

SERO, the  
independent  
control sera  
specialist  
since 1963



THE  
INDEPENDENT  
CONTROL SERA  
SPECIALIST  
1963-2013

50  
- YEARS -

**PRODUCT CATALOGUE**

SERO's range of Branded Control Sera

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## SERO 1963-2013: 50 years of service to laboratory medicine

SERO is a Norwegian expertise-based biotechnology company manufacturing and marketing quality control materials and calibrators worldwide.

SERO has been a pioneer in the field of QC materials for laboratories. SERO's founder, Professor Dr Med. Lorentz Eldjarn, started developing control sera as early as in the 1950s. Professor Eldjarn's extensive professional knowledge and passionate interest in laboratory quality led to the establishment of SERO in 1963. In 1975, he received the Clinical Chemistry Award from the IFCC (International Federation of Clinical Chemistry).

Over the decades, SERO has developed extensive experience as a specialized manufacturer of serum-based controls and calibrators – covering immunoassay, clinical chemistry, lipids, hormones, proteins, tumour markers, cardiac markers, diabetes, trace elements and drugs. To fulfill the needs of the rapidly evolving field of laboratory medicine, the number of components incorporated into these products has also steadily grown.

SERO's head office is situated just outside Oslo. Here we run an integrated unit including R&D, purchasing, production, laboratory, logistics, marketing and sales operations in order to secure the best standards from raw materials to end users. In addition to have a strong position in our home market Scandinavia, we export more than 90 % of our production to more than 50 countries worldwide, including quality-conscious markets such as Japan and Germany - from our ISO 9001 and ISO 13485 certified facilities. SERO runs its own accredited laboratory (against ISO 17025), which plays an important role in the quality control of all our products.



# The SERO staff at your service: Competence, dedication, flexibility

Whereas most IVD companies are involved in many activities, producing control sera is SERO's dedicated production activity.



This allows us to focus exclusively on the knowledge and technical expertise needed to produce world-class control sera and calibrators. SERO's staff are highly competent and dedicated; we are flexible and are able to adapt our products quickly to meet our customer's needs.

With the "black box system" that most instrument producers offer nowadays, the best way medical laboratories can control their

laboratory system is through the use of third party quality controls. SERO is proud to be the independent control sera specialist that offers laboratories the tools necessary to ensure reliable analytical results from day to day and between laboratories.

Together, all these factors make us unique and highly appreciated by the large number of customers we serve.



## Products you can rely on

Highly controlled manufacturing processes, the strict selection of raw materials along with our high level of expertise ensure the high quality of the SERO products. Raw materials and suppliers are selected based on ethical standards, accountability and traceability.

The human serum used in our products is collected from healthy, voluntary, unpaid donors in accordance with European standards and regulations for blood bank services. Each plasma unit and other human based additives are tested negative for Hbs antigen and HCV, HIV I and HIV II antibodies with CE-approved tests. Human-based additives are only sourced from reputable companies that can document the safe and ethical origin of the materials.

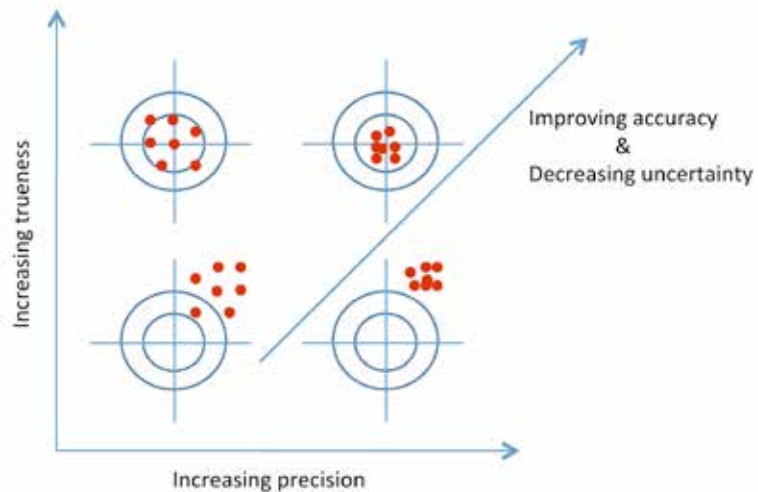
The most important use of safe human blood products is for the treatment of patients. There is an unmet medical need for such products in many countries. To follow recommendations from the WHO and medical authorities, and to give our customers an ethical choice, SERO also produces animal-based control sera when such products show full technical compatibility with human products for the use as control materials. All animal raw materials are collected from veterinary controlled healthy animals at Norwegian facilities which are government approved according to EU-regulations. Norway is free of most veterinary diseases and BSE has never been reported in the country.

All products are manufactured to be as similar to patient samples as possible. To ensure the best compatibility and commutability with different instruments and methods, stabilizers and preservatives are in general avoided.



# Trustworthy laboratory results through independent and traceable control sera

For any laboratory, choosing a Quality Control (QC) strategy is an important decision that has significant implications for the quality of the laboratory results, which in the end provide medical doctors with a basis for clinical diagnosis.



Laboratory quality control requires a focus both on precision and trueness as defined in ISO 5725-1/1994 & ISO Guide 99/2007.

For most components and methods imprecision is a minor problem compared to the lack of trueness and comparability with other methods and laboratories. The right choice of control sera will enable an independent performance evaluation of instruments, reagents and calibrators. Since 1963, SERO has

been committed to providing independent values. Thus, our branded controls have never been optimized to any manufacturer's instrument or test kit.

SERO's accuracy controls can be used both for the verification of calibrators and for the monitoring of day to day precision. In addition, the information supplied with the controls can be used to compare the trueness of your analytical results with other instruments and reference methods. This

is achieved through providing unique data-keys (certificate of analysis) with specific information on analytical results, methods and traceability in accordance with ISO 17511. For many components the analytical values are traceable to the highest level of the calibration hierarchy through the use of reference methods and/or reference materials, whenever available. In other words – values everyone can trust.

## Customized control sera and calibrators

Over the next pages you will find an overview of our product range. If you have specific needs which are not covered by our branded products, SERO can also provide you with customized control sera and calibrators. These products benefit from the same reputation and

have the same high standards as our branded controls. Among our main customer groups for our customized controls are large laboratories or group of laboratories in addition to EQA organizations and diagnostic companies.

# SERO's Branded Control Sera

	Clin. Chemistry	Lipids	Enzymes	Proteins	Hormones	Cardiac Markers	Tumor Markers	Therapeutic drugs	Trace Elements	Diabetes	Lyophilized Liquid	Animal Matrix	Human Matrix	Levels
Seronorm™ Immunoassay Lyo														3
Seronorm™ Immunoassay Liq														4
Seronorm™ Immunoprotein Lyo														2
Seronorm™ Immunoprotein Liq														2
Seronorm™ CRP Liquid														2
Seronorm™ Human														2
Autonorm™ Human Liquid														2
Seronorm™ Paediatric														1
Seronorm™ Urine														2
Seronorm™														1
Pathonorm™														2
Seronorm™ Lipid														1
Autonorm™														1
Autonorm™ 1-2-3														3
Seronorm™ HbA1c Liquid														2
Seronorm™ Hb/Glucose														2
Seronorm™ Trace Elements Serum														2
Seronorm™ Trace Elements Whole Blood														3
Seronorm™ Trace Elements Urine														2
Seronorm™ Pharmaca														2

## Product benefits

Our product range is developed with focus on features that our customers find important:

- Many components in the same control – simplifying laboratory daily life and reducing time and cost
- Good long term stability features – allowing the laboratory to use the same batch for a long period of time
- Concentrations and levels – carefully selected to contribute to improved clinical decision making
- Liquid and lyophilized material – giving you the opportunity to choose
- Independent and traceable values – ensuring reliable laboratory results
- Precision and accuracy controls – for a complete quality control system in your laboratory

# Seronorm™ Immunoassay

The one and only immunoassay control you need



## Product features

- The "All-in-one" immunoassay control, combining proteins, hormones, cardiac and tumour markers
- Comprehensive product documentation, providing assigned values for more than 50 components from the most frequently used instruments on the market
- Available both as freeze-dried and liquid controls
- Three (freeze-dried)/four (liquid) clinically relevant levels – each level available separately
- Seronorm Immunoassay Liq low – a product with clinically relevant low levels of Cortisol, Ferritin, IgE, free T3, free T4, TSH and Vitamin B12
- Long shelf life

## Stability

- *Liquid material:*
  - 3 years stability when stored at  $\leq -20\text{ }^{\circ}\text{C}$
  - Opened vials (with a few exceptions):
    - 1 month at  $\leq -20\text{ }^{\circ}\text{C}$  when refrozen within 30 minutes
    - 10 days at  $2-8\text{ }^{\circ}\text{C}$
- *Freeze-dried material:*
  - 4 years stability when stored at  $2-8\text{ }^{\circ}\text{C}$
  - After reconstitution (with a few exceptions):
    - 1 month at  $\leq -20\text{ }^{\circ}\text{C}$
    - 10 days at  $2-8\text{ }^{\circ}\text{C}$

## Components:

17- $\alpha$ -OH-Progesterone	IGF1
AFP	Insulin
Aldosterone	LH
Androstendione	Methylmalonic acid
Anti-Tg	Myoglobin
Anti-TPO	NT-proBNP
$\beta$ 2-microglobulin	Ostase
$\beta$ -hCG, total	Progesterone
CA 125	Prolactin
CA 15-3	PSA, free
CA 19-9	PSA, total
CEA	PTH, intact
CK-MB	SHBG
Cortisol*	T3, free*
C-peptide	T3, total*
DHEA-Sulphate	T4, free*
Digoxin	T4, total*
EPO	TBG
Estradiol	Testosterone
Ferritin*	Theophylline
Folate	Thyreoglobulin
FSH	Troponin I
hCG, total	Troponin T
hGH	TSH*
Homocysteine	Vitamin B12*
IgE*	Vitamin D

Refer to the package insert of currently available lots for specific analyte and stability claims.

\* Available in Seronorm Immunoassay Liq Low

## Order Information:

Art. no	Product Name	Size
207005	Seronorm™ Immunoassay Liq L-1	12 x 3 mL
207105	Seronorm™ Immunoassay Liq L-2	12 x 3 mL
207205	Seronorm™ Immunoassay Liq L-3	12 x 3 mL
207305	Seronorm™ Immunoassay Liq low	12 x 3 mL
206005	Seronorm™ Immunoassay Lyo L-1	12 x 3 mL
206105	Seronorm™ Immunoassay Lyo L-2	12 x 3 mL
206205	Seronorm™ Immunoassay Lyo L-3	12 x 3 mL



# Seronorm™ Immunoprotein



## Product features

- Human based accuracy protein control, containing more than 20 proteins, e.g. Cystatin C, RF, CRP and ASO
- Protein documentation with nephelometric and turbidimetric methods
- Two clinically relevant levels – each level available separately
- Available both as freeze-dried and liquid controls

## Stability

- *Liquid material:*
  - 2 years stability when stored at  $\leq -20\text{ °C}$
  - Opened vials (with a few exceptions):
    - 1 month at  $\leq -20\text{ °C}$
    - 14 days at  $2-8\text{ °C}$
- *Freeze-dried material:*
  - 3 years stability when stored at  $2-8\text{ °C}$
  - After reconstitution (with a few exceptions):
    - 1 month at  $\leq -20\text{ °C}$
    - 7 days at  $2-8\text{ °C}$

## Components:

$\alpha$ 1-acid-glycoprotein	Digitoxin
$\alpha$ 1-antitrypsin	Ferritin
$\alpha$ 2-macroglobulin	Haptoglobin
Albumin	IgA
Anti-CCP	IgE
Apolipoprotein A1	IgG
ASL	IgM
$\beta$ 2-microglobulin	Myoglobin
C3c	Prealbumin
C4	Protein, total
Ceruloplasmin	RF
CRP	Transferrin
Cystatin C	Electrophoresis*

Refer to the package insert of currently available lots for specific analyte and stability claims.

\* only in Seronorm Immunoprotein Liq

## Order Information:

Art. no	Product Name	Size
210405	Seronorm™ Immunoprotein Liq L-1	6 x 1 mL
210505	Seronorm™ Immunoprotein Liq L-2	6 x 1 mL
202805	Seronorm™ Immunoprotein Lyo L-1	6 x 1 mL
202905	Seronorm™ Immunoprotein Lyo L-2	6 x 1 mL

# Seronorm™ CRP Liquid

Right from the fridge into the instrument



## Product features

- Cost effective and practical human based CRP control
- Two clinically relevant levels with method specific assayed values
- Liquid – ready to use right from the fridge!
- Good stability in opened vials

## Stability

- 3 years stability when stored at 2-8 °C
- Opened vials:
  - 1 month at 2-8 °C
  - 7 days at 15-25 °C

## Components:

CRP

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
202205	Seronorm™ CRP liquid L-1	12 x 1 mL
202305	Seronorm™ CRP liquid L-2	12 x 1 mL

# Seronorm™ Human

Multi component control with long shelf life



## Product features

- Multi component human based accuracy control covering most components for the clinical chemistry platform
- Product documentation with assigned values on 60 components, including genuine lipids, routine clinical chemistry analytes, enzymes, proteins, hormones, cardiac markers and drugs
- Traceable values to reference methods for many of the components
- Two clinically relevant levels – each level available separately
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Components:

ALAT	CRP	Osmolality
Albumin	Digoxin	Phospholipids
ALP	Estradiol	Phosphorus
Amylase, pancreas	Ferritin	Potassium
Amylase, total	Folate	Progesterone
Apolipoprotein A1	GGT	Protein, total
Apolipoprotein B	GLDH	Sodium
ASAT	Glucose	T3, free
Bile Acid	HBDH	T3, total
Bilirubin, direct	hCG	T4, free
Bilirubin, total	Homocysteine	T4, total
Calcium	IgA	Testosterone
Chloride	IgG	Theophylline
Cholesterol, HDL	IgM	Transferrin
Cholesterol, LDL	Iron	Triglycerides
Cholesterol, total	Lactate	TSH
Cholinesterase	LDH	UIBC
CK	Lipase	Urea
CK-MB	Lithium	Uric Acid
Copper	Magnesium	Vitamin B12
Creatinine	NEFA	Zinc

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
200805	Seronorm™ Human	10 x 5 mL
203005	Seronorm™ Human High	10 x 5 mL

# Autonorm™ Human Liquid

A chemistry control ready to use!



## Product features

- Complete human based control, including clinical chemistry analytes, lipids, enzymes, proteins, hormones, cardiac markers and drugs
- Product documentation with approximate value list for more than 50 components including genuine lipids, proteins (e.g. CRP, Apo A1 and Apo B) and therapeutic drugs
- Available in 2 clinically relevant levels, each level available separately
- Liquid - ready to use!

## Stability

- 2 years stability when stored at  $\leq -20\text{ }^{\circ}\text{C}$  (with a few exceptions)
- Opened vials:
  - 1 month at  $\leq -20\text{ }^{\circ}\text{C}$
  - 14 days at  $2-8\text{ }^{\circ}\text{C}$

## Components:

$\alpha$ 1-acid-glycoprotein	Cholesterol, HDL	Lithium
$\alpha$ 1-antitrypsin	Cholesterol, LDL	Magnesium
$\alpha$ 2-macroglobulin	Cholesterol, total	Osmolality
ALAT	CK	Paracetamol
Albumin	CK-MB	Phenobarbitone
ALP	Copper	Phenytoin
Amicasin	Creatinine	Phosphorus
Amylase, pancreas	CRP	Potassium
Amylase, total	Digoxin	Protein, total
Apolipoprotein A1	Ethanol	Quinidine
Apolipoprotein B	Ferritin	Salicylate
ASAT	Gentamycine	Sodium
ASL	GGT	Theophylline
Bilirubin, direct	Glucose	Tobramycin
Bilirubin, total	Haptoglobin	Transferrin
C3c	IgA	Triglycerides
C4	IgG	UIBC
Calcium	IgM	Urea
Carbamazepine	Iron	Uric Acid
Ceruloplasmin	Lactate	Valproic Acid
Chloride	LDH	Vancomycin
	Lipase	Zinc

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
202615	Autonorm™ Human Liquid L-1	10 x 8 mL
202715	Autonorm™ Human Liquid L-2	10 x 8 mL

# Seronorm™ Paediatric

Specially made for the newborn



## Product features

- Accuracy control serum specially made for the newborn
- Human based matrix with important components in a clinically relevant paediatric level
- Product documentation including analytical data with documented traceability on all components
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Components:

ALP	Glucose
Bilirubin, direct	Magnesium
Bilirubin, indirect	Phenylalanin
Bilirubin, total	Phosphorus
Calcium	Potassium
Chloride	Sodium

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
208005	Seronorm™ Paediatric	6 x 3 mL



# Seronorm™ Urine



## Product features

- Human based urine control with stable creatinine
- Product documentation with an approximate value list from the most frequently used instruments on the market
- Two clinically relevant levels – each level available separately
- Liquid – ready to use!
- Good stability in opened vials

## Stability

- 2 years stability when stored at 2-8 °C
- Opened vials:
  - 1 month at 2-8 °C

## Components:

Albumin/Creatinine quota	pH
Amylase	Phosphorus
Calcium	Potassium
Chloride	Pregnancy
Cortisol	Protein, total
Creatinine	Sodium
Glucose	Specific gravity
Magnesium	Urea
Microalbumin	Uric Acid
Osmolality	

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
208505	Seronorm™ Urine L-1	10 x 8 mL
208605	Seronorm™ Urine L-2	10 x 8 mL

# Seronorm™



## Product features

- Animal based control serum for accuracy control in the clinical chemistry field
- Product documentation with analytical data for more than 40 of the most important components in clinical chemistry
- Independent and traceable values
- Most of the component analytical values are in the borderline between normal and pathologically high levels
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Order Information:

Art. no	Product Name	Size
100105	Seronorm™	10 x 5 mL

## Components:

ALAT	Glucose
Albumin	HBDH
ALP	Iron
Amylase, pancreas	Lactate
Amylase, total	LDH
ASAT	Lipase
Bicarbonate	Lithium
Bile Acid	Magnesium
Bilirubin, direct	Osmolality
Bilirubin, total	Phenylalanin
Calcium	Phosphorus
Chloride	Potassium
Cholesterol, HDL	Protein, total
Cholesterol, total	Sodium
Cholinesterase	T3, total
CK	T4, total
Copper	Triglycerides
Cortisol	UIBC
Creatinine	Urea
Folate	Uric Acid
GGT	Zinc
GLDH	

Refer to the package insert of currently available lots for specific analyte and stability claims.

# Pathonorm™



## Product features

- Animal based control serum for accuracy control in the clinical chemistry field
- Product documentation with analytical data for more than 40 of the most important components in clinical chemistry
- Independent and traceable values
- Available in 2 clinically relevant levels, below the reference range (L) and a pathologically high level (H)
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution (with a few exceptions):
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Order Information:

Art. no	Product Name	Size
100705	Pathonorm™ H	10 x 5 mL
100805	Pathonorm™ L	10 x 5 mL

## Components:

ALAT	Glucose
Albumin	HBDH
ALP	Iron
Amylase, pancreas	Lactate
Amylase, total	LDH
ASAT	Lipase
Bicarbonate	Lithium (Only H)
Bile Acid	Magnesium
Bilirubin, direct	Osmolality
Bilirubin, total	Phenylalanin (Only H)
Calcium	Phosphorus
Chloride	Potassium
Cholesterol, HDL	Protein, total
Cholesterol, total	Sodium
Cholinesterase	T3, total
CK	T4, total
Copper	Triglycerides
Cortisol	UIBC
Creatinine	Urea
Folate (Only L)	Uric Acid
GGT	Zinc
GLDH	

Refer to the package insert of currently available lots for specific analyte and stability claims.

# Seronorm™ Lipid

Animal based accuracy control for lipid analysis



## Product features

- Animal based control serum for accuracy control of lipid analyses
- Most of the component analytical values are in the borderline between normal and pathologically high level
- Freeze-dried material, offering long shelf life
- Traceable values to reference methods

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Components:

Bile Acid  
 Cholesterol, HDL  
 Cholesterol, LDL  
 Cholesterol, total  
 NEFA  
 Phospholipids  
 Triglycerides

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
100205	Seronorm™ Lipid	12 x 3 mL

# Autonorm™



## Product features

- Animal based quality control covering the most important components in the clinical chemistry laboratory
- Product documentation with approximate value list for about 40 components
- Component levels mainly in the normal range
- Pharmaca free
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution (with a few exceptions):
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Order Information:

Art. no	Product Name	Size
100005	Autonorm™	6 x 10 mL

## Components:

ALAT	Glucose
Albumin	Iron
ALP	Lactate
Amylase, total	LDH
ASAT	Lipase
Bilirubin, direct	Lithium
Bilirubin, total	Magnesium
Calcium	Phosphorus
Chloride	Potassium
Cholesterol, HDL	Protein, total
Cholesterol, total	Sodium
Cholinesterase	T3, total
CK	T4, total
CK-MB	Triglycerides
Copper	UIBC
Creatinine	Urea
Folate	Uric Acid
GGT	Vitamin B12
GLDH	

Refer to the package insert of currently available lots for specific analyte and stability claims.



# Autonorm™ 1-2-3



## Product features

- Animal based control serum for the most important components in clinical chemistry laboratories
- Available in 3 clinically relevant levels, each level available separately
- Product documentation with approximate value list for more than 40 components including 10 therapeutic drugs (in L-2 and L-3)
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution (with a few exceptions):
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Order Information:

Art. no	Product Name	Size
101905	Autonorm™ L-1	10 x 5 mL
102005	Autonorm™ L-2	10 x 5 mL
102105	Autonorm™ L-3	10 x 5 mL

## Components:

ALAT	HBDH
Albumin	Iron
ALP	Lactate
Amylase, Pancreas	LDH
Amylase, total	Lipase
ASAT	Lithium
Bicarbonate	Magnesium
Bilirubin, direct	Paracetamol
Bilirubin, total	Phenobarbitone
Calcium	Phenytoin
Carbamazepine	Phosphorus
Chloride	Potassium
Cholesterol, HDL	Protein, total
Cholesterol, total	Salicylate
CK	Sodium
Copper	Theophylline
Creatinine	Triglycerides
Digoxin	UIBC
Gentamycin	Urea
GGT	Uric Acid
GLDH	Valproic Acid
Glucose	Vancomycin

Refer to the package insert of currently available lots for specific analyte and stability claims.

# Seronorm™ HbA1c Liquid



## Product features

- Human based user friendly diabetes control
- Product documentation with assayed values for immunological and Point of Care (PoC) methods
- Two clinically relevant levels – each available separately
- Liquid – ready to use!
- Good stability in opened vials

## Stability

- 2 years stability when stored at  $\leq -20\text{ °C}$
- Opened vials:
  - 1 month at 2-8 °C

## Components:

HbA1c

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
209005	Seronorm™ HbA1c L-1	3 x 1 mL
209105	Seronorm™ HbA1c L-2	3 x 1 mL

# Seronorm™ Hb/Glucose

Quality control for Point of Care



## Product features

- Quality control for Point of Care (PoC) combining Hemoglobin and Glucose in one control
- Two clinically relevant levels – each level available separately
- Liquid – ready to use!
- Good stability in opened vials

## Stability

- 3 years stability when stored at 2-8 °C
- Opened vials:
  - 1 month at 2-8 °C

## Components:

Glucose  
Hemoglobin

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
103005	Seronorm™ Hb/Glucose L-1	6 x 1 mL
103105	Seronorm™ Hb/Glucose L-2	6 x 1 mL

# Seronorm™ Trace Elements Serum



## Product features

- Accuracy control for routine analyses on toxicology and environmental pollution in serum, including trace elements and heavy metals
- Product documentation with analytical values on more than 60 elements
- Independent analytical values traceable to international reference materials
- Two clinically relevant levels – each level available separately
- Freeze-dried material, excellent shelf life

## Stability

- 7 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## The clinically most relevant components:

Aluminium	Lithium
Calcium	Manganese
Chromium	Magnesium
Cobalt	Mercury
Copper	Nickel
Fluorine	Selenium
Gold	Phosphorus
Iron	Zinc

Refer to component index (page 26) for a total of more than 60 elements.

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
201405	Seronorm™ Trace Elements Serum L-1	6 x 3 mL
203105	Seronorm™ Trace Elements Serum L-2	6 x 3 mL

# Seronorm™

## Trace Elements Whole Blood



### Product features

- Accuracy control for routine analyses on toxicology and environmental pollution in whole blood, including trace elements and heavy metals
- Product documentation with analytical values on more than 60 elements
- Independent analytical values traceable to international reference materials
- Three clinically relevant levels – each level available separately
- Freeze-dried material, excellent shelf life

### Stability

- 5 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

### The clinically most relevant components:

Aluminium	Lead
Antimony	Manganese
Arsenic	Mercury
Beryllium	Molybdenum
Bismuth	Nickel
Cadmium	Selenium
Chromium	Thallium
Cobalt	Tin
Copper	Vanadium
Fluorine	Zinc
Iodine	

Refer to component index (page 26) for a total of more than 60 elements.

Refer to the package insert of currently available lots for specific analyte and stability claims.

### Order Information:

Art. no	Product Name	Size
210105	Seronorm™ Trace Elements Whole Blood L-1	10 x 3 mL
210205	Seronorm™ Trace Elements Whole Blood L-2	10 x 3 mL
210305	Seronorm™ Trace Elements Whole Blood L-3	10 x 3 mL



# Seronorm™

## Trace Elements Urine



### Product features

- Accuracy control for routine analyses on toxicology and environmental pollution in urine, including trace elements and heavy metals
- Product documentation with analytical values on more than 70 elements and toxic organic components
- Independent analytical values traceable to international reference materials
- Two clinically relevant levels – each level available separately
- Freeze-dried material, excellent shelf life

### Stability

- 7 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

### The clinically most relevant components:

Aluminium	Nickel
Antimony	Selenium
Arsenic	Tellurium
Beryllium	Thallium
Bismuth	Tin
Cadmium	Vanadium
Chromium	Zinc
Cobalt	1-hydroxypyrene*
Fluorine	Formic acid*
Iodine	Phenol*
Lead	Mandelic acid
Manganese	Tetrachloroethylene*
Mercury	Trichloroacetic acid*

Refer to component index (page 26) for a total of more than 70 elements and toxic organic components.

Refer to the package insert of currently available lots for specific analyte and stability claims.

\*Only in L-2

### Order Information:

Art. no	Product Name	Size
210605	Seronorm™ Trace Elements Urine L-1	10 x 5 mL
210705	Seronorm™ Trace Elements Urine L-2	10 x 5 mL

# Seronorm™ Pharmaca

“A Pharmacy in a bottle”...



## Product features

- Pharmaca control containing more than 30 therapeutic drugs including antibiotics, antiepileptics, antiasthmatics, digitalis and psychotherapeutic drugs
- Product documentation with added amounts given on all components
- Two clinically relevant levels – each level available separately
- Freeze-dried material, offering long shelf life

## Stability

- 4 years stability when stored at 2-8 °C
- After reconstitution:
  - 1 month at  $\leq -20$  °C
  - 7 days at 2-8 °C

## Components:

Amicasin	Lidocaine
Amiodarone	Lithium
Caffeine	Methotrexate
Carbamazepine	Nortriptyline
Chloramphenicol	Paracetamol
Clonazepam	Phenobarbitone
Cyclosporine	Phenytoin
Desipramine	Primidone
Diazepam	Procainamide
Digoxin	Propranolol
Disopyramide	Quinidine
Ethosuximide	Salicylate
Flecainide	Theophylline
Gentamycine	Tobramycin
Haloperidol	Valproic acid
Imipramine	Vancomycin

Refer to the package insert of currently available lots for specific analyte and stability claims.

## Order Information:

Art. no	Product Name	Size
101405	Seronorm™ Pharmaca L-1	10 x 5 mL
101505	Seronorm™ Pharmaca L-2	10 x 5 mL

## Component index

### A – B

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoassay	Seronorm™ CRP liquid	Seronorm™ Human	Autonorm™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonorm™	Autonorm™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
17-α-OH-Progesterone	○																		
1-Hydroxypyrene																		▲	
25(OH) Vitamin D	○	○																	
α1-acid-glycoprotein			○							○									
α1-antitrypsin			○							○									
α2-macroglobulin			○							○									
AFP	○																		
ALAT					○	○	○			○	○	○							
Albumin			○	○	○	○				○	○	○							
Albumin/Creatinine quota													○						
Aldosterone	○																		
ALP				○	○	○	○			○	○	○							
Aluminium																○	○	○	
Amicasin										○									○
Amiodarone																			○
Amylase, pancreas				○	○	○				○		○							
Amylase, total				○	○	○				○	○	○	○						
Androstendione	○																		
Anti-CCP			○																
Antimony																○	○	○	
Anti-Tg	○																		
Anti-TPO	○																		
Apolipoprotein A1			○	○						○									
Apolipoprotein B				○						○									
Arsenic																○	○	○	
ASAT				○	○	○				○	○	○							
ASL			○							○									
β2-microglobulin	○	○																	
β-hCG, total	○																		
Barium																○	○	○	
Beryllium																○	○	○	
Bicarbonate						○	○					○							
Bile Acid				○	○	○	○	○											
Bilirubin, direct				○	○	○	○			○	○	○							
Bilirubin, indirect					○														
Bilirubin, total				○	○	○	○			○	○	○							
Bismuth																○	○	○	
Boron																○	○	○	
Bromine																○	○	○	

○ Analyte present

▲ Only present in L-2

The above index is updated as of April 2013.

Component index  
C - D

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoprotein	Seronorm™ CRP liquid	Seronorm™ Human	Autonorm™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonorm™	Autonorm™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
C3c			o							o									
C4			o							o									
CA 125	o																		
CA 15-3	o																		
CA 19-9	o																		
Cadmium																o	o	o	
Caffeine																			o
Calcium					o	o	o	o		o	o	o	o			o	o	o	
Carbamazepine										o		o							o
CEA	o																		
Cerium																o	o	o	
Ceruloplasmin			o							o									
Cesium																o	o	o	
Chloramphenicol																			o
Chloride					o	o	o	o		o	o	o	o						
Cholesterol, HDL					o		o	o	o	o	o	o							
Cholesterol, LDL					o		o		o	o									
Cholesterol, total					o		o	o	o	o	o	o							
Cholinesterase					o		o	o			o								
Chromium																o	o		
CK					o		o	o		o	o	o							
CK-MB	o				o					o	o								
Clonazepam																			o
Cobalt																o	o	o	
Copper					o		o	o		o	o	o				o	o		
Cortisol	o	o					o	o					o						
C-peptide	o																		
Creatinine					o		o	o		o	o	o	o						
CRP			o	o	o					o									
Cyclosporine																			o
Cystatin C			o																
Desipramine																			o
DHEA-Sulphate	o																		
Diazepam																			o
Digitoxin			o							o									
Digoxin	o				o							o							o
Disopyramide																			o
Dysprosium																o	o	o	

o Analyte present    ▲ Only present in L-2

The above index is updated as of April 2013.

## Component index

## E - I

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoprotein	Seronorm™ CRP liquid	Seronorm™ Human	Autonom™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonom™	Autonom™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
EPO	0																		
Erbium																0	0	0	
Estradiol	0				0														
Ethanol										0									
Ethosuximide																			0
Europium																	0	0	
Ferritin	0	0	0		0					0									
Flecainide																			0
Fluorine																0	0	0	
Folate	0				0		0	0			0								
Formic acid																			▲
FSH	0																		
Gadolinium																0	0	0	
Gallium																0	0	0	
Gentamycine										0		0							0
GGT					0		0	0		0	0	0							
GLDH					0		0	0			0	0							
Glucose					0	0	0	0		0	0	0	0		0				
Gold																0	0	0	
Hafnium																0	0	0	
Haloperidol																			0
Haptoglobin				0						0									
HbA1c														0					
HBDH					0		0	0				0							
hCG					0														
hCG, total	0																		
Hemoglobin															0				
hGH	0																		
Holmium																0	0	0	
Homocysteine	0				0														
IgA				0	0					0									
IgE	0	0	0																
IgF1	0																		
IgG				0	0					0									
IgM				0	0					0									
Imipramine																			0
Insulin	0																		
Iodine																0	0	0	
Iridium																0	0	0	
Iron					0		0	0		0	0	0				0	0		

0 Analyte present

▲ Only present in L-2

The above index is updated as of April 2013.

Component index  
L - Prea

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoprotein	Seronorm™ CRP liquid	Seronorm™ Human	Autonorm™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonorm™	Autonorm™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Lactate					o		o	o		o	o	o							
Lanthanum																o	o	o	
LDH					o		o	o		o	o	o							
Lead																o	o	o	
LH	o																		
Lidocaine																			o
Lipase					o		o	o		o	o	o							
Lithium					o		o	o		o	o	o				o	o	o	o
Lutetium																o	o	o	
Magnesium					o	o	o	o		o	o	o	o			o	o	o	
Mandelic acid																		▲	
Manganese																o	o	o	
Mercury																o	o	o	
Methotrexate																			o
Methylmalonic acid	o																		
Microalbumin													o						
Molybdenum																o	o	o	
Myoglobin	o		o																
NEFA					o				o										
Neodymium																o	o	o	
Nickel																o	o	o	
Niobium																o	o	o	
Nortriptyline																			o
NT-proBNP	o																		
Osmolality					o		o	o		o			o						
Ostase	o																		
Paracetamol										o		o							o
pH													o						
Phenobarbitone										o		o							o
Phenol																		▲	
Phenylalanin						o	o	o											
Phenytoin										o		o							o
Phospholipids					o				o										
Phosphorus					o	o	o	o		o	o	o	o			o	o	o	
Platinum																o	o	o	
Potassium					o	o	o	o		o	o	o	o			o	o	o	
Praseodymium																o	o	o	
Prealbumin			o																

o Analyte present

▲ Only present in L-2

The above index is updated as of April 2013.

## Component index Preg - Te

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoprotein	Seronorm™ CRP liquid	Seronorm™ Human	Autonom™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonom™	Autonom™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Pregnancy													0						
Primidone																			0
Procainamide																			0
Progesterone	0				0														
Prolactin	0																		
Propranolol																			0
Protein, total			0		0		0	0		0	0	0	0						
PSA, free	0																		
PSA, total	0																		
PTH, intact	0																		
Quinidine										0									0
RF			0																
Rhenium																0	0	0	
Rhodium																	0	0	
Rubidium																0	0	0	
Ruthenium																	0	0	
Salicylate										0		0							0
Samarium																0	0	0	
Scandium																0	0	0	
Selenium																0	0	0	
SHBG	0																		
Silicon																0	0	0	
Silver																0	0	0	
Sodium					0	0	0	0		0	0	0	0			0	0	0	
Specific gravity													0						
Strontium																0	0	0	
Sulphur																0	0	0	
T3, free	0	0			0		0				0								
T3, total	0				0		0	0			0								
T4, free	0	0			0		0				0								
T4, total	0				0		0	0			0								
Tantalum																0	0	0	
TBG	0																		
Tellurium																0	0	0	
Terbium																0	0	0	
Testosterone	0				0														
Tetrachloroethylene																		0	

0 Analyte present

▲ Only present in L-2

The above index is updated as of April 2013.



## Component index Th - Z

See page number	Seronorm™ Immunoassay	Seronorm™ Immunoassay Liq low	Seronorm™ Immunoprotein	Seronorm™ CRP liquid	Seronorm™ Human	Autonorm™ Human Liquid	Seronorm™ Paediatric	Seronorm™ Urine	Seronorm™	Pathonorm™	Seronorm™ Lipid	Autonorm™	Autonorm™ 1-2-3	Seronorm™ HbA1c Liquid	Seronorm™ Hb/Glucose	Seronorm™ Trace Elements Serum	Seronorm™ Trace Elements Whole Blood	Seronorm™ Trace Elements Urine	Seronorm™ Pharmaca
	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Thallium																o	o	o	
Theophylline	o				o					o		o							o
Thorium																o	o	o	
Thulium																o	o	o	
Thyreoglobulin	o																		
Tin																	o	o	
Titanium																o	o	o	
Tobramycin										o									o
Transferrin			o		o					o									
Trichloroacetic acid																		o	
Triglycerides					o		o	o	o	o	o	o							
Troponin I	o																		
Troponin T	o																		
TSH	o	o			o														
Tungsten																o	o	o	
UIBC					o		o	o		o	o	o							
Uranium																o	o	o	
Urea					o		o	o		o	o	o	o						
Uric Acid					o		o	o		o	o	o	o						
Valproic Acid										o		o							o
Vanadium																	o	o	
Vancomycin										o		o							o
Vitamin B12	o	o			o						o								
Ytterbium																o	o	o	
Yttrium																o	o	o	
Zinc					o		o	o		o						o	o	o	
Zirconium																o	o	o	

o Analyte present

▲ Only present in L-2

The above index is updated as of April 2013.

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