



Comprehensive Quality Control for Immunology

Introducing Liquichek™ Immunology Control with Anti-CCP





Immunology Control with Anti-Cyclic Citrullinated Peptide (Anti-CCP)

Liquichek™ Immunology Control

Liquichek™ Immunology Control now includes Anti-CCP as well as Rheumatoid Factor and many other serum proteins used in assessing immune function. Liquichek™ Immunology Control is an independent QC material providing assayed values for most integrated immunoassay platforms. International Organization for Standardization (ISO) 15189 recommends the use of independent control materials; either instead of, or in addition to, any control materials supplied by the reagent or instrument manufacturers.

1 mL & 3 mL Fill Sizes

- Liquid, human serum based
- Three distinct levels
- Comprehensive list of methods
- 2 year shelf life at -20°C to -70°C
- 30 day open-vial stability at 2–8°C for most analytes

2.5 mL Fill Size

- Enlarged peer groups from sharing lot numbers with 1 mL and 3 mL fill sizes
- Quick, easy and accurate QC set-up with 2D barcodes
- 5 day open-vial (punctured) stability for all analytes when stored at 2–8°

Analytes

α-1-Acid Glycoprotein
 α-1-Antitrypsin
 α-2-Macroglobulin
 β-2-Microglobulin
 ADNase B*
 Albumin
 Anti-Cyclic Citrullinated Peptide (Anti-CCP)* **NEW**
 Antistreptolysin O (ASO)
 Antithrombin III (AT III)*
 Apolipoprotein A-1
 Apolipoprotein B
 C1 Inhibitor
 Ceruloplasmin
 CH50*
 Complement C3
 Complement C4
 CRP
 Cystatin C
 Ferritin
 Haptoglobin
 Hemopexin*
 Immunoglobulin A (IgA)
 Immunoglobulin E (IgE)
 Immunoglobulin G (IgG)
 Immunoglobulin G Subclasses 1–4
 Immunoglobulin M (IgM)
 Kappa Light Chain
 Lambda Light Chain
 Lipoprotein (a)*
 Prealbumin
 Properdin Factor B*
 Protein (Total)
 Retinol Binding Protein (RBP)
 Rheumatoid Factor
 Soluble Transferrin Receptor (sTfR)*
 Transferrin

*Not available in 2.5 mL fill size.

*No claims are made regarding performance or stability.

Target Analyte Values

Analyte	Level 1	Level 2	Level 3
Anti-CCP (U/mL)*	<5	24	45
CRP (mg/dL)	0.7	2.95	5.25
Rheumatoid Factor (U/mL)	25	37	49



Also available—Lyphochek® Immunology Plus Control

Visit bio-rad.com/immunocontrols for complete product information



The Essential Elements of Quality Control

1. Focus on the Patient

Whether a laboratory produces five hundred or five million results a year, providing quality patient care should include a plan to minimize the risk of reporting incorrect results in the event of an out-of-control condition.

A patient-focused assessment enables the laboratory to evaluate appropriate QC levels, frequency and rules for a risk-based approach to quality control. Generally, monitoring instrument performance at shorter intervals increases the likelihood that an out-of-control condition will be detected before incorrect results are reported and can reduce the number and cost of repeat tests.

qcnet.com/patientrisk

2. Independent Control Materials

Any patient result reported without monitoring quality control is at risk, and the best way to monitor instrument performance is with independent controls from a third-party manufacturer. Independent control materials are designed and manufactured independently of any instrument, kit or method bias. As well as overt failures, they can often detect more subtle changes in instrument and reagent performance. International Organization or Standardization (ISO) 15189 recommends the use of independent control materials; either instead of, or in addition to, any control materials supplied by reagent or instrument manufacturers.

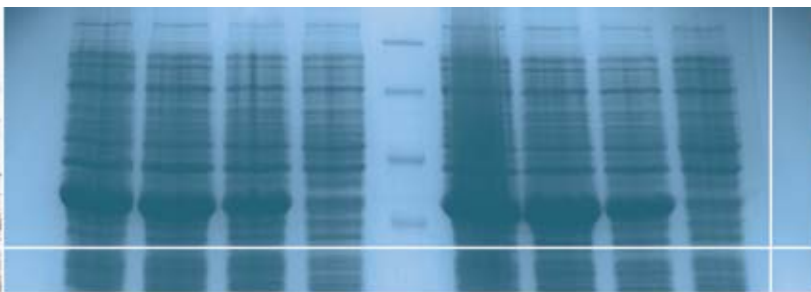
qcnet.com/thirdpartyqc



3. QC Data Management

The ability to successfully manage and interpret QC results is essential to improving laboratory analytical performance. Today, the entire laboratory can be consolidated into one comprehensive system for QC Data Management and Peer Group Comparison with Unity Real Time®. Best-in-class software tools include automatic QC data importing, support for run time decision making, trouble shooting and QC design. No program can more effectively provide information about laboratory QC performance than the suite of Unity™ QC Data Management Solutions.

bio-rad.com/qc-datamanagement



Matrix and values appropriate for QC of cerebrospinal fluid testing – includes oligoclonal banding

Available in a new 2.5 mL fill size for the Dimension Vista®

Liquichek™ Spinal Fluid Control

Liquichek™ Spinal Fluid Control comprises of a liquid matrix with lower enzyme, glucose and protein values appropriate for QC of cerebrospinal fluid testing. Liquichek™ Spinal Fluid Control is available in two levels and has oligoclonal banding in Level 2.

3 mL Fill Size

- Liquid
- Oligoclonal banding in Level 2
- 2 year shelf life at 2–8°C
- 30 day open-vial stability at 2–8°C

2.5 mL Fill Size

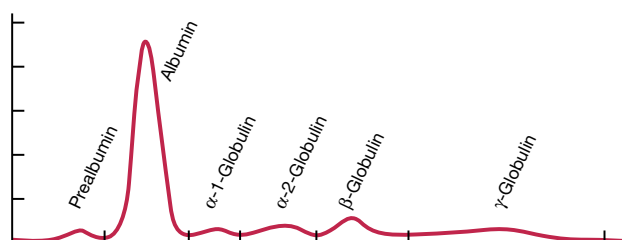
- Enlarged peer groups from sharing lot numbers with 3 mL fill size
- Quick, easy and accurate QC set-up with 2D barcodes
- 30 day open-vial (punctured) stability for all analytes when stored at 2–8°C

Analytes

Albumin	Lactate (Lactic Acid)
Chloride	Lactate Dehydrogenase (LDH)
Glucose	Protein (Total)
Immunoglobulin A (IgA)*	Protein Electrophoresis* ¹
Immunoglobulin G (IgG)	Sodium
Immunoglobulin M (IgM)*	

*Not for use on the Dimension Vista®

¹Prealbumin, Albumin, α-1-Globulin, α-2-Globulin, β-Globulin, γ-Globulin.



Normal protein electrophoretogram

Single analyte controls for CRP and Rheumatoid Factor

Monitor assay precision across a wide range of values

Liquichek™ Elevated CRP Control

- Liquid, human serum based
- 3 year shelf life at -20°C to -70°C
- 30 day open-vial stability at 2–8°C
- Target CRP levels of 1.5, 9.0 and 18.0 mg/dL

Analyte

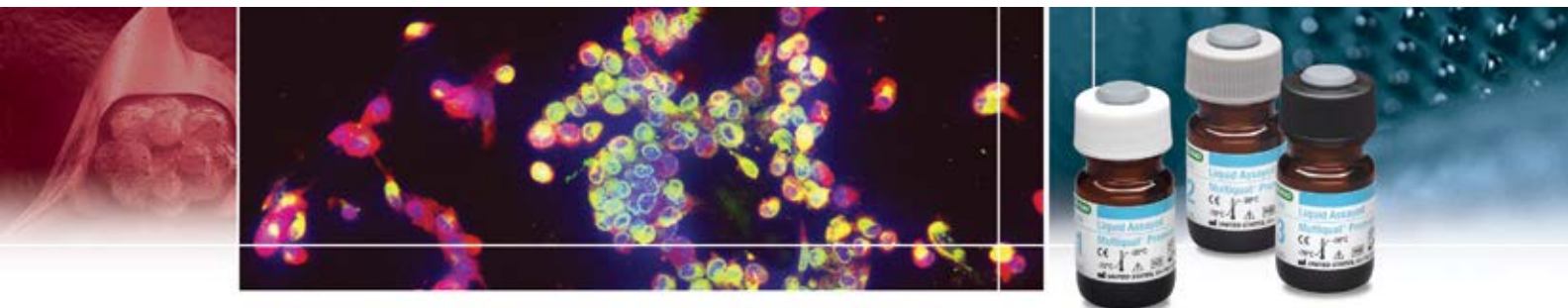
CRP

Liquichek™ Rheumatoid Factor Control

- Liquid, human serum based
- 2 year shelf life at -20°C to -70°C
- 30 day open-vial stability at 2–8°C
- Target Rheumatoid Factor levels of 34, 79 and 150 U/mL

Analyte

Rheumatoid Factor



Consolidated Quality Control for Chemistry and Immunology

Greater efficiency for your integrated analyzer

Liquid Assayed Multiqual® Premium Control

Liquid Assayed Multiqual® Premium Control is especially formulated to address the complex needs of a multi-disciplined laboratory. This new control offers you the benefits of a comprehensive selection of chemistry, key Immunology and Therapeutic Drug Monitoring (TDM) analytes.

Core laboratories that employ integrated Chemistry/Immunoassay analyzers will find the analytes in Liquid Assayed Multiqual® Premium Control complement the broad test menu on those platforms. The comprehensive list contains 96 analytes.

Packaged in a larger fill size, this control accommodates a busy laboratory workflow by providing efficient QC usage.

- Liquid, trilevel formulation
- 3 year shelf life at -20°C to -70°C
- 14 day open-vial stability at 2-8°C for most analytes
- Includes CRP, Cystatin C and Vancomycin

Complete your Immunochemistry coverage with Liquechek™ Immunoassay Premium Control



Analytes

General Chemistry

Acid Phosphatase (Total)
 Albumin
 Alkaline Phosphatase (ALP)
 Alpha-Hydroxybutyrate Dehydrogenase (αHBDH)
 ALT/SGPT
 Amylase
 Amylase, Pancreatic
 AST/SGOT
 Bile Acids
 Bilirubin, Direct
 Bilirubin, Neonatal
 Bilirubin, Total
 Calcium Total
 Calcium Ionized
 Carbon Dioxide (CO₂)
 Chloride
 Cholesterol, HDL
 Cholesterol, LDL
 Cholesterol, Total
 Cholinesterase
 Copper
 Creatine Kinase (CK)
 Creatinine
 Ethanol
 GGT
 Glucose
 Glutamate Dehydrogenase (GLDH)
 Iron
 Iron (TIBC)
 Iron (UIBC)
 Lactate
 Lactate Dehydrogenase (LDH)
 LAP Arylamidase
 Lipase
 Magnesium
 Osmolality
 Phosphorus
 Phospholipids
 Potassium
 Protein, Total
 Sodium
 Triglycerides
 Urea
 Urea Nitrogen (BUN)
 Uric Acid
 Zinc

Immunology

Alpha-1-Antitrypsin

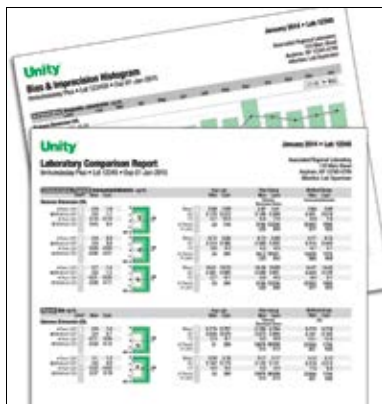
Alpha-1-Acid Glycoprotein (AAG)
 Anti-CCP
 ASO
 Apolipoprotein A-1
 Apolipoprotein B
 β-2-Microglobulin
 Ceruloplasmin
 CRP
 Complement C3
 Complement C4
 Cystatin C
 Globulin
 Haptoglobin
 IgA
 IgG
 IgM
 Kappa Light Chains
 Lambda Light Chains
 Prealbumin
 Protein Electrophoresis
 Transferrin

TDM

Acetaminophen
 Amikacin
 Caffeine
 Carbamazepine
 Digoxin
 Disopyramide
 Gentamicin
 Lidocaine
 Lithium
 Methotrexate
 NAPA
 Phenobarbital
 Phenytoin
 Procainamide
 Quinidine
 Salicylate
 Theophylline
 Tobramycin
 Valproic Acid
 Vancomycin

Immunoassay

Cortisol
 Ferritin
 T3 Uptake/T Uptake
 T3 (Total)
 T4 (Free)
 T4 (Total)
 TSH
 Vitamin B₁₂



Unity™ QC Data Management Solutions

Bio-Rad Quality Controls are part of the Unity™ Program with its industry-leading features for benchmarking laboratory performance.

- Benefit from peer data generated from more than 40,000 instruments worldwide
- Utilize real-time access to peer group comparisons to help with troubleshooting
- Consolidate your entire laboratory into one QC system
- Facilitate run-time decisions with optimized Westgard rules
- Facilitate compliance with simple tools to review rule violations and document corrective actions
- Define your own quality requirements and track key quality performance indicators

You can consolidate your entire laboratory into one QC system through our Unity™ Program. This sophisticated software includes best-in-class tools to support releasing results, benchmarking laboratory performance, and designing your QC system.

Ordering Information

Cat #	Product Name	Quantity	Cat #	Product Name	Quantity
Liquichek™ Immunology Control			Liquichek™ Rheumatoid Factor Control		
591	Level 1	6 x 1 mL	501	Level 1	6 x 2 mL
592	Level 2	6 x 1 mL	502	Level 2	6 x 2 mL
593	Level 3	6 x 1 mL	503	Level 3	6 x 2 mL
590X	Trilevel MiniPak (1 of each level)	3 x 1 mL	502X	Trilevel MiniPak (1 of each level)	3 x 2 mL
594	Level 1	6 x 3 mL	Liquichek™ Spinal Fluid Control		
595	Level 2	6 x 3 mL	751	Level 1	6 x 3 mL
596	Level 3	6 x 3 mL	752	Level 2	6 x 3 mL
281	Level 1	6 x 2.5 mL	750X	Bilevel MiniPak (1 of each level)	2 x 3 mL
282	Level 2	6 x 2.5 mL	303	Level 1	6 x 2.5 mL
283	Level 3	6 x 2.5 mL	304	Level 2	6 x 2.5 mL
283X	Trilevel MiniPak (1 of each level)	3 x 2.5 mL	302X	Bilevel MiniPak (1 of each level)	2 x 2.5 mL
Lyphocheck® Immunology Plus Control			Liquid Assayed Multiquel® Premium Control		
430	Bilevel (6 of each level)	12 x 1 mL	284	Level 1	6 x 5 mL
430X	Bilevel MiniPak (1 of each level)	3 x 1 mL	285	Level 2	6 x 5 mL
Liquichek™ Elevated CRP Control			286	Level 3	6 x 5 mL
254	Level 1	12 x 1 mL	285X	Trilevel MiniPak (1 of each level)	3 x 5 mL
255	Level 2	12 x 1 mL			
256	Level 3	12 x 1 mL			
255X	Trilevel MiniPak (1 of each level)	3 x 1 mL			



**Bio-Rad
Laboratories**

For further information, please contact the Bio-Rad office nearest you or visit our website at www.bio-rad.com/qualitycontrol

**Clinical
Diagnostics Group**

Website www.bio-rad.com/qualitycontrol **Australia** 61-2-9914-2800 **Austria** 43-1-877-8901 **Belgium** 32-9-385-5511 **Brazil** +55 (31)3689-6600 **Canada** 1-514-334-4372 **China** 86-21-61698500 **Czech Republic** 420-241-430-532 **Denmark** +45-4452-1000 **Finland** 358-9-804-22-00 **France** 33-1-47-95-60-00 **Germany** +49 (0)89-318-840 **Greece** 30-210-7774396 **Hong Kong** 852-2789-3300 **Hungary** +36-1-459-6100 **India** 1800-180-1224 **Israel** 972-3-9636050 **Italy** +39-02-216091 **Japan** 81-3-6361-7070 **Korea** 82-2-3473-4460 **Mexico** +52 (55)5488-7670 **The Netherlands** +31-318-540666 **New Zealand** 64-9-415-2280 **Norway** +47-23-38-41-30 **Poland** 48-22-3319999 **Portugal** 351-21-472-7700 **Russia** +7-495-721-1404 **Singapore** 65-6415-3170 **South Africa** 27-11-442-85-08 **Spain** 34-91-590-5200 **Sweden** +46-8-555-127-00 **Switzerland** +41 (0)26-674-55-05/06 **Taiwan** 886-2-2578-7189 **Thailand** 662-651-8311 **United Kingdom** +44 (0)20-8328-2000