L
Decimals	0	Ref. Female High	42 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	500 U/L	Correlation Offset	0.000
Calibrator Name	(...)	Linearity Limit	10%
Repeat	3	Low Absorbance	0.800
Number	1	High Absorbance	2.500
Concentration	*	R. Abs. Low Limit	0.800
Interval	(...)	R. Abs. High Limit	2.200
Cut-off	No	R. Abs. Deviation	0.150
<b>MONO MODE</b>		Reagent Blank	Yes
Name	AST	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	250 mL	Linearity Limit	10%
Rerun Volume	250 mL	Low Absorbance	0.800
Sample		High Absorbance	2.500
Normal Volume	12 mL	R. Abs. Low Limit	0.800
Rerun Volume	6 mL	R. Abs. High Limit	2.200
Delay, min. Time	70, 176 sec.	R. Abs. Deviation	0.100
<b>DUAL MODE</b>		Reagent Blank	Yes
Name	AST	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	225 mL	Linearity Limit	10%
Rerun Volume	225 mL	Low Absorbance	0.800
Sample		High Absorbance	2.500
Normal Volume	12 mL	R. Abs. Low Limit	0.800
Rerun Volume	6 mL	R. Abs. High Limit	2.200
R2 Bottle	25 mL	R. Abs. Deviation	0.100
Normal Volume	25 mL	Reagent Blank	Yes
Rerun Volume	25 mL	Cal. Low Limit	(...)
Predilution	No	Cal. High Limit	(...)
Slope Blank	No	Factor	
Delay, min. Time	77, 132 sec.	If the test is run without calibration enter	FACTOR: -3465
		... Data entered by the operator	
		* assigned value of standard	

# TOTAL BILIRUBIN

Spectrophotometric  
DIAZOTIZED SULFANILIC

## Instrument: **SELECTRA 2**

### 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 °C and protected from light.

### Reagent preparation

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

### Performance characteristics

- Linearity: Up to 15 mg/dL.

### Instrument settings

Name	<b>Bilirubin</b>	Prozone Check	No
Mode	<b>Endpoint</b>		
Wavelength	<b>546 nm</b>	Ref. Male Low	<b>0.00 mg/dL</b>
Units	<b>mg/dL</b>	Ref. Male High	<b>1.10 mg/dL</b>
Decimals	<b>2</b>	Ref. Female Low	<b>0.00 mg/dL</b>
Low Concentration	<b>0 mg/dL</b>	Ref. Female High	<b>1.10 mg/dL</b>
High Concentration	<b>15 mg/dL</b>		
Calibrator Name	<b>(...)</b>	Correlation Factor	<b>1.000</b>
Repeat	<b>3</b>	Correlation Offset	<b>0.000</b>
Number	<b>1</b>		
Concentration	<b>*</b>		
Interval	<b>(...)</b>		
Cut-off	<b>No</b>		
<b>MONO MODE</b>			
Name	<b>T-BILIRUBIN</b>		
Sample Blank	<b>No</b>	Low Absorbance	<b>-0.100</b>
R1 Bottle	<b>25 mL</b>	High Absorbance	<b>3.000</b>
Normal Volume	<b>250 mL</b>	R. Abs. Low Limit	<b>-0.100</b>
Rerun Volume	<b>250 mL</b>	R. Abs. High Limit	<b>0.150</b>
Sample			
Normal Volume	<b>25 mL</b>	Reagent Blank	<b>Yes</b>
Rerun Volume	<b>15 mL</b>	Cal. Low Limit	<b>(...)</b>
Incubation Time	<b>11.5 min.</b>	Cal. High Limit	<b>(...)</b>
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# CALCIUM

Spectrophotometric  
ARSENAZO III

## Instrument: SELECTRA 2

### 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 °C.

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

Name	Calcium	Prozone Check	No
Mode	Endpoint		
Wavelength	620 nm	Ref. Male Low	9.0 mg/dL
Units	mg/dL	Ref. Male High	10.7 mg/dL
Decimals	2	Ref. Female Low	9.0 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	10.7 mg/dL
High Concentration	18 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	CALCIUM		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	2.000
Sample			
Normal Volume	4 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# CALCIUM

Spectrophotometric  
METHYLTHYMOL BLUE

## Instrument: **SELECTRA 2**

### Principle of the method

Calcium in the sample reacts with methylthymol blue in alkaline medium forming a coloured complex that can be measured by spectrophotometry. Hydroxyquinoline is included in the reagent to remove magnesium interference.

### Samples

Serum, heparinized plasma, urine.

Calcium in serum or plasma is stable for 10 days at 2-8 °C.

Anticoagulants other than heparin should not be used.

### Reagent preparation

Working Reagent: Mix equal volumes of Reagent A and Reagent B. Mix thoroughly.

Stable for 2 days at 2-8°C.

### Performance characteristics

- Linearity: Up to 15 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

Name	Calcium	Prozone Check	No
Mode	Endpoint		
Wavelength	620 nm	Ref. Male Low	9.0 mg/dL
Units	mg/dL	Ref. Male High	10.7 mg/dL
Decimals	2	Ref. Female Low	9.0 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	10.7 mg/dL
High Concentration	15 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	CALCIUM		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.700
Sample			
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# CHOLINESTERASE

Continuous-spectrophotometric  
BENZOYLCHOLINE

## Instrument: **SELECTRA 2**

### Principle of the method

Cholinesterase (CHE) catalyzes the hydrolysis of benzoylcholine to choline and benzoic acid. The catalytic concentration is determined from the rate of quinoneimine formation, measured at 500 nm, by means of the choline and peroxidase coupled reactions.

### Samples

Serum, heparinized plasma or EDTA plasma.  
Cholinesterase in serum or plasma is stable for 7 days at 2-8°C.

### Reagent preparation

Working Reagent: Reconstitute the contents of a Reagent B vial with 3 mL (if 20x3 mL size), 15 mL (if 10x15 mL size) or 50 mL (if 4x50 mL size) of Reagent A. Swirl gently.  
Stable for 10 days at 2-8°C.

### Performance characteristics

- Linearity: up to 6500 U/L.

### Instrument settings

Name	Cholinesterase	Prozone Check	No
Mode	Kinetic	Ref. Male Low	2150 U/L
Wavelength	505 nm	Ref. Male High	4950 U/L
Units	U/L	Ref. Female Low	
Decimals	0	Ref. Female High	
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	6500 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Cholinesterase	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.950
Sample		R. Abs. Deviation	0.150
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Delay, min. Time	188, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter FACTOR: 28000	
		... Data entered by the operator	
		* assigned value of standard	

# CHOLESTEROL

Enzymatic-spectrophotometric  
CHOLESTEROL OXIDASE/PEROXIDASE

## Instrument: SELECTRA 2

### 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 2-8°C.

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

Name	Cholesterol	Prozone Check	No
Mode	Endpoint		
Wavelength	505 nm	Ref. Male Low	123 mg/dL
Units	mg/dL	Ref. Male High	270 mg/dL
Decimals	0	Ref. Female Low	123 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	243 mg/dL
High Concentration	1000 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Cholesterol		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.150
Sample			
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# CREATINE KINASE (CK)

Continuous-spectrophotometric  
IFCC

## Instrument: SELECTRA 2

### 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 coupled reactions.

### Samples

Serum.

Creatine kinase in serum is stable for 7 days at 2-8°C.

### Reagent preparation

Working Reagent: Empty the contents of a Reagent B bottle into a Reagent A bottle. Swirl gently.

Stable for 15 days at 2-8°C.

### Performance characteristics

- Linearity: up to 730 U/L.

### Instrument settings

Name	CK	Prozone Check	No
Mode	Kinetic	Ref. Male Low	38 U/L
Wavelength	340 nm	Ref. Male High	174 U/L
Units	U/L	Ref. Female Low	26 U/L
Decimals	0	Ref. Female High	140 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	730 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	CK	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.500
Sample		R. Abs. Deviation	0.150
Normal Volume	12 mL	Reagent Blank	Yes
Rerun Volume	6 mL	Cal. Low Limit	(...)
Delay, min. Time	188, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter FACTOR: 3465	
		... Data entered by the operator	
		* assigned value of standard	

# CREATININE

Kinetic-spectrophotometric  
ALKALINE PICRATE

## Instrument: SELECTRA 2

### 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 2-8°C.

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

- 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

Name	Creatinine	Prozone Check	No
Mode	Twopoint		
Wavelength	505 nm	Ref. Male Low	0.6 mg/dL
Units	mg/dL	Ref. Male High	1.1 mg/dL
Decimals	1	Ref. Female Low	0.5 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	0.9 mg/dL
High Concentration	20 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Creatinine		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	190 mL	R. Abs. Low Limit	-0.100
Rerun Volume	190 mL	R. Abs. High Limit	0.350
Sample		R. Abs. Deviation	0.100
Normal Volume	25 mL	Reagent Blank	Yes
Rerun Volume	12 mL	Cal. Low Limit	(...)
R2 Bottle	25 mL	Cal. High Limit	(...)
Normal Volume	65 mL	Factor	
Rerun Volume	65 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Point one, two	24, 103 sec.	* assigned value of standard	

# GAMMA-GLUTAMYLTRANSFERASE (g-GT)

Continuous-spectrophotometric  
IFCC

## Instrument: **SELECTRA 2**

### Principle of the method

Gamma-glutamyltransferase (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 °C.

### 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 °C.

### Performance characteristics

- Linearity: up to 300 U/L.

### Instrument settings

Name	GGT	Prozone Check	No
Mode	Kinetic	Ref. Male Low	15 U/L
Wavelength	405 nm	Ref. Male High	86 U/L
Units	U/L	Ref. Female Low	10 U/L
Decimals	0	Ref. Female High	40 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	300 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	GGT	Linearity Limit	10%
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.050
Rerun Volume	250 mL	R. Abs. High Limit	0.900
Sample		R. Abs. Deviation	0.150
Normal Volume	25 mL	Reagent Blank	Yes
Rerun Volume	12 mL	Cal. Low Limit	(...)
Delay, min. Time	32, 175 sec.	Cal. High Limit	(...)
		Factor	
		If the test is run without calibration enter	FACTOR: 1111
		... Data entered by the operator	
		* assigned value of standard	

# GLUCOSE

Enzymatic-spectrophotometric  
GLUCOSE OXIDASE/PEROXIDASE

## Instrument: SELECTRA 2

### 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 or plasma.

Stable for 7 days at 2-8°C.

Heparin, EDTA, oxalate and fluoride may be used as anticoagulants.

### Reagent preparation

Reagent is ready to be used

### Performance characteristics

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

### Instrument settings

Name	Glucose	Prozone Check	No
Mode	Endpoint		
Wavelength	505 nm	Ref. Male Low	76 mg/dL
Units	mg/dL	Ref. Male High	110 mg/dL
Decimals	0	Ref. Female Low	76 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	110 mg/dL
High Concentration	500 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Glucose		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.150
Sample			
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# HDL CHOLESTEROL

Precipitation/Enzymatic-spectrophotometric  
PHOSPHOTUNGSTATE/Mg<sup>2+</sup>-CHOLESTEROL OXIDASE/PEROXIDASE

## Instrument: **SELECTRA-2**

### 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 2-8°C.

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/dL) and acid ascorbic (0.1 mmol/L) interfere.

### Instrument settings

Name	HDL-C	Prozone Check	No
Mode	Endpoint	Ref. Male Low	30 mg/dL
Wavelength	505 nm	Ref. Male High	60 mg/dL
Units	mg/dL	Ref. Female Low	40 mg/dL
Decimals	0	Ref. Female High	70 mg/dL
Low Concentration	0 mg/dL	Correlation Factor	1.000
High Concentration	200 mg/dL	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	HDL-C	Low Absorbance	-0.100
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.100
Normal Volume	260 mL	R. Abs. High Limit	0.200
Rerun Volume	260 mL		
Sample		Reagent Blank	Yes
Normal Volume	13 mL	Cal. Low Limit	(...)
Rerun Volume	2 mL	Cal. High Limit	(...)
Incubation Time	11.5 min.	Factor	
... Data entered by the operator			
* assigned value of standard			

# IRON

Spectrophotometric  
CHROMAZUROL B

## Instrument: SELECTRA 2

### Principle of the method

Ferric ions in the sample react with chromazurol B and cetyltrimethylammoniumbromide (CTAB) forming a coloured complex that can be measured by spectrophotometry.

### Samples

Serum or heparinized plasma.  
Stable for 7 days at 2-8°C.

### Reagent preparation

Reagent is ready to be used

### Performance characteristics

- Interferences: Do not use hemolyzed sera.
- Linearity: Up to 500 µg/dL.

### Instrument settings

Name	Iron	Prozone Check	No
Mode	Endpoint	Ref. Male Low	70 mg/dL
Wavelength	620 nm	Ref. Male High	155 mg/dL
Units	mg/dL	Ref. Female Low	55 mg/dL
Decimals	0	Ref. Female High	140 mg/dL
Low Concentration	0 mg/dL	Correlation Factor	1.000
High Concentration	500 mg/dL	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Iron	Low Absorbance	-0.100
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.100
Normal Volume	250 mL	R. Abs. High Limit	3.000
Rerun Volume	250 mL	R. Abs. Deviation	0.100
Sample		Reagent Blank	No
Normal Volume	12 mL	Cal. Low Limit	(...)
Rerun Volume	12 mL	Cal. High Limit	(...)
Incubation Time	11.5 min.	Factor	
... Data entered by the operator			
* assigned value of standard			

# IRON

Spectrophotometric  
FERROZINE

## Instrument: SELECTRA 2

### 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 2-8°C.

### Reagent preparation

Working Reagent: Transfer the contents of one Reagent B vial into a Reagent A bottle. Mix thoroughly.  
Stable for 6 months at 2-8°C.

### Performance characteristics

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

### Instrument settings

Name	Iron Ferrozine	Prozone Check	No
Mode	Endpoint		
Wavelength	546 nm	Ref. Male Low	70 mg/dL
Units	mg/dL	Ref. Male High	155 mg/dL
Decimals	0	Ref. Female Low	55 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	140 mg/dL
High Concentration	1000 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Iron Ferrozine		
Sample Blank	Yes	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.100
Rerun Volume	220 mL	R. Abs. High Limit	0.150
Sample			
Normal Volume	30 mL	Reagent Blank	Yes
Rerun Volume	15 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# LACTATE DEHYDROGENASE (LD/LDH)

Continuous-spectrophotometric  
PYRUVATE

## Instrument: **SELECTRA 2**

### Principle of the method

Lactate dehydrogenase (LD or LDH) catalyzes the reduction of pyruvate by NADH, to form lactate and NAD<sup>+</sup>. The catalytic concentration is determined from the rate of decrease of NADH, measured at 340 nm.

### Samples

Serum or plasma.

Lactate dehydrogenase in serum or plasma is stable for 24 hours at 2-8°C.  
Heparin may be used as anticoagulant.

### 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°C.

### Performance characteristics

- Interferences: Hemolysis interferes due to the high lactate dehydrogenase concentration in red cells.
- Linearity: Up to 1500 U/L.

### Instrument settings

Name	LDH	Prozone Check	No
Mode	Kinetic	Ref. Male Low	207 U/L
Wavelength	340 nm	Ref. Male High	414 U/L
Units	U/L	Ref. Female Low	207 U/L
Decimals	0	Ref. Female High	414 U/L
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	1200 U/L	Correlation Offset	0.000
Calibrator Name	(...)	Linearity Limit	10%
Repeat	3	Low Absorbance	-0.050
Number	1	High Absorbance	3.000
Concentration	*	R. Abs. Low Limit	-0.050
Interval	(...)	R. Abs. High Limit	2.000
Cut-off	No	R. Abs. Deviation	0.150
<b>MONO MODE</b>		Reagent Blank	Yes
Name	LDH	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	
Normal Volume	250 mL	If the test is run without calibration enter	FACTOR: -8095
Rerun Volume	250 mL	... Data entered by the operator	
Sample		* assigned value of standard	
Normal Volume	5 mL		
Rerun Volume	3 mL		
Delay, min. Time	32, 175 sec.		

# LDL CHOLESTEROL

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

## Instrument: **SELECTRA-2**

### 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 subtracting cholesterol 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 2-8°C.

### 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/dL) and acid ascorbic (0.1 mmol/L) interfere.

### Instrument settings

Name	LDL-Cholesterol	Prozone Check	No
Mode	Endpoint		
Wavelength	505 nm	Ref. Male Low	
Units	mg/dL	Ref. Male High	150 mg/dL
Decimals	0	Ref. Female Low	
Low Concentration	0 mg/dL	Ref. Female High	150 mg/dL
High Concentration	500 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	LDL-Cholesterol		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.150
Sample			
Normal Volume	6 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# MAGNESIUM

Spectrophotometric  
CALMAGITE

## Instrument: SELECTRA-2

### 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 2-8°C.

Anticoagulants other than heparin should not be used.

### Reagent preparation

Reagent is ready to be used.

### Performance characteristics

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

### Instrument settings

Name	<b>MAGNESIUM</b>	Prozone Check	<b>No</b>
Mode	<b>Endpoint</b>	Ref. Male Low	<b>1.8 mg/dL</b>
Wavelength	<b>505 nm</b>	Ref. Male High	<b>2.1 mg/dL</b>
Units	<b>mg/dL</b>	Ref. Female Low	<b>1.8 mg/dL</b>
Decimals	<b>1</b>	Ref. Female High	<b>2.1 mg/dL</b>
Low Concentration	<b>0.0 mg/dL</b>	Correlation Factor	<b>1.000</b>
High Concentration	<b>4.0 mg/dL</b>	Correlation Offset	<b>0.000</b>
Calibrator Name	<b>(...)</b>		
Repeat	<b>3</b>		
Number	<b>1</b>		
Concentration	<b>*</b>		
Interval	<b>(...)</b>		
Cut-off	<b>No</b>		
<b>MONO MODE</b>			
Name	<b>MAGNESIUM</b>		
Sample Blank	<b>No</b>	Low Absorbance	<b>-0.100</b>
R1 Bottle	<b>25 mL</b>	High Absorbance	<b>3.000</b>
Normal Volume	<b>250 mL</b>	R. Abs. Low Limit	<b>-0.100</b>
Rerun Volume	<b>250 mL</b>	R. Abs. High Limit	<b>0.700</b>
Sample			
Normal Volume	<b>3 mL</b>	Reagent Blank	<b>Yes</b>
Rerun Volume	<b>2 mL</b>	Cal. Low Limit	<b>(...)</b>
Incubation Time	<b>11.5 min.</b>	Cal. High Limit	<b>(...)</b>
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# PHOSPHORUS

Spectrophotometric  
PHOSPHOMOLYBDATE/UV

## Instrument: SELECTRA 2

### 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 2-8°C. 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 15-30°C.

### Performance characteristics

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

### Instrument settings

Name	Phosphorus	Prozone Check	No
Mode	Endpoint		
Wavelength	340 nm	Ref. Male Low	2.70 mg/dL
Units	mg/dL	Ref. Male High	4.50 mg/dL
Decimals	2	Ref. Female Low	2.70 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	4.50 mg/dL
High Concentration	20 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Phosphorus		
Sample Blank	Yes	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.500
Sample			
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# PROTEIN

Spectrophotometric  
BIURET

## Instrument: **SELECTRA 2**

### 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 2-8°C.

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

Name	<b>Protein</b>	Prozone Check	<b>No</b>
Mode	<b>Endpoint</b>		
Wavelength	<b>546 nm</b>	Ref. Male Low	<b>65 g/L</b>
Units	<b>g/L</b>	Ref. Male High	<b>80 g/L</b>
Decimals	<b>1</b>	Ref. Female Low	<b>65 g/L</b>
Low Concentration	<b>0 g/L</b>	Ref. Female High	<b>80 g/L</b>
High Concentration	<b>150 g/L</b>		
Calibrator Name	<b>(...)</b>	Correlation Factor	<b>1.000</b>
Repeat	<b>3</b>	Correlation Offset	<b>0.000</b>
Number	<b>1</b>		
Concentration	<b>*</b>		
Interval	<b>(...)</b>		
Cut-off	<b>No</b>		
<b>MONO MODE</b>			
Name	<b>Protein</b>		
Sample Blank	<b>No</b>	Low Absorbance	<b>-0.100</b>
R1 Bottle	<b>25 mL</b>	High Absorbance	<b>3.000</b>
Normal Volume	<b>250 mL</b>	R. Abs. Low Limit	<b>-0.100</b>
Rerun Volume	<b>250 mL</b>	R. Abs. High Limit	<b>0.180</b>
Sample			
Normal Volume	<b>5 mL</b>	Reagent Blank	<b>Yes</b>
Rerun Volume	<b>3 mL</b>	Cal. Low Limit	<b>(...)</b>
Incubation Time	<b>11.5 min.</b>	Cal. High Limit	<b>(...)</b>
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# PROTEIN (URINE)

Spectrophotometric  
PYROGALLOL RED

## Instrument: SELECTRA 2

### Principle of the method

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

### Samples

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

### Reagent preparation

Reagent is ready to be used.

### Performance characteristics

- Linearity: Up to 4 g/L.

### Instrument settings

Name	Protein-Urine	Prozone Check	No
Mode	Endpoint		
Wavelength	620 nm	Ref. Male Low	0.05 g/L
Units	g/L	Ref. Male High	0.14 g/L
Decimals	2	Ref. Female Low	0.05 g/L
Low Concentration	0.00 g/L	Ref. Female High	0.14 g/L
High Concentration	4.00 g/L		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Protein-Urine		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.100
Rerun Volume	250 mL	R. Abs. High Limit	0.180
Sample			
Normal Volume	5 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# TRIGLYCERIDES

Enzymatic-spectrophotometric  
GLYCEROL PHOSPHATE OXIDASE/PEROXIDASE

## Instrument: **SELECTRA 2**

### 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 2-8°C.

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 600 mg/dL.

### Instrument settings

Name	Triglycerides	Prozone Check	No
Mode	Endpoint		
Wavelength	505 nm	Ref. Male Low	60 mg/dL
Units	mg/dL	Ref. Male High	150 mg/dL
Decimals	0	Ref. Female Low	60 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	150 mg/dL
High Concentration	600 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Triglycerides		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	300 mL	R. Abs. High Limit	0.200
Sample			
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# UREA/BUN

Enzymatic-spectrophotometric  
COLOR

## Instrument: SELECTRA 2

### Principle of the method

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

### Samples

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

### Reagent preparation

Reagent 1: Transfer the contents of one Reagent A2 vial into a Reagent A1 bottle. Mix thoroughly. Stable for 2 months at 2-8°C.

Reagent 2: Use the Reagent B.

### Performance characteristics

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

### Instrument settings

Name	Urea Color	Prozone Check	No
Mode	Endpoint		
Wavelength	620 nm	Ref. Male Low	10 mg/dL
Units	mg/dL	Ref. Male High	50 mg/dL
Decimals	0	Ref. Female Low	10 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	50 mg/dL
High Concentration	300 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Urea Color		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.100
Rerun Volume	220 mL	R. Abs. High Limit	0.200
Sample			
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	1 mL	Cal. Low Limit	(...)
R2 Bottle	25 mL	Cal. High Limit	(...)
Normal Volume	180 mL	Factor	
Rerun Volume	180 mL		
Incubation Time	6.5 min.		
... Data entered by the operator			
* assigned value of standard			

# UREA/BUN

Enzymatic-spectrophotometric  
ULTRAVIOLET

## Instrument: SELECTRA 2

### 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 2-8°C.

Heparin is recommended as anticoagulant.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

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

### Instrument settings

Name	Urea	Prozone Check	No
Mode	Twopoint	Ref. Male Low	10 mg/dL
Wavelength	340 nm	Ref. Male High	50 mg/dL
Units	mg/dL	Ref. Female Low	10 mg/dL
Decimals	0	Ref. Female High	50 mg/dL
Low Concentration	0 U/L	Correlation Factor	1.000
High Concentration	300 U/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Urea		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.100
Rerun Volume	250 mL	R. Abs. High Limit	2.000
Sample		R. Abs. Deviation	0.100
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
Delay, min. Time	32, 70 sec.	Cal. High Limit	(...)
		Factor	
<b>DUAL MODE</b>			
Name	Urea		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	270 mL	R. Abs. Low Limit	-0.100
Rerun Volume	250 mL	R. Abs. High Limit	2.000
Sample		R. Abs. Deviation	0.100
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	2 mL	Cal. Low Limit	(...)
R2 Bottle	25 mL	Cal. High Limit	(...)
Normal Volume	30 mL	Factor	
Rerun Volume	30 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Delay, min. Time	24, 77 sec.	* assigned value of standard	

# URIC ACID

Enzymatic-spectrophotometric  
URICASE/PEROXIDASE

## Instrument: SELECTRA 2

### Principle of the method

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

### Samples

Serum, heparinized plasma.

Magnesium in serum or plasma is stable for 10 days at 2-8°C.

Anticoagulants other than heparin should not be used.

### Reagent preparation

Reagent is ready to be used.

### Performance characteristics

- Interferences: Hemoglobin (1 g/L), ascorbic acid (0.3 mmol/L) and bilirubin (15 mg/dL) do not interfere. Lipemia may affect the results
- Linearity: Up to 25 mg/dL.

### Instrument settings

Name	Uric acid	Prozone Check	No
Mode	Endpoint		
Wavelength	505 nm	Ref. Male Low	3.4 mg/dL
Units	mg/dL	Ref. Male High	7.0 mg/dL
Decimals	1	Ref. Female Low	2.4 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	5.7 mg/dL
High Concentration	25 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Uric acid		
Sample Blank	No	Low Absorbance	-0.100
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	250 mL	R. Abs. Low Limit	-0.100
Rerun Volume	250 mL	R. Abs. High Limit	0.200
Sample			
Normal Volume	6 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
Incubation Time	11.5 min.	Cal. High Limit	(...)
		Factor	
		... Data entered by the operator	
		* assigned value of standard	

# ANTI-STREPTOLYSIN O (ASO)

Turbidimetry  
LATEX

## Instrument: **SELECTRA 2**

### Principle of the method

Anti-streptolysin O (ASO) causes agglutination of the latex particles coated with streptolysin O. The agglutination of the latex particles is proportional to the ASO concentration and can be measured by turbidimetry.

### Samples

Serum.

Stable for 7 days at 2-8 °C.

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°C.

### Performance characteristics

- Linearity: Up to 800 IU/mL.

### Instrument settings

Name	ASO	Prozone Check	No
Mode	Twopoint	Ref. Male Low	0 IU/mL
Wavelength	546 nm	Ref. Male High	200 IU/mL
Units	IU/mL	Ref. Female Low	0 IU/mL
Decimals	0	Ref. Female High	200 IU/mL
Low Concentration	0 IU/mL	Correlation Factor	1.000
High Concentration	800 IU/mL	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	ASO	Low Absorbance	-0.050
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.050
Normal Volume	300 mL	R. Abs. High Limit	0.900
Rerun Volume	300 mL	R. Abs. Deviation	0.150
Sample		Reagent Blank	Yes
Normal Volume	3 mL	Cal. Low Limit	(...)
Rerun Volume	2 mL	Cal. High Limit	(...)
Point one, two	12, 110 sec.	Factor	
... Data entered by the operator			
* assigned value of standard			

# COMPLEMENT COMPONENT C3

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Complement component C3 precipitates in the presence of anti-human C3 antibodies. The originated turbidity is proportional to the C3 concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.

Stable 2 days at 2-8 °C.

Hemolyzed or lipemic samples are not suitable for testing.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

- The measurement interval depends on concentration of the highest standard.
- Due to the zone effect, falsely low values will be obtained when C3 is present in the sample at a concentration higher than 600 mg/dL.

### Instrument settings

Name	Complement C3	Prozone Check	No
Mode	Twopoint	Ref. Male Low	90 mg/dL
Wavelength	340 nm	Ref. Male High	180 mg/dL
Units	mg/dL	Ref. Female Low	90 mg/dL
Decimals	0	Ref. Female High	180 mg/dL
Low Concentration	0 mg/dL	Correlation Factor	1.000
High Concentration	600 mg/dL	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	2		
Number	5		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Complement C3		
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.050
Rerun Volume	220 mL	R. Abs. High Limit	3.000
Sample		R. Abs. Deviation	0.000
Normal Volume	3 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
R2 Bottle	5 mL	Cal. High Limit	(...)
Normal Volume	50 mL	Factor	1.00
Rerun Volume	50 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Point one, two	-3, 236 sec.	* assigned value of standard	

# COMPLEMENT COMPONENT C4

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Complement component C4 precipitates in the presence of anti-human C4 antibodies. The originated turbidity is proportional to the C4 concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.

Stable 2 days at 2-8 °C.

Hemolyzed or lipemic samples are not suitable for testing.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

- The measurement interval depends on concentration of the highest standard.
- Due to the zone effect, falsely low values will be obtained when C4 is present in the sample at a concentration higher than 150 mg/dL.

### Instrument settings

Name	Complement C4	Prozone Check	No
Mode	Twopoint		
Wavelength	340 nm	Ref. Male Low	10 mg/dL
Units	mg/dL	Ref. Male High	40 mg/dL
Decimals	0	Ref. Female Low	10 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	40 mg/dL
High Concentration	150 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	2	Correlation Offset	0.000
Number	5		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Complement C4		
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.050
Rerun Volume	220 mL	R. Abs. High Limit	3.000
Sample		R. Abs. Deviation	0.000
Normal Volume	9 mL	Reagent Blank	Yes
Rerun Volume	4 mL	Cal. Low Limit	(...)
R2 Bottle	5 mL	Cal. High Limit	(...)
Normal Volume	50 mL	Factor	1.00
Rerun Volume	50 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Point one, two	-3, 236 sec.	* assigned value of standard	

# C-REACTIVE PROTEIN (CRP)

Turbidimetry  
LATEX

## Instrument: **SELECTRA 2**

### 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 °C.

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°C.

### Performance characteristics

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

### Instrument settings

Name	CRP	Prozone Check	No
Mode	Twopoint	Ref. Male Low	0 mg/L
Wavelength	546 nm	Ref. Male High	6 mg/L
Units	mg/L	Ref. Female Low	0 mg/L
Decimals	0	Ref. Female High	6 mg/L
Low Concentration	0 mg/L	Correlation Factor	1.000
High Concentration	150 mg/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	CRP	Low Absorbance	-0.050
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.050
Normal Volume	398 mL	R. Abs. High Limit	0.900
Rerun Volume	398 mL	R. Abs. Deviation	2.000
Sample		Reagent Blank	Yes
Normal Volume	2 mL	Cal. Low Limit	(...)
Rerun Volume	1 mL	Cal. High Limit	(...)
Point one, two	12, 110 sec.	Factor	
		... Data entered by the operator	
		* assigned value of standard	

# C-REACTIVE PROTEIN-hs (CRP-hs)

Turbidimetry  
LATEX-HIGH SENSITIVITY

## Instrument: **SELECTRA 2**

### 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 °C.

### Reagent preparation

Working Reagent: Pour the contents of a Reagent B vial into a Reagent A bottle. Mix thoroughly.  
Stable for 20 days at 2-8°C.

### Performance characteristics

- Measurement: 0.06-15 mg/L.
- Interferences: Hemoglobin (10 g/L) and lipemia (triglycerides 10 g/L) do not interfere. Bilirubin (>10 mg/dL) and rheumatoid factors (>75 IU/mL) may interfere.

### Instrument settings

Name	CRP-hs	Prozone Check	No
Mode	Twopoint	Ref. Male Low	0 mg/L
Wavelength	546 nm	Ref. Male High	5 mg/L
Units	mg/L	Ref. Female Low	0 mg/L
Decimals	1	Ref. Female High	5 mg/L
Low Concentration	0 mg/L	Correlation Factor	1.000
High Concentration	15 mg/L	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	3		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	CRP-hs	Low Absorbance	-0.050
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	1.000
Normal Volume	225 mL	R. Abs. High Limit	1.700
Rerun Volume	225 mL	R. Abs. Deviation	2.000
Sample		Reagent Blank	Yes
Normal Volume	3 mL	Cal. Low Limit	(...)
Rerun Volume	2 mL	Cal. High Limit	(...)
Point one, two	12, 304 sec.	Factor	
... Data entered by the operator			
* assigned value of standard			

# IMMUNOGLOBULIN A (IgA)

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Immunoglobulin A precipitates in the presence of anti-human immunoglobulin A antibodies. The originated turbidity is proportional to the immunoglobulin A concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.

Stable for 7 days at 2-8 °C.

Hemolyzed or lipemic samples are not suitable for testing.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

Use the Working Reagent if MONO MODE.

### Performance characteristics

- The measurement interval depends on concentration of the highest standard.
- Due to the zone effect, falsely low values will be obtained when IgA is present in the sample at a concentration higher than 1300 mg/dL.

### Instrument settings

Name	Ig A	Prozone Check	No
Mode	Twopoint	Ref. Male Low	70 mg/dL
Wavelength	620 nm	Ref. Male High	400 mg/dL
Units	mg/dL	Ref. Female Low	70 mg/dL
Decimals	0	Ref. Female High	400 mg/dL
Low Concentration	0 mg/dL	Correlation Factor	1.000
High Concentration	1300 mg/dL	Correlation Offset	0.000
Calibrator Name	(...)	Low Absorbance	-0.050
Repeat	2	High Absorbance	3.000
Number	5	R. Abs. Low Limit	-0.050
Concentration	*	R. Abs. High Limit	3.000
Interval	(...)	R. Abs. Deviation	0.000
Cut-off	No	Reagent Blank	Yes
<b>DUAL MODE</b>			
Name	Ig A	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	1.00
Normal Volume	220 mL	... Data entered by the operator	
Rerun Volume	220 mL	* assigned value of standard	
Sample			
Normal Volume	3 mL		
Rerun Volume	2 mL		
R2 Bottle	5 mL		
Normal Volume	50 mL		
Rerun Volume	50 mL		
Predilution	No		
Slope Blank	No		
Point one, two	-3, 236 sec.		

# IMMUNOGLOBULIN G (IgG)

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Immunoglobulin G precipitates in the presence of anti-human immunoglobulin G antibodies. The originated turbidity is proportional to the immunoglobulin G concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.

Stable for 7 days at 2-8 °C.

Hemolyzed or lipemic samples are not suitable for testing.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

Use the Working Reagent if MONO MODE.

### Performance characteristics

- The measurement interval depends on concentration of the highest standard.
- Due to the zone effect, falsely low values will be obtained when IgG is present in the sample at a concentration higher than 8000 mg/dL.

### Instrument settings

Name	Ig G	Prozone Check	No
Mode	Twopoint	Ref. Male Low	700 mg/dL
Wavelength	620 nm	Ref. Male High	1600 mg/dL
Units	mg/dL	Ref. Female Low	700 mg/dL
Decimals	0	Ref. Female High	1600 mg/dL
Low Concentration	0 mg/dL	Correlation Factor	1.000
High Concentration	8000 mg/dL	Correlation Offset	0.000
Calibrator Name	(...)	Low Absorbance	-0.050
Repeat	2	High Absorbance	3.000
Number	5	R. Abs. Low Limit	-0.050
Concentration	*	R. Abs. High Limit	3.000
Interval	(...)	R. Abs. Deviation	0.000
Cut-off	No	Reagent Blank	Yes
<b>DUAL MODE</b>			
Name	Ig G	Cal. Low Limit	(...)
Sample Blank	No	Cal. High Limit	(...)
R1 Bottle	25 mL	Factor	1.00
Normal Volume	220 mL	Low Absorbance	0.000
Rerun Volume	220 mL	High Absorbance	3.000
Sample		R. Abs. Low Limit	0.000
Normal Volume	2 mL	R. Abs. High Limit	3.000
Rerun Volume	2 mL	R. Abs. Deviation	0.100
R2 Bottle	5 mL	Reagent Blank	Yes
Normal Volume	50 mL	Cal. Low Limit	(...)
Rerun Volume	50 mL	Cal. High Limit	(...)
Predilution	No	Factor	1.00
Slope Blank	No	Low Absorbance	0.000
Point one, two	-3, 236 sec.	High Absorbance	3.000
<b>MONO MODE</b>			
Name	Ig G	R. Abs. Low Limit	0.000
Sample Blank	No	R. Abs. High Limit	3.000
R1 Bottle	25 mL	R. Abs. Deviation	0.100
Normal Volume	250 mL	Reagent Blank	Yes
Rerun Volume	250 mL	Cal. Low Limit	(...)
Sample		Low Absorbance	0.000
Normal Volume	5 mL	High Absorbance	3.000
Rerun Volume	5 mL	R. Abs. Low Limit	0.000
Point one, two	12, 70 sec.	R. Abs. High Limit	3.000
		R. Abs. Deviation	0.100
		Reagent Blank	Yes
		Cal. Low Limit	(...)
		... Data entered by the operator	
		* assigned value of standard	

# IMMUNOGLOBULIN M (IgM)

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Immunoglobulin M precipitates in the presence of anti-human immunoglobulin M antibodies. The originated turbidity is proportional to the immunoglobulin M concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.

Stable for 7 days at 2-8 °C.

Hemolyzed or lipemic samples are not suitable for testing.

### Reagent preparation

Reagent 1: Use the Reagent A.

Reagent 2: Use the Reagent B.

### Performance characteristics

- The measurement interval depends on concentration of the highest standard.
- Due to the zone effect, falsely low values will be obtained when IgM is present in the sample at a concentration higher than 600 mg/dL.

### Instrument settings

Name	Ig M	Prozone Check	No
Mode	Twopoint		
Wavelength	340 nm	Ref. Male Low	40 mg/dL
Units	mg/dL	Ref. Male High	230 mg/dL
Decimals	0	Ref. Female Low	40 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	230 mg/dL
High Concentration	600 mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	2	Correlation Offset	0.000
Number	5		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Ig M		
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.050
Rerun Volume	220 mL	R. Abs. High Limit	3.000
Sample		R. Abs. Deviation	0.000
Normal Volume	5 mL	Reagent Blank	Yes
Rerun Volume	3 mL	Cal. Low Limit	(...)
R2 Bottle	5 mL	Cal. High Limit	(...)
Normal Volume	50 mL	Factor	1.00
Rerun Volume	50 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Point one, two	-3, 236 sec.	* assigned value of standard	

# ALBUMIN (URINE)

Turbidimetry  
LATEX

## Instrument: SELECTRA 2

### 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 °C.

Urine should be centrifuged before analysis.

### Reagent preparation

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

### 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

Name	Albumin (Urine)	Prozone Check	No
Mode	Twopoint		
Wavelength	546 nm	Ref. Male Low	0 mg/L
Units	mg/L	Ref. Male High	15 mg/L
Decimals	0	Ref. Female Low	0 mg/L
Low Concentration	0 mg/L	Ref. Female High	15 mg/L
High Concentration	130 mg/L		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	3	Correlation Offset	0.000
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>MONO MODE</b>			
Name	Albumin (Urine)		
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	300 mL	R. Abs. Low Limit	-0.050
Rerun Volume	300 mL	R. Abs. High Limit	0.900
Sample		R. Abs. Deviation	0.200
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	1 mL	Cal. Low Limit	(...)
		Cal. High Limit	(...)
Point one, two	12, 110 sec.	Factor	
... Data entered by the operator			
* assigned value of standard			

# RHEUMATOID FACTORS (RF)

Turbidimetry  
LATEX

## Linear calibration

### Instrument: **SELECTRA 2**

#### Principle of the method

Rheumatoid factors (RF) cause agglutination of the latex particles coated with human gamma-globulin. The agglutination of the latex particles is proportional to the RF concentration and can be measured by turbidimetry.

#### Samples

Serum.

Stable for 7 days at 2-8 °C.

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 120 IU/mL.
- This method has not zone effect up to 800 IU/mL.

### Instrument settings

Name	RF	Prozone Check	No
Mode	Twopoint	Ref. Male Low	0 IU/mL
Wavelength	620 nm	Ref. Male High	20 IU/mL
Units	IU/mL	Ref. Female Low	0 IU/mL
Decimals	1	Ref. Female High	20 IU/mL
Low Concentration	0 IU/mL	Correlation Factor	1.000
High Concentration	120 IU/mL	Correlation Offset	0.000
Calibrator Name	(...)		
Repeat	2		
Number	1		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	RF	Low Absorbance	-0.050
Sample Blank	No	High Absorbance	3.000
R1 Bottle	25 mL	R. Abs. Low Limit	-0.050
Normal Volume	350 mL	R. Abs. High Limit	3.000
Rerun Volume	270 mL	R. Abs. Deviation	2.000
Sample		Reagent Blank	Yes
Normal Volume	3 mL	Cal. Low Limit	(...)
Rerun Volume	2 mL	Cal. High Limit	(...)
R2 Bottle	25 mL	Factor	
Normal Volume	40 mL		
Rerun Volume	30 mL		
Predilution	No		
Slope Blank	No	... Data entered by the operator	
Point one, two	-3, 120 sec.	* assigned value of standard	

# RHEUMATOID FACTORS (RF)

Turbidimetry  
LATEX

*Non linear calibration*

## Instrument: **SELECTRA 2**

### Principle of the method

Rheumatoid factors (RF) cause agglutination of the latex particles coated with human gamma-globulin. The agglutination of the latex particles is proportional to the RF concentration and can be measured by turbidimetry.

### Samples

Serum.

Stable for 7 days at 2-8 °C.

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 highest value of standard.
- This method has not zone effect up to 800 IU/mL.

### Instrument settings

Name	RF	Prozone Check	No
Mode	Twopoint	Ref. Male Low	0 IU/mL
Wavelength	620 nm	Ref. Male High	20 IU/mL
Units	IU/mL	Ref. Female Low	0 IU/mL
Decimals	1	Ref. Female High	20 IU/mL
Low Concentration	0 IU/mL	Correlation Factor	1.000
High Concentration	... IU/mL	Correlation Offset	0.000
Calibrator Name	(...)	Low Absorbance	-0.050
Repeat	2	High Absorbance	3.000
Number	5	R. Abs. Low Limit	-0.050
Concentration	*	R. Abs. High Limit	3.000
Interval	(...)	R. Abs. Deviation	2.000
Cut-off	No	Reagent Blank	Yes
<b>DUAL MODE</b>		Cal. Low Limit	(...)
Name	RF	Cal. High Limit	(...)
Sample Blank	No	Factor	
R1 Bottle	25 mL	... Data entered by the operator	
Normal Volume	350 mL	* assigned value of standard	
Rerun Volume	270 mL		
Sample			
Normal Volume	3 mL		
Rerun Volume	2 mL		
R2 Bottle	25 mL		
Normal Volume	40 mL		
Rerun Volume	30 mL		
Predilution	No		
Slope Blank	No		
Point one, two	-3, 120 sec.		

# TRANSFERRIN

Turbidimetry

## Instrument: SELECTRA 2

### Principle of the method

Transferrin precipitates in the presence of anti-human transferrin antibodies. The originated turbidity is proportional to the transferrin concentration and can be measured by turbidimetry.

### Samples

Serum or plasma treated with heparin or EDTA.  
Stable for 7 days at 2-8°C.

### Reagent preparation

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

### Performance characteristics

- Interferences: Hemoglobin (10 g/L), bilirubin (20 mg/dL) and Rheumatoid factors (300 UI/mL) do not interfere. Lipemia does not affect the results (5 g/L).

### Instrument settings

Name	Transferrin	Prozone Check	No
Mode	Twopoint		
Wavelength	340 nm	Ref. Male Low	200 mg/dL
Units	mg/dL	Ref. Male High	360 mg/dL
Decimals	0	Ref. Female Low	200 mg/dL
Low Concentration	0 mg/dL	Ref. Female High	360 mg/dL
High Concentration	... mg/dL		
Calibrator Name	(...)	Correlation Factor	1.000
Repeat	2	Correlation Offset	0.000
Number	5		
Concentration	*		
Interval	(...)		
Cut-off	No		
<b>DUAL MODE</b>			
Name	Transferrin		
Sample Blank	No	Low Absorbance	-0.050
R1 Bottle	25 mL	High Absorbance	3.000
Normal Volume	220 mL	R. Abs. Low Limit	-0.050
Rerun Volume	220 mL	R. Abs. High Limit	3.000
Sample		R. Abs. Deviation	0.000
Normal Volume	2 mL	Reagent Blank	Yes
Rerun Volume	4 mL	Cal. Low Limit	(...)
R2 Bottle	5 mL	Cal. High Limit	(...)
Normal Volume	50 mL	Factor	1.00
Rerun Volume	50 mL		
Predilution	No		
Slope Blank	No		
Point one, two	-3, 236 sec.	... Data entered by the operator	
		* assigned value of standard	