

Cystatin C: CysC is routinely measured in the Laboratory for Clinical Biochemical Research (LCBR) using the BNII nephelometer utilizing a particle enhanced immunonephelometric assay (N Latex Cystatin C). Polystyrene particles are coated with monoclonal antibodies to cysC that agglutinate in the presence of antigen (cysC) to cause an increase in the intensity of scattered light. The increase in scattered light is proportional to the amount of cysC in the sample. The assay range is 0.195 – 7.330 mg/L. Expected values for cysC in normal, healthy individuals are 0.42 – 0.97 mg/L. Laboratory intra- and inter-assay CVs are <5%.

N Latex Cystatin C

NCYSC

Intended Use

N Latex Cystatin C is an *in vitro* diagnostics kit containing reagents for the quantitative determination of cystatin C in human serum and heparinized plasma by means of particle-enhanced immunonephelometry using the BN* Systems. Cystatin C measurements are used in the diagnosis and treatment of renal diseases.

Summary and Explanation

Cystatin C is a cysteine proteinase inhibitor with a relative molecular weight of 13,250 and is formed by all nucleated cells investigated^{1,2}. Since it is formed at a constant rate and freely filtered by the healthy kidney, this protein is a good marker of renal function. Serum concentrations of cystatin C are almost totally dependent on the glomerular filtration rate^{3,4}. A reduction in the glomerular filtration rate (GFR) causes a rise in the concentration of cystatin C. Cystatin C has not been shown to be affected by factors such as muscle mass and nutrition, factors which have been demonstrated to affect creatinine values. In addition, a rise in creatinine does not become evident until the GFR has fallen by approximately 50 %.

Principle of the Method

Polystyrene particles coated with specific antibodies to human cystatin C are aggregated when mixed with samples containing human cystatin C. These aggregates scatter a beam of light passed through the sample. The intensity of the scattered light is proportional to the concentration of the respective protein in the sample. The result is evaluated by comparison with a standard of known concentration.

Reagents

Materials provided

N Latex Cystatin C Kit, [REF] OQNM

3 x 2 mL [NCYSC] [REAGENT], N Cystatin C Reagent

3 x → 1 mL [NCYSC] [CONTROL 1], N Cystatin C Control Level 1

3 x → 1 mL [NCYSC] [CONTROL 2], N Cystatin C Control Level 2

3 x 0.5 mL [NCYSC] [SUPPLEMENTA], N Cystatin C Supplementary Reagent A

1 x 1.6 mL [NCYSC] [SUPPLEMENTB], N Cystatin C Supplementary Reagent B

Composition and Standardization

N Cystatin C Reagent consists of a suspension of polystyrene particles coated with approximately 0.03 g/L anti-human cystatin C from rabbits.

N Cystatin C Control Level 1 and N Cystatin C Control Level 2 are lyophilized polygeline with urine proteins of human origin. The cystatin C concentration after reconstitution is given in the enclosed table. The concentration of N Cystatin C Control Level 1 and Level 2 was calibrated to protein standard preparations of Siemens Healthcare Diagnostics Products GmbH and is lot-dependent.

N Cystatin C Supplementary Reagent A contains rabbit immunoglobulin (14 g/L) in buffered solution.

N Cystatin C Supplementary Reagent B consists of an aqueous solution of polyethylene glycol sorbitan monooleate (85 g/L) and polyethylene glycol ether (27 g/L).

Preservative

N Cystatin C Reagent:

Gentamicin 6.25 mg/L,
Amphotericin 0.625 mg/L
Sodium azide < 0.1 %
Sodium azide < 0.1 %

N Cystatin C Control Level 1 and Level 2 after reconstitution:

N Cystatin C Supplementary Reagent A and B:

Warnings and Precautions

- For *in-vitro* diagnostic use.
- Contains sodium azide (< 0.1 %) as a preservative. Sodium azide can react with copper or lead pipes in drain lines to form explosive compounds. Dispose of properly in accordance with local regulations.
- Each donor or donor unit was tested and found to be negative for human immunodeficiency virus (HIV) 1 and 2, hepatitis B virus (HBV) and hepatitis C virus (HCV) using either tests found to be in conformance with the In Vitro Diagnostic Directive in the EU or FDA approved tests. Because no known test can offer complete assurance of the absence of infectious agents, all human derived products should be handled with appropriate caution.

Preparation of Reagents

N Cystatin C Reagent: The reagent is liquid and can be used without additional preparation. Shake carefully to mix before first use.

N Cystatin C Control Level 1 and Level 2: Reconstitute the lyophilized contents of a vial with 1.0 mL of distilled water. Shake carefully to mix. The N Cystatin C Control Level 1 or Level 2 is ready for use 30 minutes after reconstitution.

N Cystatin C Supplementary Reagent: Pipette 0.5 mL of N Cystatin C Supplementary Reagent B into a vial of N Cystatin C Supplementary Reagent A and mix gently.

Storage and Stability

Stability at +2 to +8 °C:

See expiry date on the label

Stability once opened or reconstituted:

N Cystatin C Reagent: 2 weeks
N Cystatin C Control Level 1 and 2, reconstituted: 4 weeks
N Cystatin C Supplementary Reagent B: 12 weeks
N Cystatin C Supplementary Reagent mixture: 2 weeks

if stored at +2 to +8 °C securely capped immediately after each use and if contamination (e. g. by microorganisms) is precluded. Do not freeze.

On-board Stability:

A minimum of five days, at eight hours per day, or comparable period of time.

Note: On-board stability may vary, depending on BN* System used and laboratory conditions. For further details, refer to respective BN* System Instruction Manual.

On-board stability of the N Cystatin C Control Level 1 and Level 2 on the BN ProSpec® System is stated in the Instruction Manual of the system.

Materials required but not provided

BN* System

N Protein Standard UY, [REF] OQLV

Cleaner SCS, [REF] OQUB (for BN* II and BN ProSpec® System)

N Diluent, [REF] OUMT

BN* II Evaporation Stoppers (optional), [REF] OVLE

Additional materials and supplies as described in your BN* System Instruction Manual.

Specimens

Suitable samples are human serum or heparinized plasma, either as fresh as possible (stored no more than seven days at +2 to +8 °C) or stored frozen. Samples can be stored at below -20 °C for up to three months if they are frozen within 24 hours after collection and if repeated freeze-thaw cycles are avoided.

Serum samples must be completely coagulated and, after centrifugation, must not contain any particles or traces of fibrin. Lipemic samples or frozen samples that are turbid after thawing must be clarified by centrifugation (10 minutes at approximately 15,000 x g) prior to testing.

Procedure

Notes

- Consult your BN* System Instruction Manual for details regarding operation of the instrument.
- The lyophilized reagent must not be used until properly reconstituted (at least 30 minutes after the addition of distilled water).
- Allow reagents and samples to equilibrate to room temperature (+15 to +25 °C) before use on a BN* 100 System. For a BN* II or BN ProSpec® System reagents and samples stored at +2 to +8 °C can be placed directly on the analyzer.
- On a BN* 100 System, samples must be run at approximately the same ambient temperature (maximum 3 °C deviation) as the measurements used for recording the reference curve.

Assay Protocol for the BN* Systems

The assay protocol for serum and plasma is given in the BN* System Instruction Manual and the software of the instrument. All steps are performed automatically by the system.

Establishment of the Reference Curve

Reference curves are generated by multi-point calibration. Serial dilutions of the N Protein Standard UY are automatically prepared by the instrument using N Diluent. The standard dilutions must be used within four hours. The reference curve is valid for two weeks and can be used beyond this period of time as long as controls with corresponding method-dependent target values e.g. N Cystatin C Control Level 1 and Level 2 are reproduced within their respective confidence interval.

If a different lot of reagent is used, a new reference curve must be generated. The exact measuring range depends upon the concentration of the protein in each lot of N Protein Standard UY. For typical figures refer to the BN* System's Instruction Manual.

Assay of Specimens

Samples are automatically diluted 1:100 with N Diluent. The diluted samples must be measured within four hours. If the results obtained are outside the measuring range, the assay can be repeated using a higher or lower dilution of the sample. Refer to BN* System Instruction Manual for information on repeat measurements using other dilutions.

Internal Quality Control

Assay N Cystatin C Controls Level 1 and Level 2 after each establishment of a reference curve, the first use of a reagent vial as well as with each run of samples. The controls are assayed and evaluated as for patient samples. The assigned value and confidence interval are listed in the enclosed table. For the BN ProSpec® System, a lot-data CD ([REF] OVLP) can be used to enter the assigned value.

The stated assigned values are intended for use as an assayed intra-laboratory control for assessment of precision and analytical bias. If used for precision control, the user should establish the target concentration and confidence limits during a preliminary phase.

If a control value is outside the confidence interval, the determination must be repeated. If the repeated determination confirms the deviation, a new reference curve should be established. Do not release patient result until the cause of deviation has been identified and corrected.

Results

Evaluation is performed automatically in mg/L or in a unit selected by the user on the BN* System.

Limitations of the Procedure

Interferences by rheumatoid factors are suppressed by the use of the N Cystatin C Supplementary Reagent.

Turbidity and particles in the samples may interfere with the determination. Therefore, samples containing particles must be centrifuged prior to testing. Lipemic or turbid samples which cannot be clarified by centrifugation (10 minutes at approximately 15,000 x g) must not be used. No interference was observed from immunosuppressive drugs (Cyclosporine, Tacrolimus, Sirolimus, Mycophenolate, or Azathioprine). Interference from monoclonal or polyclonal antibodies used in the treatment of transplant patients has not been evaluated.

Thyroid dysfunction may affect the cystatin C concentration as well as those of creatinine. Therefore kidney function should be evaluated in concerned patients with independent methods as iohalamate clearance⁵.

In order to assure correct results on the BN* 100 Systems, determinations with N Latex Cystatin C should be performed first in the day before running any other assay, using N Cuvette Segments incubated previously with washing solution for 16 hours. Alternatively, a separate set of N Cuvette Segments may be used exclusively for N Latex Cystatin C measurements. A separate set of cuvettes must be used, if determinations of total protein in urine or CSF have been performed the day before.

Siemens Healthcare Diagnostics has validated use of these reagents on various analyzers to optimize product performance and meet product specifications. User defined modifications are not supported by Siemens as they may affect performance of the system and assay results. It is the responsibility of the user to validate modifications to these instructions or use of the reagents on analyzers other than those included in Siemens Application Sheets or these instructions for use.

Results of this test should always be interpreted in conjunction with the patient's medical history, clinical presentation and other findings.

Due to matrix effects, inter-laboratory survey samples and control samples may yield results that differ from those obtained with other methods. It may therefore be necessary to assess these results in relation to method specific target values.

Reference Interval

The reference interval was determined from a population of ostensibly healthy subjects with no history of renal disease. A total of 413 samples obtained from 194 males and 219 females ranging in age from 1 to 78 years were tested. The reference interval was calculated nonparametrically and was determined to be 0.53 - 0.95 mg/L. This represents the central 95 % of the population.

Nevertheless, each facility should determine its own reference intervals since values may vary depending on the population studied.

Specific Performance Characteristics

Sensitivity

The sensitivity of the assay is established by the lower limit of the reference curve and depends therefore on the concentration of the protein in the N Protein Standard UY. A typical detection limit for N Latex Cystatin C is 0.05 mg/L. Analytical sensitivity was calculated as two standard deviations above the mean signal of 20 replicates of N Diluent and was determined to be 0.005 mg/L.

Specificity

No cross-reactivity of the applied antibody is known.

Precision

The N Latex Cystatin C assay was used to measure cystatin C concentrations in N Cystatin C Control Level 1 and Level 2, three serum pools and three plasma pools ranging from 0.8 to 7.1 mg/L. Duplicate determinations from two runs over twenty days were collected using a BN* System.

N Latex Cystatin C

NCYSC

Anwendungsbereich

N Latex Cystatin C ist ein *in-vitro*-Diagnostika Kit, mit Reagenzien zur quantitativen Bestimmung von Cystatin C in humanem Serum und Heparin-Plasma mittels partikelverstärkter Immun-Nephelometrie mit den BN* Systemen zur Beurteilung der Nierenfunktion.

Diagnostische Bedeutung

Cystatin C ist ein Cystein-Proteinase-Inhibitor mit einem relativen Molekulargewicht von 13.250, der von allen untersuchten kernhaltigen Zellen gebildet wird^{1,2}. Die konstante Bildungsrate und die Tatsache, dass es von der gesunden Niere frei filtriert wird, machen dieses Protein zu einem guten Marker der Nierenfunktion. Die Serumkonzentration des Cystatin C hängt praktisch ausschließlich von der glomerulären Filtrationsleistung der Niere ab^{3,4}. Eine Einschränkung der glomerulären Filtrationsrate (GFR) führt zu einem Anstieg der Konzentration von Cystatin C. Diese zeigt erhebliche Vorteile gegenüber der Serum-Creatinin-Konzentration, die auch anderen Einflüssen unterliegt, z.B. Muskelmasse und Ernährung. Zudem macht sich ein Creatininanstieg erst bei einer Einschränkung der GFR um ca. 50 % bemerkbar.

Prinzip der Methode

Polystyrol-Partikel, die mit spezifischen Antikörpern gegen humanes Cystatin C beladen sind, bilden bei Mischung mit Cystatin C enthaltenen Proben Aggregate, an denen eingestrahlichtes Licht gestreut wird. Die Intensität des Streulichts ist abhängig von der Konzentration des jeweiligen Proteins in der Probe. Die Auswertung erfolgt durch Vergleich mit einem Standard bekannter Konzentration.

Reagenzien

Inhalt der Handelspackung

N Latex Cystatin C, [REF] OQNM,
 3 x 2 ml [NCYSC] [REAGENT], N Cystatin C Reagenz
 3 x → 1 ml [NCYSC] [CONTROL 1], N Cystatin C Kontrolle Level 1
 3 x → 1 ml [NCYSC] [CONTROL 2], N Cystatin C Kontrolle Level 2
 3 x 0,5 ml [NCYSC] [SUPPLEMENT A], N Cystatin C Zusatzreagenz A
 1 x 1,6 ml [NCYSC] [SUPPLEMENT B], N Cystatin C Zusatzreagenz B

Zusammensetzung und Standardisierung

N Cystatin C Reagenz besteht aus einer Suspension von Polystyrol-Partikeln, die mit ca. 0,03 g/l Anti-Human-Cystatin C vom Kaninchen beladen sind.

N Cystatin C Kontrolle Level 1 und N Cystatin C Kontrolle Level 2 sind Lyophilisate aus Polyglykolen mit Urinproteinen humanen Ursprungs. Die Cystatin C Konzentration nach Rekonstitution der Kontrollen ist der beiliegenden Tabelle zu entnehmen. Die Konzentration der Cystatin C Kontrolle Level 1 und Level 2 wurde unter Bezugnahme auf Protein-Standard-Präparate der Siemens Healthcare Diagnostics Products GmbH kalibriert und ist chargenabhängig.

N Cystatin C Zusatzreagenz A enthält Immunglobulin vom Kaninchen (14 g/l) in gepufferter Lösung.

N Cystatin C Zusatzreagenz B besteht aus einer wässrigen Lösung von Polyethylenglycolborbitanmonolaureat (85 g/l) und Polyethylenglycoläther (27 g/l).

Konservierungsmittel

N Cystatin C Reagenz:

Gentamicin 6,25 mg/l,
 Amphotericin 0,625 mg/l

N Cystatin C Kontrolle Level 1 und Level 2 nach Rekonstitution:

Natriumazid < 0,1 %

N Cystatin C Zusatzreagenz A und B:

Natriumazid < 0,1 %

Warnung und Vorsichtsmaßnahmen

- Nur zur *in-vitro*-diagnostischen Anwendung.
- Enthält Natriumazid (< 0,1 %) als Konservierungsmittel. Natriumazid kann mit kupfer- oder bleihaltigen Abflussrohren explosive Verbindungen eingehen. Entsorgen Sie bitte ordnungsgemäß entsprechend den örtlichen Richtlinien.
- Jede individuelle Blutspende wurde mit negativem Befund auf humane Immundefizienz-Viren (HIV) 1 und 2, Hepatitis B-Viren (HBV) und Hepatitis C-Viren (HCV) getestet. Die eingesetzten Teste entsprachen entweder den Anforderungen der EU Richtlinie über *in-vitro*-Diagnostika oder waren von der FDA zugelassen. Da kein Test mit völliger Sicherheit die Abwesenheit von Infektionserregern garantieren kann, sollten alle Produkte mit humanen Bestandteilen mit angemessener Sorgfalt behandelt werden.

Vorbereitung der Reagenzien

N Cystatin C Reagenz: Das Reagenz ist flüssig und kann ohne weitere Vorbehandlung eingesetzt werden. Es ist vor dem ersten Gebrauch behutsam zu durchmischen.

N Cystatin C Kontrolle Level 1 und Level 2: Der lyophilisierte Inhalt einer Flasche ist in 1,0 ml destilliertem Wasser zu lösen. Die Lösung ist behutsam zu durchmischen. 30 Minuten nach Rekonstitution ist die N Cystatin C Kontrolle Level 1 bzw. Level 2 gebrauchsfertig.

N Cystatin C Zusatzreagenz: In eine Flasche N Cystatin C Zusatzreagenz A werden 0,5 ml N Cystatin C Zusatzreagenz B zugegeben und gemischt.

Haltbarkeit und Lagerungsbedingungen

Lagerung bei +2 bis +8 °C:

Das Verfallsdatum ist auf dem Etikett angegeben;

Stabilität nach Öffnen bzw. Rekonstitution:

N Cystatin C Reagenz: 2 Wochen
 N Cystatin C Kontrolle Level 1 und 2 rekonstituiert: 4 Wochen
 N Cystatin C Zusatzreagenz B: 12 Wochen
 N Cystatin C Zusatzreagenzien Mischung: 2 Wochen

sofern unmittelbar nach Gebrauch wieder dicht verschlossen bei +2 bis +8 °C gelagert und eine Kontamination (z. B. durch Mikroorganismen) vermieden wird. Die Reagenzien dürfen nicht eingefroren werden.

Stabilität auf den BN* Systemen:

Minimal fünf Tage mit jeweils acht Stunden pro Tag, oder ein vergleichbarer Zeitraum.

Hinweis: Die „on-board“ Stabilität hängt von dem verwendeten BN* System sowie den Laborbedingungen ab. Weiterführende Angaben sind in den Bedienungsanleitungen der BN* Systeme enthalten.

Die „on-board“ Stabilität der N Cystatin C Kontrolle Level 1 und Level 2 auf dem BN ProSpec® System ist in der Bedienungsanleitung des Systems angegeben.

Zusätzlich benötigte Materialien

BN* System

N Protein Standard UY, [REF] OQLV

Cleaner SCS, [REF] OQUB (für BN* II und BN ProSpec® System)

N Diluens, [REF] OUMT

BN* II Evaporation Stoppers (wahlweise), [REF] OVLE

Verbrauchsmaterial und Ausrüstung wie in den Bedienungsanleitungen der BN* Systeme beschrieben.

Precision Data Summary				
Sample	Mean value mg/L	Within-Run % CV	Run-to-Run % CV	Total % CV
N Cystatin C Control Level 1	0.9	2.5	2.0	2.8
N Cystatin C Control Level 2	1.8	2.3	2.2	2.9
Serum Pool 1	0.8	2.5	1.5	2.4
Serum Pool 2	2.3	2.6	3.5	4.3
Serum Pool 3	7.1	1.7	2.4	2.9
Plasma Pool 1	0.8	3.1	1.9	3.1
Plasma Pool 2	2.6	1.5	2.9	3.4
Plasma Pool 3	6.5	2.5	1.8	2.7

Method comparison

A total of 698 samples (cystatin C concentrations up to 7.58 mg/L) were analyzed on a BN* II System (y) using the N Latex Cystatin C assay and compared to creatinine results (x).

Summary of Method Comparison Regression Analysis						
	Slope (95 % Confidence interval)	Intercept (95 % Confidence interval)	r	S xy	Cystatin C interval (mg/L)	n
Site A	0.52 ± 0.03 (0.46, 0.58)	1.11 ± 0.12 (0.87, 1.35)	0.891	0.89	0.57 - 7.58	100
Site B	0.70 ± 0.02 (0.66, 0.74)	0.39 ± 0.04 (0.31, 0.47)	0.833	0.41	0.46 - 4.83	499
Site C	0.79 ± 0.05 (0.69, 0.89)	0.30 ± 0.15 (0.01, 0.59)	0.843	0.86	0.54 - 6.34	99

Clinical Sensitivity and Specificity

Five hundred subjects were recruited from patients undergoing an Iothalamate Clearance procedure for evaluation of GFR. Of these, 363 (73 %) were found to have an abnormal GFR based on the Iothalamate Clearance results. Samples were also assayed using a comparative creatinine assay. N Latex Cystatin C on a BN* II System and the creatinine assay demonstrated similar specificities (p = 0.170). The specificity of N Latex Cystatin C was 82 % compared to 88 % for creatinine. A significantly higher sensitivity was observed for N Latex Cystatin C than for creatinine (p < 0.001). The sensitivity of N Latex Cystatin C was 94 % compared to only 81 % for creatinine.

Clinical Sensitivity and Specificity		
Cystatin C	Observed (%)	95 % Confidence Interval (%)
Cystatin C		
Diagnostic Sensitivity	94	(91.96)
Diagnostic Specificity	82	(76.89)
Positive Predictive Value	93	(91.96)
Negative Predictive Value	83	(77.89)
Creatinine		
Diagnostic Sensitivity	81	(77.85)
Diagnostic Specificity	88	(83.94)
Positive Predictive Value	95	(92.97)
Negative Predictive Value	64	(57.71)

Conversion of cystatin C results to estimated GFR

National and international professional groups have recommended that clinical laboratories report estimated glomerular filtration rates (eGFR) along with the analytical value of the marker of kidney function^{5,6}. Several formulas for converting cystatin C values to eGFR have been developed both with adjustments for body surface area (mL/min/1.73 m²) and without adjustment (mL/min), two of which are noted below:

Unadjusted (Larsson et al.⁷): GFR (mL/min) = 77.24(cys C)^{-1.2023}

Adjusted (Hoek et al.¹⁰): GFR (mL/min/1.73 m²) = -4.32 + 80.35/cys C

N Latex Cystatin C values converted to eGFR based on the Hoek equation are summarized in the following table, with results divided according to the stages of Chronic Kidney Disease (CKD) defined in the Kidney Disease Quality Outcome Initiative (KDQOI) Guideline⁸.

Stage	Description	GFR Range (mL/min/1.73 m ²) (from Hoek Equation)	N Latex Cystatin C (mg/L)
1	Normal or increased GFR	> 90	< 0.85
2	Mildly decreased GFR	60 - 89	0.86 - 1.25
3	Moderately decreased GFR	30 - 59	1.26 - 2.34
4	Severely decreased GFR	15 - 29	2.35 - 4.16
5	Kidney Failure	< 15	> 4.16

The utility of the Hoek equation was examined in a population of 500 patients ranging in age from 16 months to 87 years, with GFRs (by Iothalamate clearance) ranging from 5 - 143 mL/min. 99.6 % of the results obtained using the equation were within ± one of the correct stage as determined by Iothalamate Clearance.

Note: The values cited for specific performance characteristics of the assay represent typical values and are not to be regarded as specifications for the N Latex Cystatin C Kit.

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BN ProSpec is a trademark of Siemens Healthcare Diagnostics.



N Latex Cystatin C

N CYSC

Table of Assigned Values for **BN Systems** / Tabelle der Sollwerte für **BN Systeme**/ Tableau des valeurs-cibles pour **BN Systèmes** /
 Tabella de valori teorici per i **sistema BN** / Tabla para el valores teóricos con los **sistemas BN** /
 Tabela de valores de nominais com os **sistemas BN** / Tabel de angivne værdier med **BN systemer** /
 Tabellen de åsatta värdena av **BN-systemen** / Πίνακας τιμών αναφοράς για το **Σύστημα BN**



N CYSC CONTROL 1

LOT 041446

	Concentrations/Konzentrationen/Concentration Concentrazioni/Concentracione/Concentrações Koncentrationer/Συγκέντρωση	Confidence Range/Vertrauensbereich/Domaine de confiance Interv. di accettabilità/Rango de confianza/Intervalo de confiança Konfidensinterval/Konfidensintervall/Διάστημα εμπιστοσύνης
Cystatin C	0.93 mg/L	0.74 - 1.12 mg/L

BN II:



N CYSC CONTROL 2

LOT 041546

	Concentrations/Konzentrationen/Concentration Concentrazioni/Concentracione/Concentrações Koncentrationer/Συγκέντρωση	Confidence Range/Vertrauensbereich/Domaine de confiance Interv. di accettabilità/Rango de confianza/Intervalo de confiança Konfidensinterval/Konfidensintervall/Διάστημα εμπιστοσύνης
Cystatin C	1.83 mg/L	1.46 - 2.20 mg/L

BN II:



The assigned value can be entered into the BN II system via a barcode. The assigned value must be entered into the BN100 system manually. The assigned values can be read into the BN ProSpec® System by lot data CD ([REF] OVLP).

Der Sollwert kann am BN II-System per Barcode eingelesen werden. Am BN 100-System ist der Sollwert manuell einzugeben. Der Sollwert kann am BN ProSpec® System per Chargen-CD ([REF] OVLP) eingelesen werden.

La valeur nominale peut être saisie à l'aide d'un code barre dans le système BN II. La valeur nominale doit être saisie manuellement dans le système BN 100. Les valeurs théoriques peuvent être entrées dans le BN ProSpec® System par lecture du CD de données par lot ([REF] OVLP).

Il valore nominale può essere inserito nel sistema BN II mediante codice a barre. Il valore nominale deve essere inserito nel sistema BN100 manualmente. I valori assegnati possono essere registrati nel Sistema BN ProSpec® tramite il CD Lot Data ([REF] OVLP).

El valor nominal puede introducirse en el sistema BN II mediante un código de barras. El valor nominal debe introducirse manualmente en el sistema BN100. Los valores asignados pueden ser leídos dentro del sistema BN ProSpec® con el CD de datos del lote ([REF] OVLP).

O valor nominal pode ser introduzido no sistema BN II através de um código de barras. O valor nominal tem que ser introduzido manualmente no sistema BN 100. Os valores nominais podem ser lidos no sistema BN ProSpec® no CD com os dados do lote ([REF] OVLP).

Den nominelle værdi kan indlæses i BN II-systemet via en strekkode. Den nominelle værdi skal indlæses i BN 100-systemet manuelt. De angivne værdier kan indlæses i BN ProSpec® systemet via lotdata-CD ([REF] OVLP).

De nominella värdena kan anges i BN II-systemet med hjälp av en strekkod. Det nominella värdet måste matas in i BN 100-systemet manuellt. Åsatta värden kan läsas in i N BN ProSpec® systemet med en lot data CD ([REF] OVLP).

Η ονομαστική τιμή μπορεί να εισαχθεί στο σύστημα BN II μέσω γραμμικού κώδικα. Η ονομαστική τιμή μπορεί να εισαχθεί στο σύστημα BN 100 χειροκίνητα.

Οι τιμές τιμές αναφοράς μπορούν να ανιχνευθούν από τα συστήματα N BN ProSpec® μέσω του οπτικού δίσκου (CD) ([REF] OVLP).