CE

CYPRESS DIAGNOSTICS

CY015

English

CYANElite 290

Application sheet



For a clear and precise diagnose

ISO 13485-2016

www.diagnostics.be • Belgium • Tel: ++ 32 15 67 67 68 • e-mail: cypress@diagnostics.be

Page	Test	CODE	Program Name
1	α-Amylase	HBE03	AAMY
2	Albumin	HB0010	ALB
3	Alkaline Phosphatase	HBE12	ALP
4	Bilirubin Direct	HB0260 - HB0020	BILD
5	Bilirubin Total	HB0270 - HB0020	BILT
6	Calcium	HB0030	CA
7	Chloride	HB005	CL
8	Cholesterol	HBL010	CHOL
9	HDL Cholesterol	HBL011	HDL
10	HDL Cholesterol	HBL0110	HDLn
11	LDL Cholesterol	HBL012	LDL
12	LDL Cholesterol	NA - Calculation	LDLco or LDLsi
13	Creatine Kinase MB	HBEL05	CKMB
14	Creatine Kinase NAC	HBEL03	CKNAC
15	Creatinine	HB0080	CRE
16	γ-GT	HBEL06 - HBEL061	GGT
17	Glucose	HBL04	GLUC
18	GOT (AST)	HBEL010	GOT
19	GPT (ALT)	HBEL020	GPT
20	Hemoglobin	HB011	HGB
21	Iron	HB012	IRON
22	Lactate Dehydrogenase	HBEL04 - HBEL041	LDH
23	Lipase	HBE09	LIPASE
24	Magnesium	HB0320	MG
25	Phosphorus	HB014	PHOSPH
26	Sodium Enzy	HB0340	SOD
27	Total Protein	HB0190	TP
28	Triglycerides	HBL060	TRIG
29	Urea	HBL030	UREA
30	Uric Acid	HBL020	UA
31	HbA1c	HT001	HbA1c

Version: 2026-08 (6.0)

Cypress Diagnostics: Nijverheidsstraat 8 • 2235 Hulshout • Belgium
www.diagnostics.be • Tel: ++ 32 15 67 67 68 • e-mail: cypress@diagnostics.be

CYPRESS DIAGNOSTICS

CY015 CYANElite 290

Application sheet

α-Amylase

CNPG3. Colorimetric. Kinetic

REF	**HBE03**
VOL	20 x 2 mL

REAGENT PREPARATION AND STABILITY

The Amylase reagent is ready to use.

All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.

After opening, the reagent is stable for 60 days when properly capped immediately after each opening and stored at 2-8 °C. The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 405 nm ≥ 0,40, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances. Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. Remove from cells as soon as possible. It is recommended to use heparin as anticoagulant.

Stability: 1 month at 2-8 °C.

PROGRAM SETUP

Prog. Name:	AAMY		**Incubation 2:**	100	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	0,2439	U/L
Name:	AAMY HBE03		**Serum dilution:**	1:1		**Max. conc.:**	2200	U/L
Version:	2		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Pancreas		**Diluent vol:**	7	µL	**Decimal digits:**	3	
Reagent 1 ID:	AAMY		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:★	15	mL	**Wavelength 1:**	405	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	28 - 90	U/L
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	28 - 90	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	28 - 90	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,4	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	6	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	1,317	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,2439 U/L (detection limit) to 2200 U/L (linearity limit). If the obtained results are greater than 2200 U/L, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to place AAMY in a 15 mL-reagent container.

2025-03 (1.0) - Replaces all previous versions

Albumin

Bromocresol Green. Colorimetric

REF	**HB0010**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready to use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 25 °C. Do not exceed the temperature of 25 °C during storage.
The reagent should be a clear, yellow-green solution. If turbidity or precipitation has occurred or if blank absorbance at 620 nm ≥ 0,40, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma, free of hemolysis. Stability 1 month at 2 - 8 °C or 1 week at 15 - 25 °C.

PROGRAM SETUP

Prog. Name:	ALB		**Incubation 2:**	175	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,038	g/dL
Name:	ALB HB0010		**Serum dilution:**	1:1		**Max. conc.:**	5,8	g/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	g/dL	
Group:	Protein		**Diluent vol:**	5	µL	**Decimal digits:**	3	
Reagent 1 ID:	ALB		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	620	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	3,5 - 5	g/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	3,5 - 5	g/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	3,5 - 5	g/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,4	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	2	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,038 g/dL (detection limit) to 5,8 g/dL (linearity limit). If the obtained results are greater than 5,8 g/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.1) - Replaces all previous versions

Alkaline Phosphatase

IFCC. Colorimetric. Kinetic

REF	**HBE12**
VOL	60 + 15 mL

REAGENT PREPARATION AND STABILITY

Reagents are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C. Do not freeze the reagents.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 405 nm > 1,50, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or heparinized plasma.

Use non-hemolyzed serum, separated from the clot as soon as possible. Stability: 3 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	ALP		**Incubation 2:**	75	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	1,307	U/L
Name:	ALP HBE12		**Serum dilution:**	1:1		**Max. conc.:**	1400	U/L
Version:	4		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Liver		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	ALP-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	405	nm	**Max. curve deviation:**	5	%
Reagent 2 ID: ★	ALP-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	26 - 117	U/L
Reag. 2 bottle:	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	26 - 117	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	26 - 117	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,5	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	6	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	60	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	2,1	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 1,307 U/L (detection limit) to 1400 U/L (linearity limit). If the obtained results are greater than 1400 U/L, rerun is recommended using a 1:10 dilution.

NOTES

★	It is recommended to place ALP-2 in a 15 mL-reagent container.

2025-03 (2.0) - Replaces all previous versions

Bilirubin Direct

DMSO. Colorimetric

REF	HB0260	HB0020
VOL	2 x 125 mL	1 x 125 mL

REAGENT PREPARATION AND STABILITY

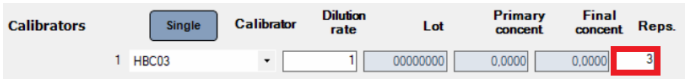
All reagents are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-25 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred, if color development has occurred in reagent N, or if blank absorbance at 546 nm ≥ 0,10 the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". Use the value indicated on the insert 'with sample blank'. 3 replicate measurements are recommended and pre-programmed for the BILD calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma, free of hemolysis. Protect samples from direct light. Bilirubin is stable up to 4 days at 2-8 °C and 2 months at -20 °C.

PROGRAM SETUP

Prog. Name:	BILD		**Incubation 2:**	300	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,06	mg/dL
Name:	BILD HB0260		**Serum dilution:**	1:1		**Max. conc.:**	20	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Liver		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	BILD		**Diluent ID:**	NA		**Target molecule:**	Bilirubin direct	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	546	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	BILN		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	0,06 – 0,25	mg/dL
Reag. 2 bottle: ★	Tube		**Needle washing:**	3		**Normal Min-Max Female:**	0,06 – 0,25	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	0,06 – 0,25	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,1	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,1	Abs	**Cycles:**	0	
Type:	S + R1 / R2		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	40	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	10	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,06 mg/dL (detection limit) to 20 mg/dL (linearity limit). If the obtained results are greater than 20 mg/dL, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to use the BILN-reagent in a 2 mL reagent tube.

2025-03 (2.0) - Replaces all previous versions

Bilirubin Total

DMSO. Colorimetric

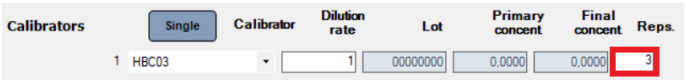
REF	HB0270	HB0020
VOL	2 x 125 mL	1 x 125 mL

REAGENT PREPARATION AND STABILITY

All reagents are ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-25 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred, if color development has occurred in reagent N, or if blank absorbance at 546 nm ≥ 0,10 the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". Use the value indicated on the insert 'with sample blank'. 3 replicate measurements are recommended and pre-programmed for the BILT calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02).** Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma, free of hemolysis. Protect samples from direct light. Bilirubin is stable up to 4 days at 2-8 °C and 2 months at -20 °C.

PROGRAM SETUP

Prog. Name:	BILT		**Incubation 2:**	300	s	**Blank OD Δ max:**	NA	Abs
Type:	Bichromatic		**Reading:**	125	s	**Min. conc.:**	0,1	mg/dL
Name:	BILT HB0270		**Serum dilution:**	1:1		**Max. conc.:**	20	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Liver		**Diluent vol:**	20	µL	**Decimal digits:**	3	
Reagent 1 ID:	BILT		**Diluent ID:**	NA		**Target molecule:**	Bilirubin total	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	546	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	BILN		**Wavelength 2:**	670	nm	**Normal Min-Max Male:**	0,2 – 1,1	mg/dL
Reag. 2 bottle: ★	Tube		**Needle washing:**	3		**Normal Min-Max Female:**	0,2 – 1,1	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	0,2 – 1,1	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,1	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,1	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	40	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	10	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,1 mg/dL (detection limit) to 20 mg/dL (linearity limit). If the obtained results are greater than 20 mg/dL, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to use the BILN-reagent in a 2 mL reagent tube.

2025-03 (2.0) - Replaces all previous versions

Calcium

REF	**HB0030**
VOL	2 x 125 mL

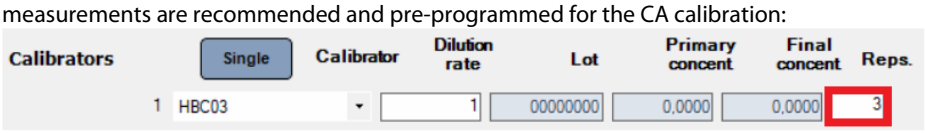
Arsenazo III. Colorimetric. Monoreagent

REAGENT PREPARATION AND STABILITY

The reagent is ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 620 nm ≥ 0,80 the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the CA calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma, separated from cells as rapidly as possible. Blood anticoagulants with oxalate, citrate or EDTA are not acceptable since these chemicals will strongly chelate calcium.
Stability of the samples: Calcium is stable 10 days at 2-8 °C.

PROGRAM SETUP

Prog. Name:	CA		**Incubation 2:**	125	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,16	mg/dL
Name:	CA HB0030		**Serum dilution:**	1:1		**Max. conc.:**	20	mg/dL
Version:	6		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Electrolytes		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	CA		**Diluent ID:**	NA		**Target molecule:**	Calcium	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	620	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	8,6 – 10,2	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	8,6 – 10,2	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	8,4 – 11,0	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,1	Abs	**Method 1:**	NA	
Mixing 2:	3		**Blank OD max:**	0,8	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	7	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,163 mg/dL (detection limit) to 20 mg/dL (linearity limit). If the obtained results are greater than 20 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (3.2) - Replaces all previous versions

Chloride

Thiocyanate. Colorimetric

REF	**HB005**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

Reagent and standard are ready to use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 480 nm ≥ 0,15, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma, free of hemolysis and separated from cells as rapidly as possible. Anticoagulants such as oxalate or EDTA will interfere. Chloride is stable 1 week at room temperature (15 - 25 °C), 15 days in refrigerator (2 - 8 °C) and 1 month frozen (-20 °C).

PROGRAM SETUP

Prog. Name:	CL		**Incubation 2:**	200	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,454	meq/L
Name:	CL HB005		**Serum dilution:**	1:1		**Max. conc.:**	190	meq/L
Version:	3		**Urine dilution:**	1:1		**Units 1:**	meq/L	
Group:	Electrolytes		**Diluent vol:**	5	µL	**Decimal digits:**	3	
Reagent 1 ID:	CL		**Diluent ID:**	NA		**Target molecule:**	Chlorid	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	450	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	95 – 115	meq/L
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	95 – 115	meq/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	95 – 115	meq/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,10	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,15	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	330	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,454 mEq/L (detection limit) to 190 mEq/L (linearity limit). If the obtained results are greater than 190 mEq/L, rerun is recommended using a 1:2 dilution.

2025-04 (1.1) - Replaces all previous versions

Cholesterol

Enzymatic. Colorimetric test CHOD-POD

REF	**HBL010**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready to use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 510 nm ≥ 0,26, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**.Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. Stability of the sample for 7 days at 2-8 °C or 3 months at -20 °C.

PROGRAM SETUP

Prog. Name:	CHOL		**Incubation 2:**	325	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,52	mg/dL
Name:	CHOL HBL010		**Serum dilution:**	1:1		**Max. conc.:**	1000	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Lipids		**Diluent vol:**	6	µL	**Decimal digits:**	3	
Reagent 1 ID:	CHOL		**Diluent ID:**	NA		**Target molecule:**	Cholesterol	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	120 – 200	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	120 – 200	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	120 – 170	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,26	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	5	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,521 mg/dL (detection limit) to 1000 mg/dL (linearity limit). If the obtained results are greater than 1000 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.1) - Replaces all previous versions

HDL Cholesterol

Enzymatic. Colorimetric

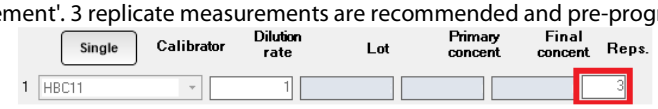
REF	**HBL011**
VOL	120 + 40 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready to use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagents are light sensitive. Do not leave bottles open. Do not freeze the reagents.
R1 and R2: once opened they are stable 60 days at 2-8 °C. The reagent should be a clear solution. If turbidity or precipitation has occurred, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **HDL/LDL calibrator (HBC11)** for calibration. The concentration is lot specific and given on the label of the calibrator. Insert the value in menu 'Lot management'. 3 replicate measurements are recommended and pre-programmed for the HDL calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibrator for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use the **HDL/LDL Control kit (HBC10)**. Insert the value mentioned on the label in menu "Lot management".

SAMPLES

Sample type: human serum or plasma (EDTA, citrate, Li Heparin). Fasting and non-fasting samples can be used.

PROGRAM SETUP

Prog. Name:	HDL		**Incubation 2:**	250	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	1,06	mg/dL
Name:	HDL HBL011		**Serum dilution:**	1:1		**Max. conc.:**	184,8	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Lipids		**Diluent vol:**	20	µL	**Decimal digits:**	3	
Reagent 1 ID:	HDL-1		**Diluent ID:**	NA		**Target molecule:**	HDL Chol	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	578	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	HDL-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	59 – 70	mg/dL
Reag. 2 bottle:	15	mL	**Needle washing:**	3		**Normal Min-Max Female:**	59 – 89	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	59 – 81	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,06	Abs	**Cycles:**	0	
Type:	S + R1 / R2		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	100	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	350	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 1,06 mg/dL (detection limit) to 184,8 mg/dL (linearity limit). If the obtained results are greater than 184,8 mg/dL, rerun is recommended using a 1:2 dilution.

2025-03 (3.0) - Replaces all previous versions

NEW REAGENT
NEW METHOD

CYPRESS DIAGNOSTICS

CY015 CYANElite 290

Application sheet

REF	HBL0110
VOL	120 + 40 mL

HDL Cholesterol

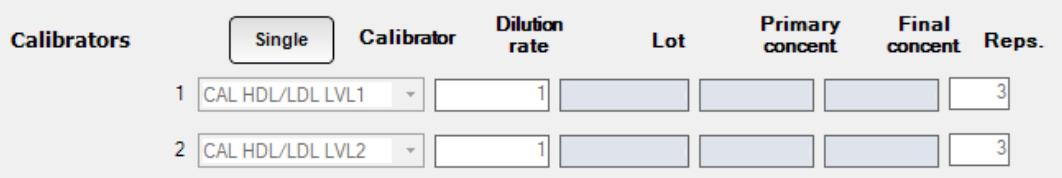
Enzymatic. Colorimetric

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready to use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use bi-level **HDLc/LDLc Calibrator (HBC12) for calibration.** The concentration is lot specific and given on the value sheets, delivered together with the calibrator. Insert the value in menu "**Lot management**". 3 replicate measurements are recommended and pre-programmed for the HDL calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. Use Biochemistry **Normal and Pathological Controls (HBC01, HBC02)** for quality control. The concentration is lot specific and given on the value sheets, delivered together with the control. Insert the value in menu "Lot management". Measure at least one replicate per control. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

SAMPLES

Sample type: human serum. Fasting and non-fasting samples can be used. Lipemic/turbid and icteric samples should be avoided.

PROGRAM SETUP

Prog. Name:	HDLn		**Incubation 2:**	300	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	25,3	mg/dL
Name:	HDL HBL0110		**Serum dilution:**	1:1		**Max. conc.:**	118	mg/dL
Version:	1		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Lipids		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	HDLn-1		**Diluent ID:**	NA		**Target molecule:**	HDL Chol	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	546	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	HDLn-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	59 – 70	mg/dL
Reag. 2 bottle:	15	mL	**Needle washing:**	3		**Normal Min-Max Female:**	59 – 89	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	59 – 81	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,010	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,060	Abs	**Cycles:**	0	
Type:	S + R1 / R2		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	13	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	325	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	108	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	350	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 25.3 mg/dL (detection limit) to 118 mg/dL (linearity limit). If the obtained results are greater than 118 mg/dL, rerun is recommended using a 1:2 dilution.

2026-04 (1.0)

LDL Cholesterol

Enzymatic. Colorimetric.

REF	**HBL012**
VOL	120 + 40 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready to use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagents are light sensitive. Do not leave bottles open. Do not freeze the reagents.
R1 and R2: once opened they are stable for 60 days at 2-8 °C. The reagents should be a clear solution. If turbidity or precipitation has occurred, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **HDL/LDL calibrator (HBC11)** for calibration. The concentration is lot specific and given on the label of the calibrator.
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibrator for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use the **HDL/LDL Control kit (HBC10)**. Insert the value mentioned on the label in menu "Lot management".

SAMPLES

Sample type: human serum or plasma (EDTA, citrate).
Fasting and non-fasting samples can be used. Do not use plasma containing heparin as anticoagulant.

PROGRAM SETUP

Prog. Name:	LDL		**Incubation 2:**	250	s	**Blank OD Δ max:**	NA	Abs
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	1,7	mg/dL
Name:	LDL HBL012		**Serum dilution:**	1:1		**Max. conc.:**	250	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Lipids		**Diluent vol:**	20	µL	**Decimal digits:**	3	
Reagent 1 ID:	LDL-1		**Diluent ID:**	NA		**Target molecule:**	LDL Chol	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	578	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	LDL-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	50 – 100	mg/dL
Reag. 2 bottle:	15	mL	**Needle washing:**	3		**Normal Min-Max Female:**	62 – 100	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	46 – 100	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,06	Abs	**Cycles:**	0	
Type:	S + R1 / R2		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs	**Method 3:**	NA	
Reagent 2 vol:	100	µL	**OD Range max:**	9,999	Abs	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	350	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 1,64 mg/dL (detection limit) to 250 mg/dL (linearity limit). If the obtained results are greater than 250 mg/dL, rerun is recommended using a 1:2 dilution.

2025-03 (2.0) - Replaces all previous versions

Calculation

LDL Cholesterol

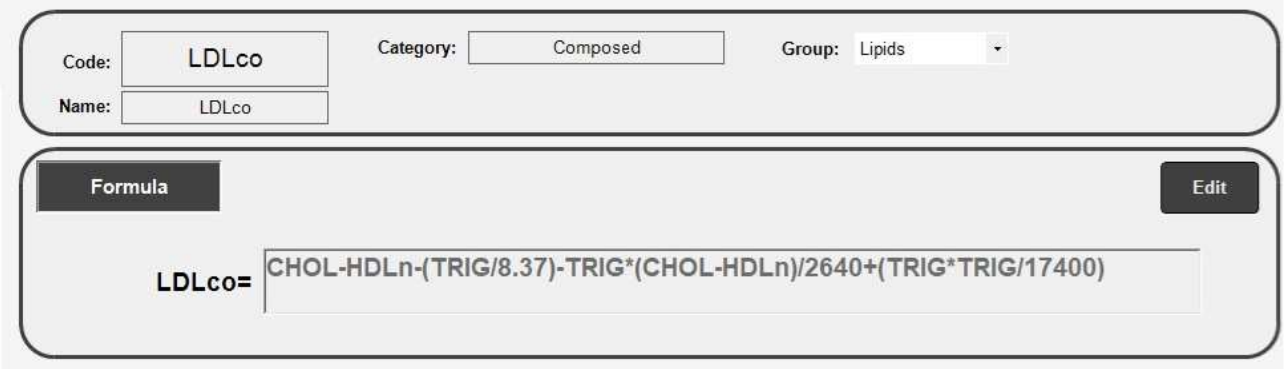
Composed method

CALCULATION

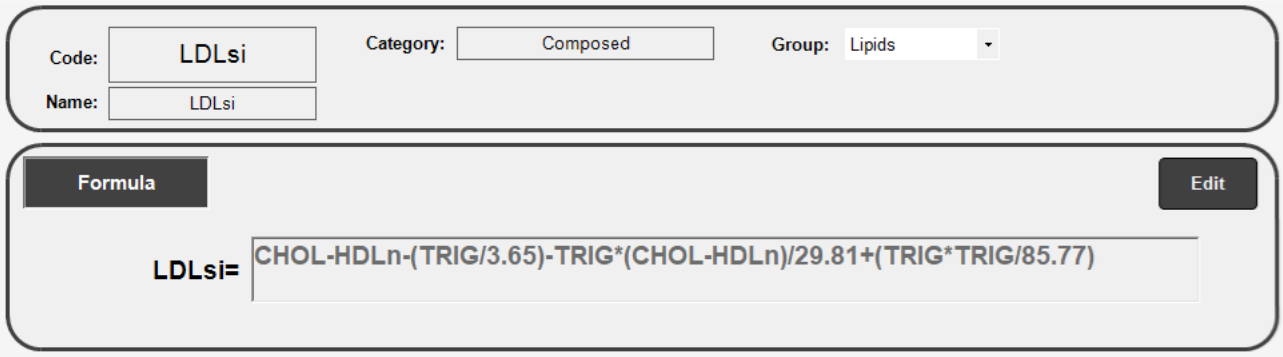
LDL Cholesterol calculation following the Modified Sampson-NIH method.

PROGRAM SETUP

To obtain the result for LDL Cholesterol **in mg/dL,** use the preprogrammed '**LDLco**' method:



To obtain the result for LDL Cholesterol **in mmol/L**, use the preprogrammed '**LDLsi**' method:



When scheduling the LDLco or LDLsi test in the worklist, all other analytes needed to calculate the LDL cholesterol concentration will automatically be programmed in the worklist for the selected sample. In this case: CHOL, HDLn and TRIG. When these analyses are successfully completed, the analyzer will calculate the result of LDL cholesterol using one of the above formulas (selected by the user when programming the worklist). Make sure the unit of CHOL, HDLn and TRIG match with the selected LDL method. Otherwise, there will be an incompatibility, and the calculated results will be incorrect.

NOTES

1. This formula is only compatible with the **HDLn** method (not HDL), using the **HBL0110** reagent kit.
2. The formula is compatible with TRIG levels up to 1000 mg/dL (11,3 mmol/L).
3. When using the **HBL012** LDL Cholesterol kit, program the '**LDL**' method.
4. We recommend keeping **only one** LDL composed method in the CYANElite 290 method list, either 'LDLco' to obtain results in mg/dL **OR** 'LDLsi' to obtain results in mmol/L. Delete the composed method which will not be used by the laboratory to avoid confusion or unit mismatches. Deleting a method can be done from the 'Methods' menu.

2026-08 (0.0)

Creatine Kinase MB

Immuno-inhibition. UV. Kinetic

REF	**HBEL05**
VOL	60 + 15 mL

REAGENT PREPARATION AND STABILITY

Working reagent: mix 4 volumes of R1 with 1 volume of R2. After mixing, allow to stand for 30 minutes prior to use. The stability of the working reagent is 7 days at 2-8 °C or 12 hours at room temperature (15-25 °C).

Control: dissolve the contents in 2 mL of distilled water. Cap vial and mix gently to dissolve the contents. Stability: 8 hours at 15-25 °C, 5 days at 2-8 °C or 1 month at -20 °C. Bring at room temperature for about 30 min before use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm ≥ 1,20, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Calibration by means of a **Factor** (12900).

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use the **CK (NAC&MB) control (HBC08)** included in the kit. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum free of hemolysis, or heparin plasma.

Stability: 7 days at 2 - 8 °C, protected from light. CK-MB activity decreases a 10% after 24 hours at 4 °C or 1 hour at 25 °C. Use fresh samples.

PROGRAM SETUP

Prog. Name:	CKMB		**Incubation 2:**	0	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	1,9	U/L
Name:	HBEL05		**Serum dilution:**	1:1		**Max. conc.:**	1000	U/L
Version:	3		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Heart		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	CKMB-W		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	1,9 - 24	U/L
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	1,9 - 24	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	1,9 - 24	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	NA		**Blank OD max:**	1,2	Abs	**Cycles:**	0	
Type:	R1 + S / -		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	7	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	330	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	500	s	**Subst. Deplet.:**	1,207	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 1,9 U/L (detection limit) to 1000 U/L (linearity limit). If the obtained results are greater than 1000 U/L, rerun is recommended using a 1:2 dilution.

2025-03 (2.0) - Replaces all previous versions

Creatine Kinase NAC

NAC Activated. UV. Kinetic

REF	**HBEL03**
VOL	60 + 15 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm ≥ 1,0 the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03).** Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02).** Also a CK **(NAC & MB) Control (HBC08) is** available. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum free of hemolysis, or heparin plasma Stability: 7 days at 2 - 8 °C, protected from light. The creatinine kinase activity decreases 10% after 1 day at 2 - 5 °C or after 1 hour at 15 - 25 °C. Use fresh samples.

PROGRAM SETUP

Prog. Name:	CKNAC		**Incubation 2:**	225	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	2,12	U/L
Name:	HBEL03		**Serum dilution:**	1:1		**Max. conc.:**	2000	U/L
Version:	2		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Heart		**Diluent vol:**	7	µL	**Decimal digits:**	3	
Reagent 1 ID:	CKNA-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	CKNA-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	46 - 195	U/L
Reag. 2 bottle:★	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	34 - 170	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	34 - 170	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,0	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	6	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	60	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	1,364	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 2,12 U/L (detection limit) to 2000 U/L (linearity limit). If the obtained results are greater than 2000 U/L, rerun is recommended using a 1:10 dilution.

NOTES

★	It is recommended to use CKNA-2 in a 15 mL-reagent container.

2025-03 (1.0) - Replaces all previous versions

Creatinine

REF	**HB0080**
VOL	2 x 125 mL

Jaffé. Colorimetric. Kinetic without deproteinization

REAGENT PREPARATION AND STABILITY

Mix proportionally 1:1 R1 Picric Reagent and R2 Alkaline Reagent. The working reagent is **stable for 10 days at 15 - 25 °C.**
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 25 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 510 nm ≥ 1,80, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or heparinized plasma. Creatinine is stable 24 hours at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	CRE		**Incubation 2:**	75	s	**Blank OD Δ max:**	0	Abs/min
Type:	Fixed time		**Reading:**	125	s	**Min. conc.:**	0,115	mg/dL
Name:	HBEL0080		**Serum dilution:**	1:1		**Max. conc.:**	15	mg/dL
Version:	2		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Kidney		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	CREwr		**Diluent ID:**	NA		**Target molecule:**	Creatinine	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	0,7 – 1,4	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	3		**Normal Min-Max Female:**	0,6 – 1,1	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	0,6 – 1,1	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	3		**Blank OD max:**	1,8	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	30	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	300	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,115 mg/dL (detection limit) to 15 mg/dL (linearity limit). If the obtained results are greater than 15 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (1.1) - Replaces all previous versions

γ-GT

Carboxy substrate. Colorimetric. Kinetic

REF	HBEL06	HBEL061
VOL	240 + 60 mL	60 +15 mL

REAGENT PREPARATION AND STABILITY

GGT Reagent1 and Reagent 2 are ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 405 nm ≥ 1,80, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum γ-GT is stable for at least 3 days at 2 - 8 °C, 8 hours at 15 - 25 °C and 1 month at -20 °C.

PROGRAM SETUP

Prog. Name:	GGT		**Incubation 2:**	75	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	2	U/L
Name:	GGT HBEL06		**Serum dilution:**	1:1		**Max. conc.:**	300	U/L
Version:	2		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Liver		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	GGT-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	405	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	GGT-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	11 – 50	U/L
Reag. 2 bottle: ★	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	7 – 32	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	7 – 32	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,8	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	27	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	220	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	55	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	2,2	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 2 U/L (detection limit) to 300 U/L (linearity limit). If the obtained results are greater than 300 U/L, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to use GGT-2 in a 15 mL-reagent container.

2025-03 (2.0) - Replaces all previous versions

Glucose

Enzymatic. Colorimetric GOD-POD

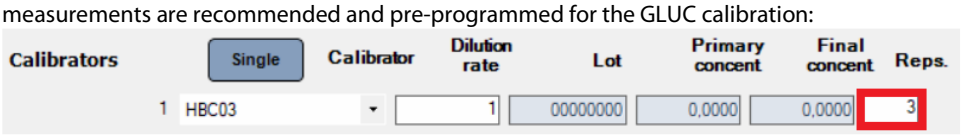
REF	**HBL04**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 510 nm ≥ 0,32, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the GLUC calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human fluoride plasma, free of hemolysis and turbidity. Plasma should be isolated in blood tubes containing sodium fluoride (NaF) to inhibit glycolysis. In fluoride plasma, the glucose concentration is stable for up to 3 days at room temperature. For fasting glucose determination, fasting for at least 12 hours is recommended before sample collection.

PROGRAM SETUP

Prog. Name:	GLUC		**Incubation 2:**	425	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	14,1	mg/dL
Name:	GLUC HBL04		**Serum dilution:**	1:1		**Max. conc.:**	420	mg/dL
Version:	4		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Metabolism		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	GLUC		**Diluent ID:**	NA		**Target molecule:**	Glucose	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	74 – 100	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	74 – 100	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	60 – 100	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,32	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	330	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 14,1 mg/dL (limit of quantitation) to 420 mg/dL (linearity limit). If the obtained results are greater than 420 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.1) - Replaces all previous versions

GOT (AST)

NADH. UV. Kinetic. According to IFCC

REF	**HBEL010**
VOL	1 x 240 + 1 x 60 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm < 0,91, the reagent should be discarded.

CALIBRATION & QUALITY CONTROLS

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances. Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. Stability 2 days at 2 - 8 °C. Fasting of at least 12 hours is recommended before sample collection.

PROGRAM SETUP

Prog. Name:	GOT		**Incubation 2:**	100	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	3,12	U/L
Name:	HBEL010		**Serum dilution:**	1:1		**Max. conc.:**	260	U/L
Version:	3		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Liver		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	GOT-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	GOT-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	3,1 – 38	U/L
Reag. 2 bottle:	★15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	3,1 – 31	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	3,1 – 31	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0,91	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,80	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Negative		**Method 2:**	NA	
Sample vol:	30	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	60	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	25	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	0,187	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 3.12 U/L (detection limit) to 260 U/L (linearity limit). If the obtained results are greater than 260 U/L, rerun is recommended using a 1:5 dilution.

NOTES

★	It is recommended to use GOT-2 in a 15 mL-reagent container.

2026-08 (3.0) - Replaces all previous versions

GPT (ALT)

NADH. UV. Kinetic. According to IFCC

REF	**HBEL020**
VOL	1 x 240 + 1 x 60 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm < 1,00, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. Stability 1 day at 2-8 °C. Fasting of at least 12 hours is recommended before sample collection.

PROGRAM SETUP

Prog. Name:	GPT		**Incubation 2:**	100	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	3,00	U/L
Name:	HBEL020		**Serum dilution:**	1:1		**Max. conc.:**	260	U/L
Version:	3		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Liver		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	GPT-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	GPT-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	3 – 40	U/L
Reag. 2 bottle:	★15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	3 – 32	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	3 – 32	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0,91	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	2,00	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Negative		**Method 2:**	NA	
Sample vol:	30	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	60	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	25	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	0,219	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 3 U/L (detection limit) to 260 U/L (linearity limit). If the obtained results are greater than 260 U/L, rerun is recommended using a 1:5 dilution.

NOTES

★	It is recommended to use GPT-2 in a 15 mL-reagent container.

2026-08 (3.0) - Replaces all previous versions

Hemoglobin

Drabkin. Colorimetric.

REF	**HB011**
VOL	4 x 5 mL

REAGENT PREPARATION AND STABILITY

Working reagent :

- 4,9 mL distilled water + 2 drops of reagent and mix.

Or:

- 245 mL distilled water + 5 mL of reagent and mix.

The working reagent (HGBWR) is stable for 2 months at 2 –8 °C, protected from the sunlight.

Hemoglobin Calibrator (HBS02) is ready to use. Homogenize the calibrator by gentle shaking before use.

All the components of the kit and the hemoglobin calibrator (HBS02) are stable at 2-8 °C up to the date of expiration as specified, when stored tightly closed, protected from light and contaminations prevented during their use. The reagent should be a clear solution. The reagent should be discarded if turbidity or precipitation has occurred or if the blank absorbance is out of range.

CALIBRATION & QUALITY CONTROL

Use the **Hemoglobin Calibrator (HBS02)**. Insert the value mentioned on the insert in menu "Lot management".

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

SAMPLES

Sample type: human capillary or venous blood. Use anticoagulants like EDTA, heparin or oxalate. Stability: 7 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	HGB		**Incubation 2:**	175	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,1	g/dL
Name:	HGB HB011		**Serum dilution:**	1:1		**Max. conc.:**	20	g/dL
Version:	2		**Urine dilution:**	1:1		**Units 1:**	g/dL	
Group:	Metabolism		**Diluent vol:**	10	µL	**Decimal digits:**	3	
Reagent 1 ID:	HGB-WR		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	546	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	14 – 18	g/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	12 – 16	g/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	12 – 16	g/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,01	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	3	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,1 g/dL (detection limit) to 20 g/dL (linearity limit). If the obtained results are greater than 20 g/dL, rerun is recommended using a 1:2 dilution.

2025-03 (1.0) - Replaces all previous versions

Iron

Ferrozine. Colorimetric

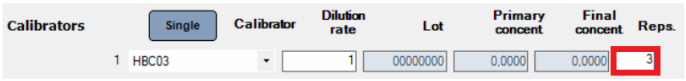
REF	**HB012**
VOL	4 x 50 mL

REAGENT PREPARATION AND STABILITY

R3 is ready to use.
Add the contents of one tube R2 reductant to the contents of one bottle R1 buffer. Cap and mix gently to dissolve content. This **working reagent** is stable for 3 months at 2-8 °C or 1 month at room temperature (15-25 °C).
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if the reagent blank absorbance at 562 nm ≥ 0,020, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03).** Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the IRON calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02).** Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or heparinized plasma. Hemolysis interferes with the test. Separate from the cells as rapidly as possible. The iron is stable up to 7 days stored at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	Iron		**Incubation 2:**	275	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,85	µg/dL
Name:	Iron HB012		**Serum dilution:**	1:1		**Max. conc.:**	1000	µg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	µg/dL	
Group:	Metabolism		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	IRON-W		**Diluent ID:**	NA		**Target molecule:**	Iron (FeT)	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	578	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	IRON-3		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	65 – 175	µg/dL
Reag. 2 bottle:	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	40 – 150	µg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	40 – 150	µg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	CL	
Mixing 2:	Default		**Blank OD max:**	0,02	Abs	**Cycles:**	4	
Type:	S + R1 / R2		**Reaction slope:**	Positive		**Method 2:**	UREA	
Sample vol:	56	µL	**Calibration slope:**	NA		**Cycles:**	4	
Reagent 1 vol:	280	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	ALB	
Reagent 2 vol:	14	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	4	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,85 µg/dL (detection limit) to 1000 µg/dL (linearity limit). If the obtained results are greater than 1000 µg/dL, rerun is recommended using a 1:2 dilution.

2025-03 (2.0) - Replaces all previous versions

Lactate Dehydrogenase

Pyruvate DGKC. UV. Kinetic.

REF	HBEL04	HBEL041
VOL	240 + 60 mL	60 + 15 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm < 1,00, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum, separated from the cells as rapidly as possible. Do not use oxalates as anticoagulants since they inhibit the enzyme. Do not use hemolyzed samples. LDH in the serum is stable for 2 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	LDH		**Incubation 2:**	225	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	100	s	**Min. conc.:**	3,42	U/L
Name:	LDH HBEL04		**Serum dilution:**	1:1		**Max. conc.:**	1600	U/L
Version:	2		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Heart		**Diluent vol:**	6	µL	**Decimal digits:**	3	
Reagent 1 ID:	LDH-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	LDH-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	230 – 460	U/L
Reag. 2 bottle:	★15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	230 – 460	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	230 – 460	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	1,00	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	2,00	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Negative		**Method 2:**	NA	
Sample vol:	5	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	60	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	0,760	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 3,42 U/L (detection limit) to 1600 U/L (linearity limit). If the obtained results are greater than 1600 U/L, rerun is recommended using a 1:10 dilution.

NOTES

★	It is recommended to use LDH-2 in a 15 mL-reagent container.

2025-03 (1.0) - Replaces all previous versions

Lipase

Enzymatic. Colorimetric. Kinetic

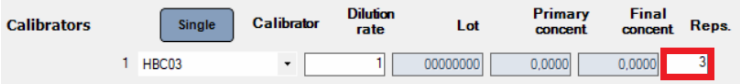
REF	**HBE09**
VOL	1 x 40 mL

REAGENT PREPARATION AND STABILITY

R1 and R2: ready to use. **Stability after opening 90 days at 2-8 °C**.
R2: mix gently before use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C. In some storage conditions (lower than the one indicated) a precipitate may appear in the vial that will not influence the reagent performance. However, it is recommended to re-suspend the product with a slight rotation.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 580 nm ≥ 1,4, the reagent should be discarded. R2 is a turbid orange-colored micro-emulsion, discard if turning to red.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03).** Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended **and** pre-programmed for the LIPASE calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02).** Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. Plasma: with sodium citrate, EDTA or heparin.
Stability: 2 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	LIPASE		**Incubation 2:**	225	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	150	s	**Min. conc.:**	5	U/L
Name:	HBE09		**Serum dilution:**	1:1		**Max. conc.:**	250	U/L
Version:	3		**Urine dilution:**	1:1		**Units 1:**	U/L	
Group:	Pancreas		**Diluent vol:**	4	µL	**Decimal digits:**	3	
Reagent 1 ID:	LIPA-1		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	15	mL	**Wavelength 1:**	578	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	LIPA-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	5 – 38	U/L
Reag. 2 bottle:	★Tube	mL	**Needle washing:**	3		**Normal Min-Max Female:**	5 – 38	U/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	5 – 38	U/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	TRIG	
Mixing 2:	Default		**Blank OD max:**	1,4	Abs	**Cycles:**	4	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	3	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	270	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	70	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	1,775	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 5 U/L (detection limit) to 250 U/L (linearity limit). If the obtained results are greater than 250 U/L, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to use LIPA-1 in a 15 mL-reagent container and LIPA-2 in a 2 mL-reagent tube.

2025-03 (3.0) - Replaces all previous versions

Magnesium

Xylidyl Blue - EGTA. Colorimetric

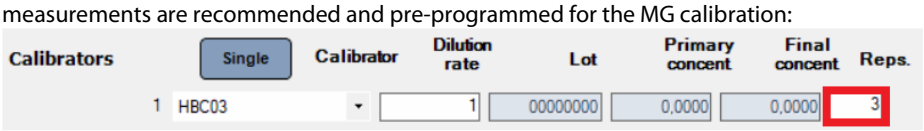
REF	**HB0320**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 25 °C.
The reagent should be a clear blue solution. If turbidity or precipitation has occurred or if blank absorbance at 510 nm ≥ 1,5 the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the MG calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or heparinized plasma, free of hemolysis and separated from cells as rapidly as possible. Do not use oxalates, citrate or EDTA as anticoagulant. Stability: 5 days at 4 - 8 °C.

PROGRAM SETUP

Prog. Name:	MG		**Incubation 2:**	125	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,05	mg/dL
Name:	MG HB0320		**Serum dilution:**	1:1		**Max. conc.:**	6,60	mg/dL
Version:	4		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Electrolytes		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	MG		**Diluent ID:**	NA		**Target molecule:**	Magnesium	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	1,6 – 2,5	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	3		**Normal Min-Max Female:**	1,6 – 2,5	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	1,6 – 2,5	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,1	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,5	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,05 mg/dL (detection limit) to 6,6 mg/dL (linearity limit). If the obtained results are greater than 6,6 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.2) - Replaces all previous versions

Phosphorus

Phosphomolybdate. UV.

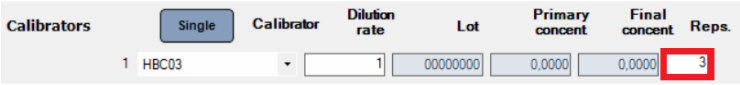
REF	**HB014**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm ≥ 0,54, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03).** Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the PHOSPH calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02).** Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma , free of hemolysis and separated from cells as rapidly as possible.
Stability: 7 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	PHOSPH		**Incubation 2:**	75	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0	mg/dL
Name:	HB014		**Serum dilution:**	1:1		**Max. conc.:**	35	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Electrolytes		**Diluent vol:**	5	µL	**Decimal digits:**	3	
Reagent 1 ID:	PHOS		**Diluent ID:**	NA		**Target molecule:**	Phosphorus	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	2,5 – 5	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	3		**Normal Min-Max Female:**	2,5 – 5	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	4 – 7	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,10	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,54	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	3	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	350	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0 mg/dL (detection limit) to 35 mg/dL (linearity limit). If the obtained results are greater than 35 mg/dL, rerun is recommended using a 1:2 dilution.

2025-04 (1.1) - Replaces all previous versions

REF	HB0340
VOL	40 + 20 mL
Standard **1**	1 x 3 mL
Standard **2**	1 x 3 mL

Sodium Enzy

Enzymatic. Colorimetric.

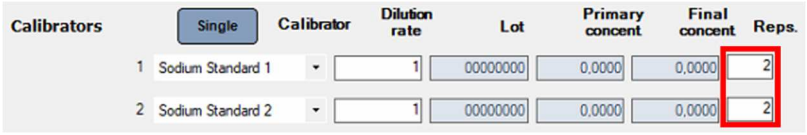
REAGENT PREPARATION AND STABILITY

All reagents are ready to use. Allow standards to equilibrate to room temperature for 30 minutes before use. Gently swirl a few times before first use. Take care to avoid the formation of bubbles.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.
Handle standard very carefully to prevent contamination. Do not freeze the reagents. The above conditions are valid if the vials are opened just only for the time to take the reagent, closed immediately with their cap and stored at the indicated storage temperature.

CALIBRATION & QUALITY CONTROL

Use the **standards** included in the kit. Insert the value mentioned on the vials of the standards in menu "Lot management". 2 replicate measurements are recommended and pre-programmed for the SOD calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls Specific (HBC01-S, HBC02-S)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum

PROGRAM SETUP

Prog. Name:	SOD		**Incubation 2:**	0	s	**Blank OD Δ max:**	0	Abs/min
Type:	Kinetic		**Reading:**	75	s	**Min. conc.:**	80	meq/L
Name:	HB0340		**Serum dilution:**	1:1		**Max. conc.:**	180	meq/L
Version:	2		**Urine dilution:**	1:1		**Units 1:**	meq/L	
Group:	Electrolytes		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	SOD1		**Diluent ID:**	NA		**Target molecule:**	Sodium (Na)	
Reag. 1 bottle:	15	mL	**Wavelength 1:**	405	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	SOD2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	135 – 155	meq/L
Reag. 2 bottle:	Tube	mL	**Needle washing:**	3		**Normal Min-Max Female:**	135 – 155	meq/L
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	135 – 155	meq/L
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	SOD	
Mixing 2:	NA		**Blank OD max:**	1	Abs	**Cycles:**	4	
Type:	S + R1 + R2 /-		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	9	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	225	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	115	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	0	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	200	s	**Subst. Deplet.:**	0	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 80 mEq/L (detection limit) to 180 mEq/L (linearity limit). If the obtained results are greater than 180 mEq/L, rerun is recommended.

2025-03 (1.0) - Replaces all previous versions

Total Protein

Biuret. Colorimetric

REF	**HB0190**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

The reagent is ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 546 nm ≥ 0,22, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or heparinized plasma. Stability: 1 month at 2-8 °C.

PROGRAM SETUP

Prog. Name:	TP		**Incubation 2:**	425	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	0,008	g/dL
Name:	TP HB0190		**Serum dilution:**	1:1		**Max. conc.:**	15	g/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	g/dL	
Group:	Protein		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	TP		**Diluent ID:**	NA		**Target molecule:**	NA	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	546	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	6,6 – 8,3	g/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	6,6 – 8,3	g/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	6,6 – 8,3	g/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,22	Abs	**Cycles:**	0	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	8	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	320	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,008 g/dL (detection limit) to 15 g/dL (linearity limit). If the obtained results are greater than 15 g/dL, rerun is recommended using a 1:2 dilution.

2026-03 (1.2) - Replaces all previous versions

Triglycerides

Enzymatic. Colorimetric. GPO-POD

REF	**HBL060**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

All the reagents are ready for use.
All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.
The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 510 nm ≥ 0,23, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management".
Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.
Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma. The stability of the sample: 5 days at 2-8 °C.

PROGRAM SETUP

Prog. Name:	TRIG		**Incubation 2:**	325	s	**Blank OD Δ max:**	0	Abs/min
Type:	EP self blank		**Reading:**	25	s	**Min. conc.:**	1,01	mg/dL
Name:	TRIG HBL060		**Serum dilution:**	1:1		**Max. conc.:**	1000	mg/dL
Version:	3		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Lipids		**Diluent vol:**	5	µL	**Decimal digits:**	3	
Reagent 1 ID:	TRIG		**Diluent ID:**	NA		**Target molecule:**	Triglycerides	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	NA		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	40 – 160	mg/dL
Reag. 2 bottle:	NA		**Needle washing:**	1		**Normal Min-Max Female:**	35 – 135	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	35 – 135	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,10	Abs	**Method 1:**	LIPASE	
Mixing 2:	Default		**Blank OD max:**	0,23	Abs	**Cycles:**	4	
Type:	R1 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	330	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	0	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 1,01 mg/dL (detection limit) to 1000 mg/dL (linearity limit). If the obtained results are greater than 1000 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.1) - Replaces all previous versions

Urea

Urease-GLDH. UV. Kinetic

REF	**HBL030**
VOL	240 + 60 mL

REAGENT PREPARATION AND STABILITY

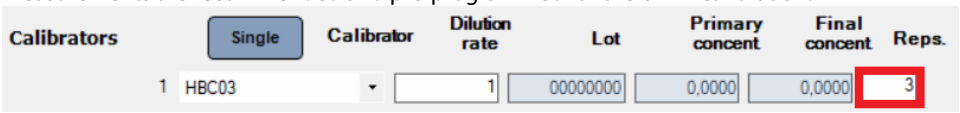
R1 and R2 are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C.

The reagent should be a clear solution. If turbidity or precipitation has occurred or if blank absorbance at 340 nm ≤ 0,90 AU, the reagent should be discarded.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". 3 replicate measurements are recommended and pre-programmed for the UREA calibration:



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management".

SAMPLES

Sample type: human serum or plasma: do not use ammonium salts or fluoride as anticoagulants.

Stability of samples: 7 days at 4 - 25 °C.

PROGRAM SETUP

Prog. Name:	UREA		**Incubation 2:**	75	s	**Blank OD Δ max:**	0	Abs/min
Type:	Fixed time		**Reading:**	75	s	**Min. conc.:**	3,16	mg/dL
Name:	HBL030		**Serum dilution:**	1:1		**Max. conc.:**	206	mg/dL
Version:	4		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Kidney		**Diluent vol:**	5	µL	**Decimal digits:**	3	
Reagent 1 ID:	UREA-1		**Diluent ID:**	NA		**Target molecule:**	Urea (UreaUV)	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	340	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	UREA-2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	15 – 45	mg/dL
Reag. 2 bottle: ★	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	15 – 45	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	15 – 45	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0,90	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	1,90	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Negative		**Method 2:**	NA	
Sample vol:	4	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	265	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	70	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 3,16 mg/dL (detection limit) to 206 mg/dL (linearity limit). If the obtained results are greater than 206 mg/dL, rerun is recommended using a 1:2 dilution.

NOTES

★	It is recommended to use UREA-2 in a 15 mL-reagent container.

2026-03 (3.1) - Replaces all previous versions

Uric Acid

Enzymatic. Colorimetric URICASE-POD

REF	**HBL020**
VOL	2 x 125 mL

REAGENT PREPARATION AND STABILITY

R1 and R2 are ready for use.

All the components of the kit are **stable up to the date of expiration** as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2-8 °C.

The reagents should be clear solutions. The reagent should be discarded if turbidity or precipitation has occurred or if the blank absorbance is out of range.

CALIBRATION & QUALITY CONTROL

Use the **Biochemistry Calibrator (HBC03)**. Insert the value mentioned on the insert in menu "Lot management". Fill the values for bichromatic methods.

Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibration for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances.

Use **Biochemistry Normal and Pathological Controls (HBC01, HBC02)**. Insert the value mentioned on the insert in menu "Lot management". Fill the values for bichromatic methods.

SAMPLES

Sample type: human serum or plasma. Stability 3-5 days at 2-8 °C or 6 months at -20 °C.

PROGRAM SETUP

Prog. Name:	UA		**Incubation 2:**	350	s	**Blank OD Δ max:**	0	Abs/min
Type:	Bichromatic		**Reading:**	25	s	**Min. conc.:**	0,15	mg/dL
Name:	UA HBL020		**Serum dilution:**	1:1		**Max. conc.:**	25	mg/dL
Version:	4		**Urine dilution:**	1:1		**Units 1:**	mg/dL	
Group:	Kidney		**Diluent vol:**	9	µL	**Decimal digits:**	3	
Reagent 1 ID:	UA-1		**Diluent ID:**	NA		**Target molecule:**	UAp	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	505	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	UA-2		**Wavelength 2:**	670	nm	**Normal Min-Max Male:**	3,6 – 7,7	mg/dL
Reag. 2 bottle:	35	mL	**Needle washing:**	1		**Normal Min-Max Female:**	2,5 – 6,8	mg/dL
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	2,5 – 6,8	mg/dL
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	-0,01	Abs	**Method 1:**	NA	
Mixing 2:	Default		**Blank OD max:**	0,12	Abs	**Cycles:**	0	
Type:	R1 + R2 / S		**Reaction slope:**	Positive		**Method 2:**	NA	
Sample vol:	8	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	160	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	160	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	175	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 0,15 mg/dL (detection limit) to 25 mg/dL (linearity limit). If the obtained results are greater than 25 mg/dL, rerun is recommended using a 1:2 dilution.

2026-03 (2.1) - Replaces all previous versions

HbA1c Turbi

REF	HT001
VOL	30 + 10 mL

Turbidimetric

Check the lot number of the washing solution (CY015-WS)! *§Notes*

REAGENT PREPARATION AND STABILITY

Reagent 1, 2 and 3 are ready to use. Latex may sediment. Mix reagents gently before use.
All the components of the kit are stable up to the date of expiration as specified on the label, when stored tightly closed, protected from light and contaminations prevented during their use. Storage temperature for this kit is 2 - 8 °C Reagents should not be left inside the analyzer after use. They must be refrigerated at 2 - 8 °C.
Reagent 1 and 2 are stable for at least one month after opening when stored at 2 - 8 °C and contaminations prevented during their use.
Reagent deterioration: alterations in the physical appearance of the reagents or values of control materials outside of the manufacturer's acceptable range may be an indication of reagent instability.

CALIBRATION & QUALITY CONTROL

Use the **HbA1c-calibrator (HT001S)**. Pay attention: program a 5-point calibration with a saline solution (9 g/L NaCl) or distilled water as Calibrator 1 (Ref.1 = 0.001). For Ref.2–Ref.5, program the value mentioned on the vials in menu "Lot management".



Quality Control is recommended for the qualification of the reagents and to monitor the performance of assay procedures. Next to legal requirements, we recommend to perform Quality Control on a daily basis and after each calibration. If control values are found outside the defined range, check the instrument, reagents and calibrator for problems. Do not continue testing as the results will be invalid. Each laboratory should establish its own QC scheme and corrective actions if controls do not meet the acceptable tolerances. Use the **HbA1c control (HT001C).** Program the value mentioned on the vials in menu "Lot management".

SAMPLES

Sample type: human blood. Special preparation of the patients is unnecessary. Fasting samples are not required. No special additives or preservatives other than anticoagulants are required. Collect venous blood with EDTA using aseptic technique. HbA1c in whole blood collected with EDTA is stable for one week at 2 - 8 °C.
Hemolysis: To determine HbA1c, a hemolysate must be prepared for each sample as well as for the HbA1c Calibrator (Level 2 to 4) and HbA1c Control. The Hemolysate must be positioned on the analyzer.
1. Dispense 1 mL of Reagent 3 into labelled test tubes (glass or plastic). Also provide test tubes for the calibrator and control.
2. Add 20 µL of well mixed whole blood (sample, calibrator, control) in the appropriate labelled test tube. Mix.
3. Allow to stand for 5 minutes or until complete lysis is evident. Hemolysates may be stored up to 10 days at 2 - 8 °C.

PROGRAM SETUP

Prog. Name:	HbA1c		**Incubation 2:**	0	s	**Blank OD Δ max:**	0	Abs/min
Type:	Fixed time		**Reading:**	275	s	**Min. conc.:**	2	% HbA1c
Name:	HT001		**Serum dilution:**	1:1		**Max. conc.:**	16	% HbA1c
Version:	6		**Urine dilution:**	1:1		**Units 1:**	% HbA1c	
Group:	Metabolism		**Diluent vol:**	0	µL	**Decimal digits:**	3	
Reagent 1 ID:	HBA1		**Diluent ID:**	NA		**Target molecule:**	Urea (UreaUV)	
Reag. 1 bottle:	35	mL	**Wavelength 1:**	620	nm	**Max. curve deviation:**	5	%
Reagent 2 ID:	HBA2		**Wavelength 2:**	0	nm	**Normal Min-Max Male:**	2 – 6	% HbA1c
Reag. 2 bottle:	15	mL	**Needle washing:**	1		**Normal Min-Max Female:**	2 – 6	% HbA1c
Reagent 3 ID:	NA		**Needle wash ID:**	NA		**Normal Min-Max Child:**	2 – 6	% HbA1c
Reag. 3 bottle:	NA		**Needle postwash:**	No		**Incomp. Mode :**	Skip system	
Mixing 1:	Default		**Blank OD min:**	0	Abs	**Method 1:**	NA	
Mixing 2:	3		**Blank OD max:**	2	Abs	**Cycles:**	0	
Type:	S + R1 / R2		**Reaction slope:**	NA		**Method 2:**	NA	
Sample vol:	7	µL	**Calibration slope:**	NA		**Cycles:**	0	
Reagent 1 vol:	240	µL	**OD Range min:**	-9,999	Abs/min	**Method 3:**	NA	
Reagent 2 vol:	80	µL	**OD Range max:**	9,999	Abs/min	**Cycles:**	0	
Reagent 3 vol:	0	µL	**Linearity:**	NA	%	**Cal. Min. Factor:**	-99000000000	
Incubation 1:	350	s	**Subst. Deplet.:**	NA	Abs	**Cal. Max. Factor:**	-99000000000	

MEASURING RANGE

This method is linear from 2 % (detection limit) to 16 % (linearity limit).

NOTES

For this method, use washing solution (CY015-WS) from Lot 2301086465 onwards. Lot numbers with format 'E244xxx' will interfere with the reaction

2025-03 (2.0) - Replaces all previous versions