BGI RANDOX

# THIRD PARTY CONTROLS

ACUSERA

RANDOX
QUALITY CONTROL

# ACUSERA

## TRUE THIRD PARTY CONTROLS
## OFFERING COMPLETE TEST MENU CONSOLIDATION

# BENEFITS

**For over 40 years Randox has been shaping the future of clinical diagnostics with our pioneering high quality, cost effective laboratory solutions. With approximately 70% of clinical decisions based on laboratory test results, it is essential that the results provided are accurate and reliable in order to prevent potential misdiagnosis or inappropriate treatment.**

Quality Control is our passion; we believe in producing high quality material that can help streamline procedures, whilst saving time and money for laboratories of all sizes and budgets. With an extensive product offering comprising third party quality controls & calibrators, interlaboratory data management, external quality assessment, calibration verification and molecular IQC and EQA for infectious disease testing, you can count on Randox to deliver trustworthy results time and time again. Just ask one of our 60,000 users worldwide.

### Commutability

All Acusera controls are designed to react to the test system in the same manner as the patient sample, helping to meet ISO 15189:2012 requirements whilst reducing inconvenient and costly shifts in QC results when reagent batch is changed.

### Accurate Target Values

Our unique value assignment process utilises thousands of independent labs globally, ensuring availability of highly accurate, robust target values for a wide range of instruments and methods, ultimately eliminating the need to spend time and money assigning in-house.

### True Third Party Controls

Manufactured independently, the Acusera range delivers unbiased performance assessment with any instrument or method, helping to meet ISO 15189:2012 requirements whilst simultaneously eliminating the need for multiple instrument dedicated controls.

### Shelf Life

With a shelf life of up to four years for lyophilised controls and two years for liquid controls, you can benefit from continuity of lot supply whilst reducing the frequency of new lot validation studies, thus saving time and money.

### Consistency

Our superior manufacturing processes ensure stability claims and analyte levels won't differ significantly from lot-to-lot. You can therefore be sure of receiving the same standard of product time and time again.

# BENEFITS

### Traceability
The values assigned to both our calibrators and control materials are traceable to a recognised reference material or reference measurement procedure meeting ISO 17511 and ISO 18153 requirements.

### Consolidation
Specialising in consolidation, the Acusera range of multi-analyte controls is designed to reduce the number of individual controls required to cover your test menu, ultimately reducing costs, preparation time and storage space.

### Clinically Relevant Levels
The presence of analytes at key decision levels not only helps to ensure accurate instrument performance but maximises laboratory efficiency by eliminating the need for additional low/high level controls at extra expense.

### Reduced Waste
The unrivalled working stability of the Acusera control range helps to keep waste and costs to a minimum.

### Flexible Options
With an extensive range of assayed/unassayed, liquid/lyophilised and single/multi-analyte controls, the Acusera portfolio has a solution to suit all laboratory preferences.

### Custom Controls
Randox is a market leader in the manufacture of customised quality controls designed to meet the individual and unique requirements of even the most specialised laboratories.

**For more information about Randox and for our full range of products, please visit randoxqc.com, or contact your local Randox representative.**

# ISO REQUIREMENTS

## Acusera; helping you to meet ISO 15189:2012 requirements.

### Third Party Controls

**"Use of independent third party control materials should be considered, either instead of, or in addition to, any control materials supplied by the reagent or instrument manufacturer"**

As true third party controls, the Acusera range has been designed to provide an unbiased, independent assessment of performance. Our Acusera controls have not been manufactured in line with, or optimised for use with any particular reagent, method or instrument.

### Commutability

**"The laboratory shall use quality control materials that react to the examining system in a manner as close as possible to patient samples"**

All Acusera controls are 100% commutable, ensuring they behave in the same manner as a patient sample thus providing an accurate reflection of test system performance.

### Clinically Relevant Levels

**"The laboratory should choose concentrations of control materials wherever possible, especially at or near clinical decision values, which ensure the validity of decisions made".**

The inclusion of analytes at clinical decision levels will not only eliminate the need to purchase additional low/high level controls but will help to ensure accurate instrument performance.

### Data Management

**"The laboratory shall have a procedure to prevent the release of patient results in the event of quality control failure. When the quality control rules are violated and indicate that examination results are likely to contain clinically significant errors, the results shall be rejected.... Quality Control data shall be reviewed at regular intervals to detect trends in examination performance".**

Acusera 24•7 provides instant access to an unrivalled range of features including QC multi-rules, interactive charts, live peer group data, automatic calculation of Measurement Uncertainty & Sigma Metrics & our unique dashboard interface, all designed to speed up the review process and provide at-a-glance performance assessment.

### EQA

**"The laboratory shall participate in interlaboratory comparisons such as those organised by external quality assessment or proficiency testing schemes".**

The Randox International Quality Assessment Scheme (RIQAS), is used by more than 55,000 laboratory participants in 134 countries and accredited to ISO 17043. As a result, we have RIQAS users on every continent who are registered for one or more of our 37 flexible EQA programmes, utilising the available data to ensure the quality and reliability of their results.

## Consolidate and Save with Randox Acusera.

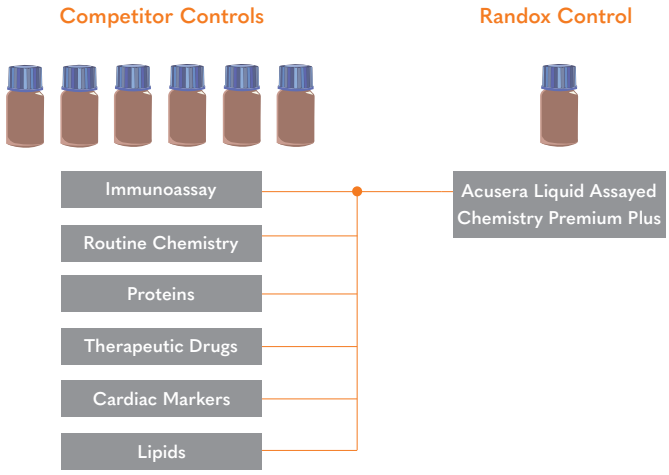
Randox is a leading provider of multi-analyte, true third party controls covering more than 400 parameters. The unique combination of analytes facilitates effective consolidation, helping your laboratory to reduce costs without compromising on performance or quality. Unlike some competitor products, our Acusera Controls are manufactured with analytes present at clinically relevant decision levels, eliminating the need to purchase additional high or low level controls, at extra expense.

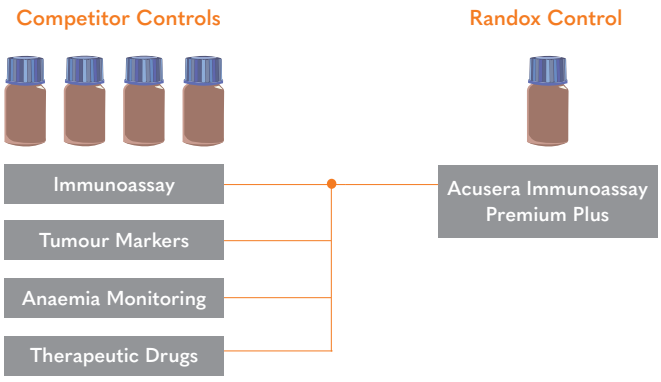
### How can consolidating with Randox Acusera benefit you?

With Randox Acusera you could consolidate up to 6 competitor controls into one Acusera control, reducing the amount of storage space required for your QC material, as well as saving valuable time and money for your laboratory. The following examples have been selected to highlight areas where Acusera can help you effectively consolidate your control purchases.

### Liquid Assayed Chemistry Premium Plus Control

Uniquely combining up to 99 analytes including; routine chemistry, immunoassays, lipids, therapeutic drugs, proteins and cardiac markers in a single vial, you can experience effective consolidation and significant cost savings. The presence of CRP and other proteins at elevated levels will not only help to ensure accurate instrument performance at key decision levels but further reduce the number of individual controls required. - *turn to page 22 for more information*




### Immunoassay Premium Plus Control

Impressively covering 54 analytes including tumour markers, therapeutic drugs and routine immunoassay tests, the Acusera Immunoassay Premium Plus control has been uniquely designed to eliminate the need for four or more controls, dramatically reducing costs and time. The added advantage of ultra-low levels of Ferritin, Vitamin $B_{12}$ and TSH will help to ensure accurate performance at key decision levels and further reduce the number of controls required. - *turn to page 39 for more information*

# COMMITMENT TO QUALITY

**Randox is committed to quality at every stage of the production process from research and development to customer support. This commitment has been recognised through official accreditation to both national and international standards including UKAS and ISO.**

**Accreditation to international standards ensures confidence in the quality and consistency of the products and services provided by Randox, and demonstrates compliance to internationally agreed standards.**

*UKAS*

The United Kingdom Accreditation Service (UKAS) is the only national accreditation body recognised by the government to assess against internationally agreed standards.

**RIQAS** systems and procedures have been accredited with UKAS approval to **ISO/IEC 17043:2010** "Conformity assessment - General requirements for proficiency testing".

*ISO13485:2016*

The International Organisation for Standardisation (ISO) is the largest developer and publisher of international standards in the world. In 2016, Randox was accredited with **ISO13485:2016** approval.

**ISO13485:2016** relates to the design/development, manufacture, service and distribution of in vitro diagnostic medical devices, in vitro diagnostic test kits, in vitro diagnostic reagents and in vitro diagnostic analysers.

**ISO13485:2016** highlights the requirements for a quality management system where an organisation needs to prove its ability to provide medical devices and other related services that consistently meet regulatory requirements.

*FDA Cleared*

Many of our quality controls and calibrators are FDA cleared and therefore appropriate for clinical use in the USA. In order for an IVD to be approved for sale in the USA it must not only be safe for use and effective but it must also satisfy the requirements set out in **part 820 title 21** of the Code of Federal Regulations published by the FDA.

*CE Mark*

Many of our Quality Control (QC) products are CE certified and carry the CE mark. CE marking on a product indicates that the product complies with and has satisfied the essential requirements set out by the **In Vitro Diagnostic (IVD) Medical Devices Directive 98/79/EC**. It also demonstrates the fact the product is fit for its intended purpose.

The CE mark is also a declaration from the manufacturer that the product has met all legislation in relation to health and safety and where required, has been assessed in accordance with this legislation.

CE marking is essential for products to be placed on the market and sold in the European Union (EU). It also ensures the free movement of products within the EFTA and EU.

*Canadian Medical Device Regulations from Health Canada*

Many Randox products, including our quality controls and calibrators, are **licensed for use in Canada**. Before an IVD device can be sold in Canada, it must meet the requirements set out in the Therapeutic Products Directorate. Health Canada reviews all medical devices to assess their safety, effectiveness and quality before they are authorised for sale.

# ANTIOXIDANT CONTROLS

Free radicals are highly reactive molecules that seek stability by gaining other electrons. In their attempt to do this they often attack nearby molecules, resulting in cellular or systemic damage. Antioxidants act by preventing or slowing the damage caused by these free radicals. A reduction in total antioxidant status has been identified in several disease states, such as cancer and heart disease. Our Acusera Antioxidant Quality Controls are lyophilised for enhanced stability and cover a range of antioxidants ideal for both clinical and research use.

# ANTIOXIDANTS

| Antioxidant Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Glutathione Peroxidase (Ransel) Control | 10 x 1 ml | SC692 | 08 |
| Glutathione Peroxidase (Ransel) Calibrator | 10 x 1 ml | SC10154 | 08 |
| Glutathione Reductase Control | 10 x 5 ml | GR2608 | 08 |
| Glutathione Reductase Calibrator | 10 x 5 ml | GR2609 | 08 |
| Superoxide Dismutase (Ransod) Control | 10 x 1 ml | SD126 | 08 |
| Total Antioxidant Status (TAS) Control | 10 x 5 ml | NX2331 | 08 |

Liquid ready-to-use

Liquid frozen

Lyophilised for enhanced stability

Assayed target values provided

100% human matrix

## Glutathione Peroxidase (Ransel) Control and Calibrator

A bovine based, whole blood control designed for use in the routine monitoring of accuracy and precision. This product is compatible for use on most clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 3 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Ransel Control | 10 x 1 ml | SC692 |
| Ransel Calibrator | 10 x 1 ml | SC10154 |

## Glutathione Reductase Control and Calibrator

A bovine based control designed for use in the routine monitoring of accuracy and precision. This product is compatible for use on most clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 1 days at 2°C to 8°C or 8 hours at 15°C to 25°C**

| Description | Size | Cat. No. |
|---|---|---|
| Ransel Control | 10 x 1 ml | GR2608 |
| Ransel Calibrator | 10 x 1 ml | GR2609 |

## Superoxide Dismutase (Ransod) Control

A bovine based, whole blood control designed for use in the routine monitoring of accuracy and precision. This product is compatible for use on most clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 10 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Ransod Control | 10 x 1 ml | SD126 |

## Total Antioxidant Status (TAS) Control and Calibrator

A human based control designed for use in the routine monitoring of accuracy and precision. This product is compatible for use on most clinical chemistry analysers.

Control

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 2 days at 2°C to 8°C or 12 hours at 15°C to 25°C**

Calibrator

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 2 days at 2°C to 8°C or 28 days at -20°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Total Antioxidant Status Control | 10 x 5 ml | NX2331 |

# BLOOD GAS CONTROLS

Blood Gas tests can provide crucial information for medical professionals in acute care environments. As such, the results they produce must be accurate and reliable to ensure correct patient diagnosis and subsequent treatment. Used in both clinical laboratories and at the point-of-care, our Acusera Blood Gas Controls have been designed to ensure ease-of-use and peace of mind. The liquid ready-to-use format ensures that no preparation time is needed and controls can be easily stored both on the ward and in the laboratory at 2°C to 8°C.

| Blood Gas Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Blood Gas Control Level 1 | 30 x 1.8 ml | BG5001 | 11 |
| Blood Gas Control Level 2 | 30 x 1.8 ml | BG5002 | 11 |
| Blood Gas Control Level 3 | 30 x 1.8 ml | BG5003 | 11 |



Liquid
ready-to-use



Liquid
frozen



Lyophilised for
enhanced stability



Assayed target
values provided



100% human
matrix

# BLOOD GAS

## Blood Gas Control

| Analytes | | | |
|---|---|---|---|
| Bicarbonate | Glucose | pH | Sodium |
| Calcium | Lactate | $pO_2$ | |
| Chloride | $pCO_2$ | Potassium | |

Combining 10 parameters including electrolytes and lactate, the Acusera Blood Gas control is designed to meet the demands of today's blood gas analysers. Supplied in convenient, easy to open ampoules and in a liquid ready-to-use format, preparation is kept to an absolute minimum, making this control ideally suited for POC testing. As a true third party control, assayed target values are provided, ensuring unbiased performance assessment.

- **Liquid ready-to-use**
- **Aqueous material**
- **Suitable for use in POCT**
- **Stable to expiry date at 2°C to 8°C**
- **Once opened, controls should be analysed immediately for pH and blood gas analytes; for electrolyte measurements, the control should be analysed within 1 hour of opening**

| Description | Size | Cat. No. |
|---|---|---|
| Blood Gas Control Level 1 | 30 x 1.8 ml | BG5001 |
| Blood Gas Control Level 2 | 30 x 1.8 ml | BG5002 |
| Blood Gas Control Level 3 | 30 x 1.8 ml | BG5003 |

# CARDIAC CONTROLS

The accurate diagnosis of a potentially life threatening cardiac event is essential in order to avoid misdiagnosis and/or incorrect treatment. The Acusera Cardiac Controls have been designed to cover a wide range of cardiac markers at clinical decision levels, eliminating the need for additional low level controls at extra expense. Manufactured from 100% human serum, a matrix similar to that of the patient sample is guaranteed.

# CARDIAC

| Cardiac Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Cardiac Control – Ultra Low | 3 x 3 ml | CQ10453 | 14 |
| Cardiac Control Level 1 | 3 x 3 ml | CQ10454 | 14 |
| Cardiac Control Level 2 | 3 x 3 ml | CQ10455 | 14 |
| Cardiac Control Level 3 | 3 x 3 ml | CQ10456 | 14 |
| Tri-Level Cardiac Control | 3 x 1 ml | CQ3100 | 14 |
| Tri-Level Cardiac Control | 3 x 2 ml | CQ3259 | 14 |
| Troponin T Control (ultra low) | 6x 3 ml | CQ10450 | 15 |
| CK-MB Control | 10 x 2 ml | CK1212 | 15 |
| CK-MB Calibrator | 10 x 1 ml | CK2393 | 15 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

## Cardiac Control

| Analytes | | | |
|---|---|---|---|
| **Cardiac Ultra Low** | **Cardiac Level 1** | **Cardiac Level 2** | **Cardiac Level 3** |
| Troponin I | NT-proBNP<br>Troponin I | NT-proBNP<br>Troponin I | NT-proBNP<br>Troponin I |

Delivering an assayed solution for Troponin I and NT-proBNP testing, the Acusera Cardiac Control is designed for use with Roche and Abbott systems. This control provides a full range of clinically relevant testing levels, including High Sensitivity Troponin I.

- **Liquid frozen**
- **Human based serum**
- **4 Clinically relevant levels (including Ultra-Low)**
- **Stable to expiry date at -18°C to -24°C**
- **Open vial stability of up to 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Cardiac Control Ultra Low | 3 x 3 ml | CQ10453 |
| Cardiac Control Level 1 | 3 x 3 ml | CQ10454 |
| Cardiac Control Level 2 | 3 x 3 ml | CQ10455 |
| Cardiac Control Level 3 | 3 x 3 ml | CQ10456 |

## Tri-Level Cardiac Control

| Analytes | | | |
|---|---|---|---|
| CK (Total)<br>CK-MB (Activity)* | CK-MB (Mass)<br>Homocysteine | Myoglobin<br>Troponin I | Troponin T |

The Acusera Cardiac Control was designed for the routine monitoring of accuracy and precision. Assayed, instrument specific values and ranges are provided for 7 common cardiac markers, eliminating the need to spend time assigning target values in-house. The availability of two convenient pack sizes ensures suitability for all laboratory throughputs.

- **Lyophilised for enhanced stability**
- **Aqueous material**
- **Cut off levels for Troponin I and T in-line with international recommendations**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Tri-Level Cardiac Control | 3 x 1 ml | CQ3100 |
| Tri-Level Cardiac Control | 3 x 2 ml | CQ3259 |

*** Only available in level 2 and level 3**

# CARDIAC

## Troponin T Control

Intended for use with the Roche system, this control is manufactured using only the highest quality material.

- **Liquid frozen**
- **100% human serum**
- **Ultra low levels of Troponin T**
- **Stable to expiry date at -18°C to -24°C**
- **Open vial stability of up to 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Troponin T Control | 6 x 3 ml | CQ10450 |

## CK-MB Control and Calibrator

| Analytes | |
|---|---|
| CK-MB | CK-NAC* |

A dedicated true third party CK-MB control designed for the routine monitoring of both accuracy and precision. Assayed target values and ranges are provided for serum start, substrate start and CK-NAC methods eliminating the need to spend time assigning target values in-house.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 4°C, 8 hours at 25°C and 28 days at -20°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| CK-MB Control | 10 x 2 ml | CK1212 |
| CK-MB Calibrator | 10 x 1 ml | CK2393 |

*** CK-NAC is not available in the CK-MB Calibrator**

# CLINICAL CHEMISTRY CONTROLS

Our clinical chemistry controls are suitable for a range of integrated analyser systems and methods. To cover all laboratory requirements, our flexible Clinical Chemistry Controls contain up to 100 analytes, delivering effective consolidation and cost savings. Available in a choice of assayed/unassayed, liquid/lyophilised and human/bovine formats, options are available to suit all laboratory sizes and budgets.

# CLINICAL CHEMISTRY

| Clinical Chemistry Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Precision Chemistry Premium Plus Level 2 | 20 x 5 ml | UN1557 | 18 |
| Precision Chemistry Premium Plus Level 3 | 20 x 5 ml | UE1558 | 18 |
| Liquid Chemistry Premium Plus Level 1 | 12 x 5 ml | LUL5069 | 19 |
| Liquid Chemistry Premium Plus Level 2 | 12 x 5 ml | LUN5070 | 19 |
| Liquid Chemistry Premium Plus Level 3 | 12 x 5 ml | LUE5071 | 19 |
| Assayed Chemistry Premium Plus Level 2 | 20 x 5 ml | HN1530 | 20 |
| Assayed Chemistry Premium Plus Level 3 | 20 x 5 ml | HE1532 | 20 |
| Assayed Chemistry Premium Plus Level 2 & 3 | 2 x 5 x 5 ml | HS2611 | 20 |
| Liquid Assayed Chemistry Premium Plus Level 1 | 12 x 5 ml | LAL4213 | 21 |
| Liquid Assayed Chemistry Premium Plus Level 2 | 12 x 5 ml | LAN4214 | 21 |
| Liquid Assayed Chemistry Premium Plus Level 3 | 12 x 5 ml | LAE4215 | 21 |
| Bovine Chemistry Assayed Level 1 | 20 x 5 ml | AL1027 | 22 |
| Bovine Chemistry Assayed Level 2 | 20 x 5 ml | AN1026 | 22 |
| Bovine Chemistry Assayed Level 3 | 20 x 5 ml | AE1032 | 22 |
| Clinical Chemistry Calibration Serum Level 2 | 20 x 5 ml | CAL2350 | 23 |
| Clinical Chemistry Calibration Serum Level 3 | 20 x 5 ml | CAL2351 | 23 |
| Ammonia Ethanol Control Level 1 | 6 x 2 ml | EA1366 | 23 |
| Ammonia Ethanol Control Level 2 | 6 x 2 ml | EA1367 | 23 |
| Ammonia Ethanol Control Level 3 | 6 x 2 ml | EA1368 | 23 |
| Aldolase Calibrator | 3 x 1 ml | AD5000 | 24 |
| Aldolase Control Level 2 | 3 x 1 ml | AD5001 | 24 |
| Aldolase Control Level 3 | 3 x 1 ml | AD5002 | 24 |
| Liquid Bilirubin Control Level 1 | 3 x 3 ml | BR10442 | 24 |
| Liquid Bilirubin Control Level 2 | 3 x 3 ml | BR10443 | 24 |
| Bilirubin Elevated Serum | 10 x 3 ml | BE454 | 24 |
| Glycerol Control | 3 x 5 ml | GY1369 | 25 |
| Multi Calibrator | 3 x 2 ml | MC1382 | 25 |
| Multi Control Level 1 | 5 x 2 ml | MC1379 | 25 |
| Multi Control Level 2 | 5 x 2 ml | MC1380 | 25 |
| Multi Control Level 3 | 5 x 2 ml | MC1381 | 25 |
| Glutamine Control Level 1 | 5 x 5 ml | GM1376 | 25 |
| Glutamine Control Level 2 | 5 x 5 ml | GM1377 | 25 |
| Glutamine Control Level 3 | 5 x 5 ml | GM1378 | 25 |
| Glutamine Calibrator | 3 x 5 ml | GM1375 | 25 |
| Serum Indices Control | 4 x 5 ml | SI10448 | 26 |

Liquid ready-to-use

Liquid frozen

Lyophilised for enhanced stability

Assayed target values provided

100% human matrix

## Precision Chemistry Premium Plus Control

### Analytes

**Cardiac**
CK (Total)
Myoglobin
Troponin I

**Drugs**
Carbamazepine
Digoxin
Gentamicin
Lithium
Paracetamol
Phenobarbitone
Phenytoin
Salicylate
Theophylline
Tobramycin
Valproic Acid
Vancomycin

**Immunoassay**
α-Fetoprotein (AFP)
CEA
Cortisol
Folate
hCG
Prolactin
PSA (Total)
T3 (Free)
T3 (Total)
T4 (Free)
T4 (Total)
TSH
Vitamin $B_{12}$

**Lipids**
Apolipoprotein A-I
Apolipoprotein B
Cholesterol (HDL)
Cholesterol (Total)
NEFA
Triglycerides

**Proteins**
α-1-Acid Glycoprotein
α-1-Antitrypsin
Ceruloplasmin
Complement C3
Complement C4
CRP
Ferritin
Haptoglobin
Immunoglobulin A (IgA)
Immunoglobulin E (IgE)
Immunoglobulin G (IgG)
Immunoglobulin M (IgM)
Prealbumin
Protein (Total)
Transferrin

**Routine Chemistry**
α-HBDH
Acid Phosphatase (Prostatic)
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase
Amylase (Pancreatic)
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholinesterase
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Iron (UIBC)
Lactate
Lactate Dehydrogenase (LDH)
LAP
Lipase
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

Our Precision Chemistry Premium Plus control conveniently covers 86 analytes; including a wide range of proteins, lipids and immunoassays making it perfect for consolidation. As an unassayed, third party control it is suitable for use with a wide range of clinical chemistry platforms.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Precision Chemistry Premium Plus Level 2 | 20 x 5 ml | UN1557 |
| Precision Chemistry Premium Plus Level 3 | 20 x 5 ml | UE1558 |

# CLINICAL CHEMISTRY

## Liquid Chemistry Premium Plus Control

### Analytes

**Cardiac**
CK (Total)
Myoglobin
Troponin T

**Drugs**
Amikacin
Caffeine
Carbamazepine
Digoxin
Ethanol
Gentamicin
Lithium
Paracetamol
Phenobarbitone
Phenytoin
Salicylate
Theophylline
Valproic Acid
Vancomycin

**Electrophoresis**
α-1-Globulin
α-2-Globulin
Albumin
β-Globulin
γ-Globulin

**Immunoassay**
α-Fetoprotein (AFP)
CEA
Cortisol
DHEA Sulphate
Folate
FSH
Growth Hormone (GH)
hCG
Luteinising Hormone (LH)
Progesterone
Prolactin
Testosterone
T Uptake
T3 (Free)
T3 (Total)
T4 (Free)
T4 (Total)
TSH
Vitamin $B_{12}$

**Lipids**
Apolipoprotein A-1
Apolipoprotein B
Cholesterol (HDL)
Cholesterol (LDL)
Cholesterol (Total)
Lipoprotein (a)
Triglycerides

**Proteins**
α-1-Acid Glycoprotein
α-1-Antitrypsin
β-2-Microglobulin
Ceruloplasmin
Complement C3
Complement C4
CRP
Ferritin
Haptoglobin
Immunoglobulin A (IgA)
Immunoglobulin E (IgE)
Immunoglobulin G (IgG)
Immunoglobulin M (IgM)
Prealbumin
Protein (Total)
Transferrin

**Routine Chemistry**
α-HBDH
ACE (Angiotensin Converting Enzyme)*
Acid Phosphatase (Prostatic)
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase
Amylase (Pancreatic)
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholinesterase
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Iron (UIBC)
Lactate
Lactate Dehydrogenase (LDH)
LAP
Lipase
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

Comprising 101 analytes in total, the Acusera Liquid Chemistry Premium Plus control is one of the most comprehensive available. Our vast analyte menu allows complete consolidation, eliminating the need to purchase additional controls at extra expense. As an unassayed, third party control it is ideal for monitoring precision on a wide range of laboratory analysers. Presented in a convenient liquid format for ease-of-use, minimal preparation is required.

- **Liquid frozen**
- **Human based serum**
- **High levels of CRP and other proteins eliminate the need for separate controls**
- **Stable to expiry date at -20°C to -70°C**
- **Open vial stability of up to 7 days at 2°C to 8°C**
- **Typical values provided for all analytes**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid Chemistry Premium Plus Level 1 | 12 x 5 ml | LUL5069 |
| Liquid Chemistry Premium Plus Level 2 | 12 x 5 ml | LUN5070 |
| Liquid Chemistry Premium Plus Level 3 | 12 x 5 ml | LUE5071 |

***No claims are made regarding values or stability.**

## Assayed Chemistry Premium Plus Control

### Analytes

**Cardiac**
CK (Total)

**Drugs**
Digoxin
Gentamicin
Lithium
Paracetamol
Salicylate
Theophylline
Tobramycin

**Electrophoresis**
α-1-Globulin
α-2-Globulin
Albumin
β-Globulin
γ-Globulin

**Immunoassay**
Cortisol
Folate
PSA (Total)
T3 (Total)
T4 (Free)
T4 (Total)
TSH
Vitamin $B_{12}$

**Lipids**
Apolipoprotein A-1
Apolipoprotein B
Cholesterol (HDL)
Cholesterol (Total)
NEFA
Triglycerides

**Proteins**
Immunoglobulin A (IgA)
Immunoglobulin G (IgG)
Immunoglobulin M (IgM)
Protein (Total)
Transferrin

**Routine Chemistry**
α-HBDH
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase
Amylase (Pancreatic)
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholinesterase
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Lactate
Lactate Dehydrogenase (LDH)
Lipase (Colorimetric)
Lipase (Turbidimetric)
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

One of our most popular controls, the Acusera Assayed Chemistry Premium Plus Control, combines a comprehensive 68 analytes in a single vial for maximum efficiency. As a true third party control, assayed instrument, method and temperature specific target values are provided for an extensive range of clinical chemistry analysers, reducing the need to assign values in-house. Also provided are electrophoresis targets as a % breakdown of total protein.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Typical Osmolality values: Level 2 is 300 mOsm/kg, Level 3 is 370 mOsm/kg**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Assayed Chemistry Premium Plus Level 2 | 20 x 5 ml | HN1530 |
| Assayed Chemistry Premium Plus Level 3 | 20 x 5 ml | HE1532 |
| Assayed Chemistry Premium Plus Level 2 & 3 | 2 x 5 x 5 ml | HS2611 |

# CLINICAL CHEMISTRY

## Liquid Assayed Chemistry Premium Plus Control

### Analytes

**Cardiac**
CK (Total)
Myoglobin
Troponin T

**Drugs**
Amikacin
Caffeine
Carbamazepine
Digoxin
Ethanol
Gentamicin
Lithium
Paracetamol
Phenobarbitone
Phenytoin
Salicylate
Theophylline
Valproic Acid
Vancomycin

**Electrophoresis**
α-1-Globulin
α-2-Globulin
Albumin
β-Globulin
γ-Globulin

**Immunoassay**
α-Fetoprotein (AFP)
CEA
Cortisol
DHEA Sulphate
Folate
FSH
hCG
Luteinising Hormone (LH)
Progesterone
Prolactin
PSA (Total)
T Uptake
T3 (Free)
T3 (Total)
T4 (Free)
T4 (Total)
Testosterone
TSH
Vitamin $B_{12}$

**Lipids**
Apolipoprotein A-1
Apolipoprotein B
Cholesterol (HDL)
Cholesterol (LDL)
Cholesterol (Total)
Lipoprotein (a)
Triglycerides

**Proteins**
α-1- Acid Glycoprotein
α-1-Antitrypsin
β-2-Microglobulin
Ceruloplasmin
Complement C3
Complement C4
CRP
Ferritin
Haptoglobin
Immunoglobulin A (IgA)
Immunoglobulin E (IgE)
Immunoglobulin G (IgG)
Immunoglobulin M (IgM)
Prealbumin
Protein (Total)
Transferrin

**Routine Chemistry**
α-HBDH
ACE (Angiotensin Converting Enzyme)*
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase
Amylase (Pancreatic)
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholinesterase
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Lactate
Lactate Dehydrogenase (LDH)
Lipase
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

Uniquely combining up to 99 analytes including; routine chemistry, immunoassays, lipids, therapeutic drugs, proteins and cardiac markers in a single vial, laboratories can experience effective consolidation and significant cost savings. The presence of CRP and other proteins at elevated levels will not only ensure accurate instrument performance at key decision levels but further reduce the number of individual controls required. As a true third party control, assayed target values are provided for most major instruments.

- **Liquid frozen**
- **Human based serum**
- **Assayed instrument specific target values and ranges**
- **High levels of CRP and other proteins eliminate the need for multiple controls**
- **Stable to expiry when stored at -20°C to -70°C**
- **Open vial stability of up to 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid Assayed Chemistry Premium Plus Level 1 | 12 x 5 ml | LAL4213 |
| Liquid Assayed Chemistry Premium Plus Level 2 | 12 x 5 ml | LAN4214 |
| Liquid Assayed Chemistry Premium Plus Level 3 | 12 x 5 ml | LAE4215 |

***No claims are made regarding values or stability.**

## Bovine Chemistry Assayed Control

**Analytes**

**Cardiac**
CK (Total)

**Drugs**
Lithium

**Immunoassay**
Cortisol
PSA (Total)
T3 (Total)
T4 (Free)
T4 (Total)
Vitamin $B_{12}$

**Lipids**
Cholesterol
NEFA
Triglycerides

**Proteins**
Protein (Total)

**Routine Chemistry**
α-HBDH
Acid Phosphatase (Prostatic)
Acid Phosphatase (Non-Prostatic)
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Lactate
Lactate Dehydrogenase (LDH)
Lipase
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

Designed for use in the routine monitoring of accuracy and precision, this comprehensive bovine based, assayed control provides method, instrument and temperature specific values for a unique combination of 46 analytes. Due to its bovine serum matrix and inclusion of common veterinary markers; NEFA, Bile Acids, Lactate and D-3 Hydroxybutyrate, the Acusera Bovine Chemistry Assayed Control delivers a cost effective solution especially suited to veterinary laboratories.

- **Lyophilised for enhanced stability**
- **Bovine based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**
- **GLDH is stable for 1 day at 2°C to 8°C and TIBC (AL1027 Only) is stable for 4 days at 2°C to 8°C.**

| Description | Size | Cat. No. |
|---|---|---|
| Bovine Chemistry Assayed Level 1 | 20 x 5 ml | AL1027 |
| Bovine Chemistry Assayed Level 2 | 20 x 5 ml | AN1026 |
| Bovine Chemistry Assayed Level 3 | 20 x 5 ml | AE1032 |

# CLINICAL CHEMISTRY

## Clinical Chemistry Calibration Serum

**Analytes**

**Cardiac**
CK (Total)

**Drugs**
Lithium

**Lipids**
Cholesterol
Triglycerides

**Proteins**
Protein (Total)

**Routine Chemistry**
α-HBDH
Acid Phosphatase (Prostatic)
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase (ALP)
ALT (GPT)
Amylase (Pancreatic)
Amylase (Total)
AST (GOT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholinesterase
Creatinine
D-3-Hydroxybutyrate
γGT
GLDH
Glucose
Iron
Iron (TIBC)
Lactate
Lactate Dehydrogenase (LDH)
Lipase
Magnesium
Osmolality
Phosphate (Inorganic)
Potassium
Sodium
Urea
Uric Acid (Urate)

**Trace Metals**
Copper
Zinc

Comprising 41 analytes in a single vial, this multi-analyte, third party calibrator is designed for use with a wide range of clinical chemistry platforms. Assayed, instrument, method and temperature specific values are supplied, ensuring accurate and reliable instrument calibration.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**
- **Multi-point calibration serum**

| Description | Size | Cat. No. |
|---|---|---|
| Clinical Chemistry Calibration Serum Level 2 | 20 x 5 ml | CAL2350 |
| Clinical Chemistry Calibration Serum Level 3 | 20 x 5 ml | CAL2351 |

## Ammonia Ethanol Control

**Analytes**

Ammonia
Ethanol

This dedicated Ammonia/Ethanol control comes in a highly convenient, liquid ready-to-use format ensuring no preparation is required. As a true third party control, assayed target values are provided, ensuring unbiased performance assessment while eliminating the need for in-house value assignment.

- **Liquid ready-to-use**
- **Aqueous material**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of up to 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Ammonia Ethanol Control Level 1 | 6 x 2 ml | EA1366 |
| Ammonia Ethanol Control Level 2 | 6 x 2 ml | EA1367 |
| Ammonia Ethanol Control Level 3 | 6 x 2 ml | EA1368 |

## Aldolase Control and Calibrator

This dedicated Aldolase control is specifically designed to monitor the accuracy and precision of Aldolase on a wide range of chemistry analysers. Supplied in a lyophilised format for enhanced stability, this control and calibrator set comes in a convenient 1ml vial.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 5 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Aldolase Calibrator | 3 x 1 ml | AD5000 |
| Aldolase Control Level 2 | 3 x 1 ml | AD5001 |
| Aldolase Control Level 3 | 3 x 1 ml | AD5002 |

## Liquid Bilirubin Control

| Analytes | |
|---|---|
| Bilirubin (Direct) | Bilirubin (Total) |

Providing a true third party solution of Bilirubin, this control is designed to deliver an unbiased, independent assessment of performance. Two levels are available covering the required clinically relevant decision levels for neonatal testing and adult liver disease.

- **Liquid frozen**
- **100% human serum**
- **Stable to expiry when stored at -20°C to -70°C**
- **Open vial stability of 7 days at 2°C to 8°C**
- **Elevated levels of Bilirubin ensure clinical decision levels are met**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid Bilirubin Control Level 1 | 3 x 3 ml | BR10442 |
| Liquid Bilirubin Control Level 2 | 3 x 3 ml | BR10443 |

## Bilirubin Elevated Serum

| Analytes | |
|---|---|
| Bilirubin (Direct) | Bilirubin (Total) |

Acusera Bilirubin Elevated Serum is a bovine based serum designed for use in the monitoring of accuracy and precision. This product is suitable for monitoring paediatric bilirubin levels and contains method specific target values and ranges.

- **Lyophilised for enhanced stability**
- **Bovine serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Bilirubin Elevated Serum | 10 x 3 ml | BE454 |

# CLINICAL CHEMISTRY

## Glycerol Control

Dedicated Glycerol control for use in the routine monitoring of accuracy and precision. Supplied in a lyophilised format for enhanced stability, this control comes with assayed target values for most major chemistry analysers.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Glycerol Control | 3 x 5 ml | GY1369 |

## Multi Control and Calibrator

| Analytes | | | |
|---|---|---|---|
| Ammonia | Glucose | Glutamate | Lactate |

This multi-analyte control and calibrator is designed for use in the routine monitoring of accuracy and precision. Supplied in a convenient liquid ready-to-use format no preparation is required.

- **Liquid ready-to-use**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Once opened stable to expiry date at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Multi Calibrator | 3 x 2 ml | MC1382 |
| Multi Control Level 1 | 5 x 2 ml | MC1379 |
| Multi Control Level 2 | 5 x 2 ml | MC1380 |
| Multi Control Level 3 | 5 x 2 ml | MC1381 |

*FOR BIOTECHNOLOGY INDUSTRIAL USE.
Not for use in diagnostic procedures.

## Glutamine Control and Calibrator

This dedicated Glutamine control is supplied in a lyophilised format for enhanced stability. Manufactured using 100% human material, it is designed to mimic patient samples, ensuring accurate test system performance.

- **Lyophilised for enhanced stability**
- **100% human material**
- **Stable to expiry at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Glutamine Control Level 1 | 5 x 5 ml | GM1376 |
| Glutamine Control Level 2 | 5 x 5 ml | GM1377 |
| Glutamine Control Level 3 | 5 x 5 ml | GM1378 |
| Glutamine Calibrator | 3 x 5 ml | GM1375 |

*FOR BIOTECHNOLOGY INDUSTRIAL USE.
Not for use in diagnostic procedures.

## Serum Indices Control

| Analytes | | |
|---|---|---|
| Haemolysis (H) | Icterus (I) | Lipemia (L) |

Designed to be used to monitor an IVD instrument's response in the detection of haemolysed, icteric and lipemic (HIL) samples. This control can be utilised in laboratory interference testing to assist in improving error detection of pre-analytical errors affecting clinical chemistry testing.

- **Lyophilised for enhanced stability**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 14 days at 2°C to 8°C**
- **4 separate levels available including a negative (-) and three positives (+, ++ & +++)**

| Description | Size | Cat. No. |
|---|---|---|
| Serum Indices Control | 4 x 5 ml | SI10448 |

# COAGULATION AND HAEMATOLOGY CONTROLS

Our true third party Coagulation and Haematology Controls have been designed to deliver an unbiased assessment of analytical performance, while providing a matrix similar to that of the patient. These multi-analyte controls cover the full clinical range in a single control, enabling you to consolidate your test menu, saving both time and money.

# COAGULATION AND HAEMATOLOGY

| Coagulation and Haematology Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Coagulation Control Level 1 | 12 x 1 ml | CG5021 | 29 |
| Coagulation Control Level 2 | 12 x 1 ml | CG5022 | 29 |
| Coagulation Control Level 3 | 12 x 1 ml | CG5023 | 29 |
| Haematology Control | 3 x 2 x 4.5 ml | HM5162 | 29 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

# COAGULATION AND HAEMATOLOGY

## Coagulation Control

| Analytes | | | |
|---|---|---|---|
| Activated Partial Thromboplastin Time (APTT) | Factor VII | Factor XI | Protein C |
| Anti-Thrombin III (AT III) | Factor VIII | Factor XII | Protein S |
| Factor II | Factor IX | Fibrinogen | Prothrombin Time (PT) |
| Factor V | Factor X | Plasminogen | Thrombin Time (TT) |

Our Coagulation Control combines 16 analytes in total, delivering a comprehensive, third party solution for laboratories carrying out both routine and specialised coagulation tests. Comprising a variety of factor assays and basic coagulation tests, the number of individual controls required is reduced, saving costs and time. Assayed method and instrument specific target values & ranges are provided, eliminating the need to spend time assigning target values in-house.

- **Lyophilised for enhanced stability**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 24 hours at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Coagulation Control Level 1 | 12 x 1 ml | CG5021 |
| Coagulation Control Level 2 | 12 x 1 ml | CG5022 |
| Coagulation Control Level 3 | 12 x 1 ml | CG5023 |

## Haematology Control

| Analytes | |
|---|---|
| BASO-X | Mean Platelet Volume (MPV) |
| BASO -Y | Monocytes (MONO) |
| Basophils (BASO)* | % Monocytes (% MONO) |
| % Basophils (% BASO) | Neutrophils (NEUT) |
| DIFF-X | % Neutrophils (% NEUT) |
| DIFF-Y | Nucleated Red Blood Cells (NRBC)* |
| Eosinophils (EOS) | Nucleated Red Blood Cells X (NRBC-X) |
| % Eosinophils (%EOS) | Nucleated Red Blood Cells Y (NRBC-Y) |
| FSC-X | % Nucleated Red Blood Cells (%NRBC) |
| Haematocrit (HCT) | Platelet Distribution Width (PDW) |
| Haemoglobin (HGB) | Platelet Large Cell Ratio (P-LCR) |
| Haematopoietic Progenitor Cell (HPC) | Plateletcrit (PCT) |
| IMIDC | Platelets (PLT) |
| IMIRF | Platelets Optical Count (PLT-O) |
| Immature Granulocytes (IG) | Red Blood Cells (RBC) |
| % Immature Granulocytes (%IG) | Red Blood Cell X (RBC-X) |
| Immature Myeloid Information (IMI) | Red Blood Cell Y (RBC-Y) |
| Immature Platelet Fraction (IPF) | Red Blood Cell Distribution Width CV (RDW-CV) |
| Lymphocytes (LYMPH) | Red Blood Cell Distribution Width SD (RDW-SD) |
| % Lymphocytes (% LYMPH) | Red Blood Cells Optical Count (RBC-O) |
| Mean Corpuscular Haemoglobin (MCH) | White Blood Cells (WBC) |
| Mean Corpuscular Haemoglobin Concentration (MCHC) | White Blood Cells Differential (WBC-D) |
| Mean Corpuscular Volume (MCV) | |

The Acusera Haematology Control combines an impressive 45 analytes, covering the full blood profile in a convenient liquid ready-to-use format, ultimately increasing productivity and reducing the need for multiple controls. Providing a true third party solution for 5-part WBC differential Sysmex Haematology analysers, ensuring unbiased performance assessment.

- **Liquid ready-to-use**
- **100% Human whole blood**
- **Barcoded labels enabling quick and easy sample recognition**
- **Stable for 70 days at 2°C to 8°C**
- **Open vial stability of 14 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Haematology Control Tri-Level | 3 x 2 x 4.5 ml | HM5162 |

***This product may not be suitable for the control of Basophils and NRBC on some Sysmex models.**

# DIABETES AND WHOLE BLOOD CONTROLS

This Acusera Diabetes range provides a true third party solution for key tests used in the diagnosis and monitoring of diabetes and haemoglobin variants. Designed for use on multiple platforms, an independent assessment of performance is guaranteed. An extended reconstituted stability of four weeks for many controls will not only keep waste to a minimum but will help to reduce costs. As with all Acusera controls, laboratories can expect to experience reduced preparation time and costs without compromising on consistency or quality.

# DIABETES AND WHOLE BLOOD

| Diabetes and Whole Blood Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| HbA1c Control Set Level 1 and 2 | 2 x 2 x 0.5 ml | HA5072 | 32 |
| HbA1c Calibrator Series | 5 x 2 ml, 1 x 8 ml | HA3444 | 32 |
| Liquid HbA1c Control Level 1 | 6 x 1 ml | HA10224 | 32 |
| Liquid HbA1c Control Level 2 | 6 x 1 ml | HA10225 | 32 |
| Liquid HbA1c Control Set | 2 x 2 x 0.5 ml | HA10155 | 32 |
| G-6PDH Control Deficient | 6 x 0.5 ml | PD2617 | 32 |
| G-6PDH Control Normal | 6 x 0.5 ml | PD2618 | 32 |
| Fructosamine Control Level 1 | 3 x 1 ml | FR2994 | 33 |
| Fructosamine Control Level 3 | 3 x 1 ml | FR2996 | 33 |
| Fructosamine Calibrator | 3 x 1 ml | FR2993 | 33 |


Liquid ready-to-use


Liquid frozen


Lyophilised for enhanced stability


Assayed target values provided


100% human matrix

## HbA1c Control and Calibrator Series

The Acusera HbA1c control is designed for use in the quality control of HbA1c assays. Assayed instrument and method specific target values and ranges are provided for all major systems and methods including HPLC. A reconstituted stability of 4 weeks keeps waste to a minimum and helps to reduce costs.

**Control**
- **Lyophilised for enhanced stability**
- **100% human whole blood**
- **Treated in the same manner as a patient sample** ***(requires pre-treatment)***
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C**

**Calibrator**
- **Liquid ready-to-use**
- **100% human whole blood**
- **Treated in the same manner as a patient sample** ***(requires pre-treatment)***
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 28 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| HbA1c Control Set Level 1 and 2 | 2 x 2 x 0.5 ml | HA5072 |
| HbA1c Calibrator Series | 5 x 2 ml, 1 x 8 ml | HA3444 |

## Liquid HbA1c Control

Delivering an assayed QC solution for HbA1c testing, our Acusera Liquid HbA1c control offers a liquid ready-to-use format ideal for both laboratory and POCT testing. Employing our Liquid HbA1c Control in your laboratory could reduce preparation time, whilst the 30 day stability will ultimately minimise waste and costs.

- **Liquid ready-to-use**
- **Human based whole blood**
- **Suitable for use in POCT**
- **Treated in the same manner as a patient sample** ***(requires pre-treatment)***
- **Assayed target values are supplied for HPLC**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid HbA1c Control Level 1 | 6 x 1 ml | HA10224 |
| Liquid HbA1c Control Level 2 | 6 x 1 ml | HA10225 |
| Liquid HbA1c Control Set | 2 x 2 x 0.5 ml | HA10155 |

## G-6-PDH (Glucose-6-Phosphate Dehydrogenase) Control

The Randox Acusera G-6-PDH control is designed specifically to monitor the accuracy and precision of G-6-PDH assays. Two levels of control are available covering both normal and deficient concentration ranges.

- **Lyophilised for enhanced stability**
- **Stabilised red cell haemolysate**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| G-6-PDH Control Deficient | 6 x 0.5 ml | PD2617 |
| G-6-PDH Control Normal | 6 x 0.5 ml | PD2618 |

# DIABETES AND WHOLE BLOOD

## Fructosamine Control and Calibrator

The Acusera Fructosamine control is specifically designed to monitor the accuracy and precision of fructosamine assays. An extended reconstituted stability of 28 days at 2°C – 8°C keeps waste to a minimum and helps to reduce costs.

- **Lyophilised for enhanced stability**
- **Aqueous Based Material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Fructosamine Control Level 1 | 3 x 1 ml | FR2994 |
| Fructosamine Control Level 3 | 3 x 1 ml | FR2996 |
| Fructosamine Calibrator | 3 x 1 ml | FR2993 |

# IMMUNOASSAY CONTROLS

As one of the most comprehensive control ranges on the market, the Acusera Immunoassay offering from Randox will streamline QC in any laboratory. With multiple immunoassay controls to choose from, combining up to 54 analytes in a single vial, choice and flexibility is guaranteed. Our unique combination of analytes enables complete test menu consolidation, ultimately reducing costs without compromising on quality or performance. All controls in our Immunoassay range are manufactured from 100% human serum. This matrix ensures the test system will react to the control in the same manner as a patient sample, therefore meeting ISO 15189:2012 requirements while also eliminating shifts in QC target values when reagent batch is changed.

# IMMUNOASSAY

| Immunoassay Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Liquid Immunoassay Premium Tri-Level | 4 x 3 x 5 ml | LIA3108 | 36 |
| PTH Control Level 1 | 3 x 3 ml | PTH10110 | 36 |
| PTH Control Level 2 | 3 x 3 ml | PTH10111 | 36 |
| PTH Control Level 3 | 3 x 3 ml | PTH10112 | 36 |
| Immunoassay Premium Level 1 | 12 x 5 ml | IA2638 | 37 |
| Immunoassay Premium Level 2 | 12 x 5 ml | IA2639 | 37 |
| Immunoassay Premium Level 3 | 12 x 5 ml | IA2640 | 37 |
| Immunoassay Premium Tri-Level | 4 x 3 x 5 ml | IA2633 | 37 |
| Immunoassay Premium Plus Level 1 | 12 x 5 ml | IA3109 | 38 |
| Immunoassay Premium Plus Level 2 | 12 x 5 ml | IA3110 | 38 |
| Immunoassay Premium Plus Level 3 | 12 x 5 ml | IA3111 | 38 |
| Immunoassay Premium Plus Tri-Level | 4 x 3 x 5 ml | IA3112 | 38 |
| Immunoassay Speciality I Level 1 | 5 x 2 ml | IAS3113 | 39 |
| Immunoassay Speciality I Level 2 | 5 x 2 ml | IAS3114 | 39 |
| Immunoassay Speciality I Level 3 | 5 x 2 ml | IAS3115 | 39 |
| Immunoassay Speciality II Level 1 | 5 x 1 ml | IAS3117 | 39 |
| Immunoassay Speciality II Level 2 | 5 x 1 ml | IAS3118 | 39 |
| Immunoassay Speciality II Level 3 | 5 x 1 ml | IAS3119 | 39 |
| Tumour Marker Control Level 2 | 3 x 2 ml | TU5002 | 40 |
| Tumour Marker Control Level 3 | 3 x 2 ml | TU5003 | 40 |
| Maternal Screening Control Level 1 | 3 x 1 ml | MSS5024 | 40 |
| Maternal Screening Control Level 2 | 3 x 1 ml | MSS5025 | 40 |
| Maternal Screening Control Level 3 | 3 x 1 ml | MSS5026 | 40 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

## Liquid Immunoassay Premium Control

| Analytes | | | |
|---|---|---|---|
| 17-OH-Progesterone | Ethosuximide | Paracetamol | T3 (Free) |
| α-Fetoprotein (AFP) | Ferritin | Phenobarbitone | T3 (Total) |
| Aldosterone | Folate | Phenytoin | T4 (Free) |
| Amikacin | FSH | Primidone | T4 (Total) |
| β-2-Microglobulin | Gentamicin | Progesterone | Testosterone |
| Carbamazepine | Growth Hormone (GH) | Prolactin | Theophylline |
| CEA | hCG | PSA (Free) | Tobramycin |
| Cortisol | Immunoglobulin E (IgE) | PSA (Total) | TSH |
| DHEA-Sulphate | Insulin | Salicylate | Valproic Acid |
| Digoxin | Luteinising Hormone (LH) | Sex Hormone Binding Globulin (SHBG) | Vancomycin |
| Estriol | Oestradiol | T Uptake | Vitamin $B_{12}$ |

The Liquid Immunoassay Premium Control has been designed for use in the routine monitoring of accuracy and precision of multiple instruments. Consolidating up to 44 analytes in a single vial, employing this control can reduce the number of controls required to cover your complete test menu, saving time and money. As a true third party control, assayed values are available for most immunoassay platforms and a wide range of analytes, including hormones, therapeutic drugs and vitamins.

- **Liquid frozen**
- **100% human serum**
- **Ferritin and Vitamin $B_{12}$ levels suitable for Anaemia monitoring**
- **Stable to expiry date at -20°C to -70°C**
- **Open vial stability of up to 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid Immunoassay Premium Tri-Level | 4 x 3 x 5 ml | LIA3108 |

## PTH Control

The Acusera PTH Control is an assayed, true third party control designed to complement our Immunoassay range, delivering an unbiased, independant assessment of analytical performance. With an open vial stability of 30 days, waste is kept to a minimum.

- **Liquid frozen**
- **100% human serum**
- **Assayed target values and ranges for a wide range of immunoassay systems**
- **Stable to expiry date at -20°C to -70°C**
- **Open vial stability of 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| PTH Control Level 1 | 3 x 3 ml | PTH10110 |
| PTH Control Level 2 | 3 x 3 ml | PTH10111 |
| PTH Control Level 3 | 3 x 3 ml | PTH10112 |

# IMMUNOASSAY

## Immunoassay Premium Control

| Analytes | | | |
|---|---|---|---|
| 17-OH-Progesterone | DHEA-Sulphate | Oestradiol | T3 (Total) |
| 1-25-$(OH)_2$-Vitamin D | Digoxin | Paracetamol | T4 (Free) |
| 25-OH-Vitamin D | Estriol | Phenobarbitone | T4 (Total) |
| α-Fetoprotein (AFP) | Ethosuximide | Phenytoin | Testosterone |
| ACTH+ | Ferritin | Primidone | Testosterone (Free) |
| Aldosterone | Folate | Progesterone | Theophylline |
| Amikacin | FSH | Prolactin | Thyroglobulin |
| Androstenedione | Gentamicin | PSA (Free) | Tobramycin |
| β-2-Microglobulin | Growth Hormone (GH) | PSA (Total) | TSH |
| C-Peptide | hCG | Salicylate | Valproic Acid |
| Carbamazepine | Immunoglobulin E (IgE) | Sex Hormone Binding Globulin (SHBG) | Vancomycin |
| CEA | Insulin | T Uptake | Vitamin $B_{12}$ |
| Cortisol | Luteinising Hormone (LH) | T3 (Free) | |

Efficiently combining 51 analytes in total, the Immunoassay Premium Control is designed to cover routine immunoassay testing in a single vial. The additional benefit of clinically relevant concentrations will not only ensure accurate performance at key decision levels, but will also eliminate the need for additional low/high controls at extra expense. As an assayed control, instrument specific target values and ranges are provided for up to 48 analytes, including fertility, thyroid & steroid hormones, kidney function tests, therapeutic drugs and vitamins, saving you time assigning these in-house. Manufactured using 100% human serum, this control is designed to directly mimic a patient sample, reducing costly shifts when reagent batch is changed.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Ferritin and Vitamin $B_{12}$ levels suitable for Anaemia monitoring**
- **Ultra low TSH levels in the level 1 control**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C, or up to 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Immunoassay Premium Level 1 | 12 x 5 ml | IA2638 |
| Immunoassay Premium Level 2 | 12 x 5 ml | IA2639 |
| Immunoassay Premium Level 3 | 12 x 5 ml | IA2640 |
| Immunoassay Premium Tri-level | 4 x 3 x 5 ml | IA2633 |

**+Values may not be provided for all levels**

## Immunoassay Premium Plus Control

| Analytes | | | |
|---|---|---|---|
| 17-OH-Progesterone | CEA | Luteinising Hormone (LH) | T3 (Total) |
| 1-25-$(OH)_2$-Vitamin D | Cortisol | Oestradiol | T4 (Free) |
| 25-OH-Vitamin D | DHEA-Sulphate | Paracetamol | T4 (Total) |
| α-Fetoprotein (AFP) | Digoxin | Phenobarbitone | Testosterone |
| ACTH+ | Estriol | Phenytoin | Testosterone (Free) |
| Aldosterone | Ethosuximide | Primidone | Theophylline |
| Amikacin | Ferritin | Progesterone | Thyroglobulin |
| Androstenedione | Folate | Prolactin | Tobramycin |
| β-2-Microglobulin | FSH | PSA (Free) | TSH |
| C-Peptide | Gentamicin | PSA (Total) | Valproic Acid |
| CA 15-3 | Growth Hormone (GH) | Salicylate | Vancomycin |
| CA 19-9 | hCG | Sex Hormone Binding Globulin (SHBG) | Vitamin $B_{12}$ |
| CA 125 | Immunoglobulin E (IgE) | T Uptake | |
| Carbamazepine | Insulin | T3 (Free) | |

Impressively covering 54 analytes including tumour markers, therapeutic drugs and routine immunoassay tests, the Acusera Immunoassay Premium Plus control has been uniquely designed to eliminate the need for four or more controls, dramatically reducing costs and time. The added advantage of ultra low levels of Ferritin, Vitamin $B_{12}$ and TSH will ensure accurate performance at key decision levels and further reduce the number of controls required. Assayed target values are supplied for 51 analytes in this true third party control. Manufactured using 100% human serum, this control is designed to directly mimic a patient sample, reducing costly shifts when reagent batch is changed.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Ferritin and Vitamin $B_{12}$ levels suitable for Anaemia monitoring**
- **Ultra low TSH levels in the level 1 control**
- **Contains routinely run tumour markers: AFP / CA15-3 / CA19-9 / CA-125 / CEA / PSA / Free-PSA**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Immunoassay Premium Plus Level 1 | 12 x 5 ml | IA3109 |
| Immunoassay Premium Plus Level 2 | 12 x 5 ml | IA3110 |
| Immunoassay Premium Plus Level 3 | 12 x 5 ml | IA3111 |
| Immunoassay Premium Plus Tri-level | 4 x 3 x 5 ml | IA3112 |

**+Values may not be provided for all levels**

# IMMUNOASSAY

## Immunoassay Speciality I Control

| Analytes | | | |
|---|---|---|---|
| 1-25-$(OH)_2$-Vitamin D | Anti-Thyroperoxidase (Anti-TPO) | Insulin Like Growth Factor-1(IGF-1) | Procalcitonin |
| 25-OH-Vitamin D | C-Peptide | Intact PTH (Parathyroid Hormone) | |
| Anti-Thyroglobulin (Anti-TG) | Insulin | Osteocalcin | |

Covering 10 specialised analytes, the Acusera Immunoassay Speciality I control is designed to complement our standard immunoassay control, meeting the demands of today's modern laboratory. Assayed target values are supplied for all 10 analytes in this true third party control.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Assayed target values and ranges for a wide range of immunoassay systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 5 days at 2°C to 8°C or 28 days at -20°C. C-Peptide and Procalcitonin are stable for 1 day at 2°C to 8°C. IGF-1 is stable for 8 hours at 2°C to 8°C.**

| Description | Size | Cat. No. |
|---|---|---|
| Immunoassay Speciality I Level 1 | 5 x 2 ml | IAS3113 |
| Immunoassay Speciality I Level 2 | 5 x 2 ml | IAS3114 |
| Immunoassay Speciality I Level 3 | 5 x 2 ml | IAS3115 |

## Immunoassay Speciality II Control

| Analytes | | | |
|---|---|---|---|
| Calcitonin | Gastrin | Procalcitonin | Renin |

Designed for the routine monitoring of more complex, specialised analytes, the Acusera Immunoassay Speciality II control complements our standard immunoassay controls. As a true third party control, assayed target values are supplied and unbiased performance assessment guaranteed.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Assayed target values and ranges for a wide range of immunoassay systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstitutued stability of 5 days at 2°C to 8°C for Renin, 1 day at 2°C to 8°C for Procalcitonin and 8 hours at 2°C to 8°C for Gastrin and Calcitonin. Stable for 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Immunoassay Speciality II Level 1 | 5 x 1 ml | IAS3117 |
| Immunoassay Speciality II Level 2 | 5 x 1 ml | IAS3118 |
| Immunoassay Speciality II Level 3 | 5 x 1 ml | IAS3119 |

## Tumour Marker Control

| Analytes | | | |
|---|---|---|---|
| α-Fetoprotein (AFP) | CA 72-4 | CYFRA 21-1 | PSA (Free) |
| β-2-Microglobulin | CA 125 | Ferritin | PSA (Total) |
| CA 15-3 | Calcitonin | hCG | Thyroglobulin |
| CA 19-9 | CEA | NSE | |

The multi-analyte Acusera Tumour Marker control has been designed for use in the daily monitoring of 15 routine and specialised tumour markers. This true third party control is provided with assayed target values and ranges for all analytes, ensuring an unbiased assessment of performance for a wide range of immunoassay instruments.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 14 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Tumour Marker Control Level 2 | 3 x 2 ml | TU5002 |
| Tumour Marker Control Level 3 | 3 x 2 ml | TU5003 |

## Maternal Screening Control

| Analytes | | | |
|---|---|---|---|
| α-Fetoprotein (AFP) | Inhibin A | Total β-hCG | Unconjugated Oestriol |
| Free β-hCG | PAPP-A | | |

Delivering an assayed, multi-analyte QC solution for laboratories carrying out maternal screening, the Acusera Maternal Screening control covers a unique combination of analytes, ensuring suitability for both First and Second Trimester screening of Down's syndrome & Spina Bifida. By employing our Maternal Screening Control you could replace up to three competitor controls, ultimately improving efficiency, while reducing costs and preparation time.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Maternal Screening Control Level 1 | 3 x 1 ml | MSS5024 |
| Maternal Screening Control Level 2 | 3 x 1 ml | MSS5025 |
| Maternal Screening Control Level 3 | 3 x 1 ml | MSS5026 |

# IMMUNOLOGY/ PROTEIN CONTROLS

The Acusera range of Immunology/Protein Controls has been designed to be both cost effective and convenient. Requiring no preparation or thawing, the liquid ready-to-use format will increase productivity and efficiency in even the most demanding laboratories. Furthermore, an open vial stability of thirty days for all analytes, with no exceptions, will reduce costs and keep waste to a minimum.*

** Our Acusera CSF Control comes in a lyophilised format and requires reconstitution. It has a 14 day reconstituted stability.*

| Immunology/Protein Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Specific Protein Control Level 1 | 3 x 1 ml | PS2682 | 43 |
| Specific Protein Control Level 2 | 3 x 1 ml | PS2683 | 43 |
| Specific Protein Control Level 3 | 3 x 1 ml | PS2684 | 43 |
| Specific Protein Control Level 1 | 6 x 3 ml | PS10221 | 43 |
| Specific Protein Control Level 2 | 6 x 3 ml | PS10222 | 43 |
| Specific Protein Control Level 3 | 6 x 3 ml | PS10223 | 43 |
| Specific Protein Calibrator (Liquid) | 5 x 1 ml | IT2691 | 43 |
| Specific Protein Calibrator (Liquid) | 5 x 1 ml | IT2692 | 44 |
| Liquid CRP Control Level 2 | 10 x 1 ml | CP2480 | 44 |
| Liquid CRP Control Level 3 | 10 x 1 ml | CP2481 | 44 |
| High Sensitivity CRP Control Level 1 | 10 x 1 ml | CP2476 | 44 |
| High Sensitivity CRP Control Level 2 | 10 x 1 ml | CP2477 | 44 |
| High Sensitivity CRP Calibrator Series | 6 x 2 ml | CP2478 | 44 |
| CRP Full Range Calibrator | 6 x 1 ml | CP2499 | 44 |
| Canine CRP Control Level 2 | 3 x 1 ml | CP2803 | 44 |
| Canine CRP Control Level 3 | 3 x 1 ml | CP2804 | 44 |
| CSF Control Level 2 | 10 x 3 ml | CF1500 | 45 |
| CSF Control Level 3 | 10 x 3 ml | CF1501 | 45 |
| Liquid CSF Control Level 1 | 10 x 3 ml | CF10138 | 45 |
| Liquid CSF Control Level 2 | 10 x 3 ml | CF10139 | 45 |
| β-2-Microglobulin Calibrator | 3 x 1 ml | BM10444 | 45 |
| Cystatin C Control Level 2 | 3 x 2 ml | CYS10446 | 46 |
| Cystatin C Control Level 3 | 3 x 2 ml | CYS10447 | 46 |
| Cystatin C Calibrator | 5 x 2 ml | CYS10445 | 46 |
| Immunoglobulin Liquid Protein Calibrator | 3 x 1 ml | IT3861 | 46 |
| IgE Calibrator Series | 6 x 1 ml | IE2492 | 46 |
| sTfR Control Level 1 & 2 | 3 x 2 x 1 ml | TF10162 | 47 |
| sTfR Calibrator | 6 x 1 ml | TF10161 | 47 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

# IMMUNOLOGY/PROTEIN

## Specific Protein Control

| Analytes | | | |
|---|---|---|---|
| α-1-Acid Glycoprotein | β-2-Microglobulin | Immunoglobulin A (IgA) | Prealbumin |
| α-1-Antitrypsin | Ceruloplasmin | Immunoglobulin E (IgE) | Protein (Total) |
| α-2-Macroglobulin | Complement C3 | Immunoglobulin G (IgG) | Retinol Binding Protein (RBP) |
| α-Fetoprotein (AFP) | Complement C4 | Immunoglobulin M (IgM) | Rheumatoid Factor (RF) |
| Albumin | CRP | Kappa Light Chain | Transferrin |
| Anti-Streptolysin O (ASO) | Ferritin | Lambda Light Chain | |
| Anti-Thrombin III (AT III) | Haptoglobin | Lambda Light Chain (Free)+ | |

Covering a unique combination of 26 serum proteins, including; Total Kappa and Lambda Light Chains, the Acusera Specific Protein Control could replace as many as three separate controls. Supplied in a user-friendly liquid ready-to-use format with a 30 day open vial stability for all analytes, waste and preparation time are kept to a minimum. Manufactured using 100% human serum, this control is designed to directly mimic a patient sample, reducing costly shifts when reagent batch is changed and ensuring accurate patient testing. Assayed target values and ranges are provided for this true third party control.

- **Liquid ready-to-use**
- **100% human serum**
- **Contains both Total Kappa and Lambda Light Chains**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Specific Protein Control Level 1 | 3 x 1 ml | PS2682 |
| Specific Protein Control Level 2 | 3 x 1 ml | PS2683 |
| Specific Protein Control Level 3 | 3 x 1 ml | PS2684 |
| Specific Protein Control Level 1 | 6 x 3 ml | PS10221 |
| Specific Protein Control Level 2 | 6 x 3 ml | PS10222 |
| Specific Protein Control Level 3 | 6 x 3 ml | PS10223 |

+Not for use in USA.

## Specific Protein Calibrator

| Analytes | | | |
|---|---|---|---|
| Anti-Streptolysin O (ASO) | CRP | Immunoglobulin A (IgA) | Prealbumin |
| Ceruloplasmin | Ferritin | Immunoglobulin G (IgG) | Rheumatoid Factor (RF) |
| Complement C3 | Haptoglobin | Immunoglobulin M (IgM) | Transferrin |
| Complement C4 | | | |

Multi-analyte calibrator designed for use in the routine calibration of 13 serum proteins including Ferritin, IgA, IgG and IgM. Supplied in a convenient, liquid ready-to-use format with a working stability of 30 days, waste and time are kept to a minimum.

- **Liquid ready-to-use**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Specific Protein Calibrator (Liquid) | 5 x 1 ml | IT2691 |

FOR USE WITH SAMPLES THAT DO NOT REQUIRE PRE-DILUTION

## Specific Protein Calibrator - Requires pre-dilution

| Analytes | | |
|---|---|---|
| Immunoglobulin A (IgA) | Immunoglobulin G (IgG) | Immunoglobulin M (IgM) |

Multi-analyte calibrator designed for use in the routine calibration of 3 serum proteins. Supplied in a convenient, liquid ready-to-use format with a working stability of 30 days, waste and time are kept to a minimum.

- **Liquid ready-to-use**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. | |
|---|---|---|---|
| Specific Protein Calibrator (Liquid) | 5 x 1 ml | IT2692 | FOR USE WITH SAMPLES THAT REQUIRE PRE-DILUTION |

## CRP Controls and Calibrator

A choice of two dedicated CRP controls is available, covering elevated and highly sensitive levels of CRP. As true third party controls, assayed target values are provided, ensuring unbiased performance assessment with any instrument or method. Conveniently supplied in a liquid ready-to-use format, no preparation is required.

- **Liquid ready-to-use**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid CRP Control Level 2 | 10 x 1 ml | CP2480 |
| Liquid CRP Control Level 3 | 10 x 1 ml | CP2481 |
| High Sensitivity CRP Control Level 1 | 10 x 1 ml | CP2476 |
| High Sensitivity CRP Control Level 2 | 10 x 1 ml | CP2477 |
| High Sensitivity CRP Calibrator Series | 6 x 2 ml | CP2478 |
| CRP Full Range Calibrator | 6 x 1 ml | CP2499 |

## Canine CRP Control

Dedicated CRP control uniquely designed for use in the quality control of the Randox Canine CRP assay. Supplied in a convenient, liquid ready-to-use format and stable to expiry date, waste and preparation time is kept to an absolute minimum.

- **Liquid ready-to-use**
- **Human CRP in a stabilised protein matrix**
- **Stable to expiry date at 2°C to 8°C**
- **Once opened stable to expiry date at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Canine CRP Control Level 2 | 3 x 1 ml | CP2803 |
| Canine CRP Control Level 3 | 3 x 1 ml | CP2804 |

# IMMUNOLOGY/PROTEIN

## CSF Control

| Analytes | | | |
|---|---|---|---|
| α-1-Globulin (Electrophoresis)* | β-Globulin (Electrophoresis)* | Glucose | Protein (Total) |
| α-2-Globulin (Electrophoresis)* | Chloride | Immunoglobulin G (IgG) | Sodium |
| Albumin (Electrophoresis)* | γ-Globulin (Electrophoresis)* | Lactate | |

Multi-analyte CSF control designed for use in the routine monitoring of both accuracy and precision. As a true third party control, it is compatible for use with a wide range of clinical analysers. Assayed target values are provided, eliminating the need to assign in-house.

- **Lyophilised for enhanced stability**
- **Human based material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 14 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| CSF Control Level 2 | 10 x 3 ml | CF1500 |
| CSF Control Level 3 | 10 x 3 ml | CF1501 |

***No claims are made regarding values or stability.**

## Liquid CSF Control

| Analytes | | | |
|---|---|---|---|
| α-1-Globulin (Electrophoresis)* | Chloride | High Sensitivity Immunoglobulin G (hsIgG) | Microalbumin |
| α-2-Globulin (Electrophoresis)* | γ-Globulin (Electrophoresis)* | High Sensitivity Immunoglobulin M | Protein (Total) |
| Albumin (Electrophoresis)* | Glucose | (hsIgM)* | Sodium |
| β-Globulin (Electrophoresis)* | High Sensitivity Immunoglobulin A (hsIgA)* | Lactate | |

Providing a true third party solution for the measurement of 14 analytes in Cerebrospinal Fluid (CSF), the new Acusera Liquid CSF Control is designed to deliver an unbiased, independent assessment of analytical performance, helping to ensure accurate and reliable patient testing. With an extended open vial stability of 30 days at 2°C to 8°C, this control will reduce waste, while remaining easy and convenient to use. Two distinct levels are available covering clinically significant ranges.

- **Liquid ready-to-use**
- **Human based material**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid CSF Control Level 1 | 10 x 3 ml | CF10138 |
| Liquid CSF Control Level 2 | 10 x 3 ml | CF10139 |

***No claims are made regarding values or stability.**

## β-2-Microglobulin Calibrator

Our dedicated β-2-Microglobulin calibrator is designed for use in the calibration of β-2-Microglobulin assays. With an excellent working stability of 30 days at 2°C to 8°C, waste is kept to a minimum.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 30 days at 2°C to 8°C or 3 months at -20°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| β-2-Microglobulin Calibrator | 3 x 1 ml | BM10444 |

## Cystatin C Control and Calibrator

Dedicated Cystatin C control designed for use in the routine monitoring of both accuracy and precision. Supplied in a convenient, liquid ready-to-use format, no preparation is required. Assayed target values and ranges are provided for this true third party control.

- **Liquid ready-to-use**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Cystatin C Control Level 2 | 3 x 2 ml | CYS10446 |
| Cystatin C Control Level 3 | 3 x 2 ml | CYS10447 |
| Cystatin C Calibrator | 5 x 2 ml | CYS10445 |

## Immunoglobulin Liquid Protein Calibrator

| Analytes | | |
|---|---|---|
| Immunoglobulin A (IgA) | Immunoglobulin G (IgG) | Immunoglobulin M (IgM) |

Calibrator series designed for use in the calibration of IgA, IgG and IgM immunoturbidimetric assays. Suitable for use with the Randox immunoglobulin assays.

- **Liquid ready-to-use**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Immunoglobulin Liquid Protein Calibrator | 3 x 1 ml | IT3861 |

## IgE Calibrator

Comprising 6 levels, our IgE calibrator series is designed for use in the calibration of IgE immunoturbidimetric assays. With an excellent working stability of 28 days at 2°C to 8°C, waste is kept to a minimum.

- **Lyophilised for enhanced stability**
- **Human IgE in a stabilised matrix**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| IgE Calibrator Series | 6 x 1 ml | IE2492 |

# IMMUNOLOGY/PROTEIN

## Soluble Transferrin Receptor (sTfR) Control and Calibrator Series

Providing a true third party solution for the measurement of Soluble Transferrin Receptor (sTfR), the Acusera control will deliver an unbiased, independent assessment of analytical performance. Designed for use with sTfR assays, this single analyte control saves money on wasted material.

- **Lyophilised control**
- **Human based material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| sTfR Control Level 1 & 2 | 3 x 2 x 1 ml | TF10162 |
| sTfR Calibrator | 6 x 1 ml | TF10161 |

# INFECTIOUS DISEASE CONTROLS (SEROLOGY)

The Acusera range of serology controls is designed to deliver a cost effective, high quality solution for the analysis of infectious diseases using our multi-marker controls that cover a wide range of testing. These liquid ready-to-use controls come with an unrivalled 60 day open-vial stability whilst helping laboratories save time and money with added consolidation. Negative controls are also available within our Serology Controls portfolio.

# INFECTIOUS DISEASE (SEROLOGY)

| Infectious Disease (Serology) Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Anti SARS-CoV-2 Controls | 2 x 2 x 4 ml | COV10460 | 50 |
| EBV Positive Control | 1 x 5 ml | SR10350 | 50 |
| Lyme Disease Negative Control | 1 x 5 ml | SR10345 | 50 |
| Lyme Disease Positive Control | 1 x 5 ml | SR10346 | 50 |
| Serology Negative Control | 6 x 5 ml | SR10351 | 51 |
| Serology I Positive Control | 3 x 5 ml | SR10352 | 51 |
| Serology II Positive Control | 3 x 5 ml | SR10353 | 51 |
| Serology III Positive Control | 3 x 5 ml | SR10354 | 51 |
| ToRCH Negative Control | 6 x 5 ml | SR10347 | 51 |
| ToRCH IgG Positive Control | 3 x 5 ml | SR10348 | 51 |
| ToRCH IgM Positive Control | 3 x 5 ml | SR10349 | 51 |

Liquid ready-to-use

Liquid frozen

Lyophilised for enhanced stability

Assayed target values provided

100% human matrix

## Anti-SARS-CoV-2 Controls

Comprising both reactive and non-reactive controls for SARS-CoV-2 total antibodies, the Acusera range is designed to assess the precision of serological assays for COVID-19. As a true third party control, independent performance assessment is guaranteed.

- **Liquid ready-to-use**
- **100% human plasma**
- **Reactive and non-reactive controls available**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Anti-SARS-CoV-2 Controls | 2 x 2 x 4 ml | COV10460 |

## Epstein Barr Virus (EBV) Control

| Analytes | | |
|---|---|---|
| Epstein Barr Virus (EBV) EBNA IgG | Epstein Barr Virus (EBV) VCA IgG | Epstein Barr Virus (EBV) IgM |

The Acusera EBV control is conveniently supplied as liquid ready-to-use and is suitable for use with most immunoassay analysers.

- **Liquid ready-to-use**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 60 days at 2°C to 8°C**
- **Suitable for use with most immunoassay analysers**

| Description | Size | Cat. No. |
|---|---|---|
| EBV Positive Control | 1 x 5 ml | SR10350 |

## Lyme Disease *(Borrelia burgdorferi)* Control

| Analytes | |
|---|---|
| *Borrelia burgdorferi* IgG | *Borrelia burgdorferi* IgM |

Our control delivers a true third-party solution for the detection of Lyme Disease on most immunoassay analysers. All samples are conveniently supplied in a user-friendly, liquid ready-to-use format.

- **Liquid ready-to-use**
- **100% human plasma**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 60 days at 2°C to 8°C**
- **Suitable for use with most immunoassay analysers**

| Description | Size | Cat. No. |
|---|---|---|
| Lyme Disease Negative Control | 1 x 5 ml | SR10345 |
| Lyme Disease Positive Control | 1 x 5 ml | SR10346 |

# INFECTIOUS DISEASE (SEROLOGY)

## Serology Controls

**Analytes**

**Serology Negative**
Anti-HAV
Anti-HBc
Anti-HBe
Anti-HBs
Anti-HCV
Anti-HIV 1 / 2
Anti-HTLV 1 / 2
HAV IgM
HBc IgM
HBeAg
HBsAg
HIV P24Ag
*Treponema pallidum* (Syphilis) IgG

**Serology I Positive**
Anti-HBc
Anti-HCV
Anti-HIV 1 / 2
Anti-HTLV 1 / 2
HBsAg
*Treponema pallidum* (Syphilis) IgG

**Serology II Positive**
Anti-HAV
Anti-HBc
Anti-HBe
Anti-HBs

**Serology III Positive**
HAV IgM
HBc IgM

The Acusera Serology control range comprises both positive and negative controls for a wide range of pathogens including HIV & Hepatitis, are supplied as liquid ready-to-use and are suitable for use on most immunoassay analysers.

- **Liquid ready-to-use**
- **100% human plasma**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 60 days at 2°C to 8°C**
- **Suitable for use with most immunoassay analysers**

| Description | Size | Cat. No. |
|---|---|---|
| Serology Negative Control | 6 x 5 ml | SR10351 |
| Serology I Positive Control | 3 x 5 ml | SR10352 |
| Serology II Positive Control | 3 x 5 ml | SR10353 |
| Serology III Positive Control | 3 x 5 ml | SR10354 |

## ToRCH Controls

**Analytes**

**ToRCH Negative**
Cytomegalovirus (CMV) IgG
Cytomegalovirus (CMV) IgM
Epstein Barr Virus (EBV) EBNA IgG
Epstein Barr Virus (EBV) VCA IgG
Epstein Barr Virus (EBV) IgM
*Helicobacter pylori* IgG
Herpes Simplex Virus 1 (HSV-1) IgG
Herpes Simplex Virus 1 (HSV-1) IgM
Herpes Simplex Virus 2 (HSV-2) IgG
Herpes Simplex Virus 2 (HSV-2) IgM
Measles IgG
Mumps IgG
Rubella IgG
Rubella IgM
Toxoplasma *gondii* IgG
Toxoplasma *gondii* IgM
*Treponema pallidum* (Syphilis) IgG
Varicella Zoster Virus (VZV) IgG

**ToRCH IgG Positive**
Cytomegalovirus (CMV) IgG
*Helicobacter pylori* IgG
Herpes Simplex Virus 1 (HSV-1) IgG
Herpes Simplex Virus 2 (HSV-2) IgG
Measles IgG
Mumps IgG
Rubella IgG
Toxoplasma *gondii* IgG
*Treponema pallidum* (Syphilis) IgG
Varicella Zoster Virus (VZV) IgG

**ToRCH IgM Positive**
Cytomegalovirus (CMV) IgM
Herpes Simplex Virus 1 (HSV-1) IgM
Herpes Simplex Virus 2 (HSV-2) IgM
Rubella IgM
Toxoplasma *gondii* IgM

Our ToRCH portfolio includes positive controls for both IgG and IgM antibodies in addition to a negative control. Each control is manufactured using human plasma and is suitable for use with most immunoassay analysers. The availability of liquid ready-to-use samples helps to reduce preparation time and the potential for human error.

- **Liquid ready-to-use**
- **Human based serum**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 60 days at 2°C to 8°C**
- **Suitable for use with most immunoassay analysers**

| Description | Size | Cat. No. |
|---|---|---|
| ToRCH Negative Control | 6 x 5 ml | SR10347 |
| ToRCH IgG Positive Control | 3 x 5 ml | SR10348 |
| ToRCH IgM Positive Control | 3 x 5 ml | SR10349 |

# LIPID CONTROLS

Our Acusera Lipid quality controls have been manufactured from 100% human serum to ensure they are commutable, performing in the same manner as a patient sample with minimal lot to lot value shifts. All of our Lipid Controls contain no stabilisers or preservatives, which may affect the overall performance of the controls. The multi-analyte controls enable test menu consolidation which, along with a four year shelf life from the date of manufacture, ensures minimal waste and helps to reduce costs.

# LIPIDS

| Lipid Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Lipid Control Level 1 | 5 x 1 ml | LE2668 | 54 |
| Lipid Control Level 2 | 5 x 1 ml | LE2669 | 54 |
| Lipid Control Level 3 | 5 x 1 ml | LE2670 | 54 |
| Lipid Control Level 1 | 5 x 3 ml | LE2661 | 54 |
| Lipid Control Level 2 | 5 x 3 ml | LE2662 | 54 |
| Lipid Control Level 3 | 5 x 3 ml | LE2663 | 54 |
| Direct HDL/LDL Cholesterol Calibrator (Clearance) | 3 x 1 ml | CH2673 | 54 |
| Apolipoprotein Control Level 1 | 3 x 1 ml | LE5016 | 55 |
| Apolipoprotein Control Level 2 | 3 x 1 ml | LE5017 | 55 |
| Apolipoprotein Control Level 3 | 3 x 1 ml | LE5018 | 55 |
| Apolipoprotein Calibrator | 3 x 1 ml | LP3023 | 55 |
| Apolipoprotein Calibrator 2 | 3 x 1 ml | LP5047 | 55 |
| Lipoprotein (a) Control Level 3 | 3 x 1 ml | LP3406 | 55 |
| Lipoprotein (a) Calibrator Series | 5 x 1 ml | LP3404 | 55 |
| sLDL Control Level 1 | 3 x 1 ml | LE5013 | 56 |
| sLDL Control Level 2 | 3 x 1 ml | LE5014 | 56 |
| sLDL Control Level 3 | 3 x 1 ml | LE5015 | 56 |
| sLDL Calibrator | 3 x 1 ml | CH5050 | 56 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

## Lipid Control

| Analytes | | | |
|---|---|---|---|
| Apolipoprotein A-1<br>Apolipoprotein B | Cholesterol (HDL)<br>Cholesterol (LDL) | Cholesterol (Total)<br>Lipoprotein (a) | Triglycerides |

The Randox Acusera Lipid control is supplied with assayed method specific target values and ranges for 7 analytes, covering the complete lipid profile. Unlike with many manufacturers, the material used in the production of the Randox lipid control does not contain preservatives such as Sodium Azide. This ensures a matrix that is compatible with the patient sample and prevents interference with clearance methods of HDL and LDL. Two flexible and convenient pack sizes are available, providing a true third party solution for laboratories of all sizes.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Sodium Azide is not present - no interference occurs with clearance methods**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of up to 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Lipid Control Level 1 | 5 x 1 ml | LE2668 |
| Lipid Control Level 2 | 5 x 1 ml | LE2669 |
| Lipid Control Level 3 | 5 x 1 ml | LE2670 |
| Lipid Control Level 1 | 5 x 3 ml | LE2661 |
| Lipid Control Level 2 | 5 x 3 ml | LE2662 |
| Lipid Control Level 3 | 5 x 3 ml | LE2663 |

## Direct LDL/HDL Cholesterol Calibrator

| Analytes | |
|---|---|
| Cholesterol (HDL) | Cholesterol (LDL) |

The Acusera Direct LDL/HDL Cholesterol Calibrator has been designed for use in the calibration of HDL and LDL Clearance assays on clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C and 1 month at -20°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Direct LDL/HDL Cholesterol Calibrator (Clearance) | 3 x 1 ml | CH2673 |

# LIPIDS

## Apolipoprotein Control and Calibrators

| Analytes | | |
|---|---|---|
| **Apolipoprotein Control** | **Apolipoprotein Calibrator** | **Apolipoprotein Calibrator 2** |
| Apolipoprotein A-II | Apolipoprotein A-I | Apolipoprotein A-II |
| Apolipoprotein C-II | Apolipoprotein B | Apolipoprotein C-II |
| Apolipoprotein C-III | | Apolipoprotein C-III |
| Apolipoprotein E | | Apolipoprotein E |

The Acusera Apolipoprotein control has been designed for the routine monitoring of 4 esoteric Apolipoprotein analytes. Complementing our Acusera Apolipoprotein control is the Acusera Apolipoprotein Calibrator, which has been designed for use in the calibration of 6 Apolipoprotein assays on a wide range of clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Control - reconstituted stability of 7 days at 2°C to 8°C for Apolipoprotein A-II and Apolipoprotein C-II, Apolipoprotein E is stable for 8 hours at 2°C to 8°C. All analytes are stable for 4 weeks at -20°C**
- **Calibrator - reconstituted stability of 7 days at 2°C to 8°C for Apolipoprotein A-II and Apolipoprotein C-II, Apolipoprotein E is stable for 8 hours at 2°C to 8°C. All analytes are stable for 4 weeks at -20°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Apolipoprotein Control Level 1 | 3 x 1 ml | LE5016 |
| Apolipoprotein Control Level 2 | 3 x 1 ml | LE5017 |
| Apolipoprotein Control Level 3 | 3 x 1 ml | LE5018 |
| Apolipoprotein Calibrator | 3 x 1 ml | LP3023 |
| Apolipoprotein Calibrator 2 | 3 x 1 ml | LP5047 |

## Lipoprotein (a) Control and Calibrator

The Acusera Lipoprotein (a) control has been designed for the routine monitoring of the Randox Lipoprotein (a) assay. The Acusera Lipoprotein (a) calibrator has been designed to calibrate Lipoprotein (a) assays on clinical chemistry analysers.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 14 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Lipoprotein (a) Control Level 3 | 3 x 1 ml | LP3406 |
| Lipoprotein (a) Calibrator Series | 5 x 1 ml | LP3404 |

## sLDL Control and Calibrator

The Acusera sLDL Control and Calibrator have been designed for the use in the routine monitoring of both accuracy and precision.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C**
- **Single point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| sLDL Control Level 1 | 3 x 1 ml | LE5013 |
| sLDL Control Level 2 | 3 x 1 ml | LE5014 |
| sLDL Control Level 3 | 3 x 1 ml | LE5015 |
| sLDL Calibrator | 3 x 1 ml | CH5050 |

# SPECIALITY AND RESEARCH CONTROLS

Our Speciality and Research Quality Controls cover a wide range of assays employed by universities, pharmaceutical companies, forensic laboratories and so on. Available in various formats and pack sizes, our multi-analyte Speciality and Research controls cover a range of specialised assays.

| Speciality and Research Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Antimicrobial Control II | 3 x 1 ml | AMC5035 | 59 |
| Antimicrobial Control III | 3 x 1 ml | AMC5036 | 59 |
| Growth Promoter Control | 3 x 1 ml | GP5003 | 59 |
| Adhesion Molecules Tri-Level Control | 3 x 3 x 1 ml | EV3569 | 60 |
| Adhesion Molecules Calibrator Series | 9 x 1 ml | EV3568 | 60 |
| Cerebral Array II Tri-Level Control | 3 x 3 x 0.5 ml | CBB5009 | 60 |
| Cytokine Array I Tri-Level Control | 3 x 3 x 1 ml | CY5006 | 61 |
| High Sensitivity Cytokine Array Tri-Level Control | 3 x 3 x 2 ml | CY5005 | 61 |
| Cytokine Array Calibrator Series | 9 x 1 ml | EV3561 | 61 |
| Cytokine Array III Tri-Level Control | 3 x 3 x 1 ml | CY5012 | 61 |
| Cytokine Array IV Tri-Level Control | 3 x 3 x 1 ml | CY5011 | 62 |
| Evidence Immunoassay Control | 4 x 3 x 5 ml | EV3570 | 62 |
| Synthetic Steroids Control | 3 x 1 ml | EV3709 | 63 |
| Synthetic Steroids Calibrator | 9 x 1 ml | EV3708 | 63 |
| Metabolic Syndrome Array I Control | 3 x 3 x 1 ml | EV3757 | 63 |
| Metabolic Syndrome Array I Calibrator | 9 x 1 ml | EV3756 | 63 |
| Metabolic Syndrome Array II Control | 3 x 3 x 1 ml | EV3761 | 64 |
| Metabolic Syndrome Array II Calibrator | 9 x 1 ml | EV3760 | 64 |
| Thyroid Total Calibrator Series | 9 x 1 ml | EV3555 | 64 |
| Thyroid Free Calibrator Series | 9 x 1 ml | EV3563 | 64 |


Liquid ready-to-use


Liquid frozen


Lyophilised for enhanced stability


Assayed target values provided


100% human matrix

# SPECIALITY AND RESEARCH

## Antimicrobial Control II

| Analytes | | | |
|---|---|---|---|
| Ceftiofur<br>Quinolones (Generic) | Streptomycin<br>Tetracyclines (Generic) | Thiamphenicol | Tylosin |

A multi-analyte control supplied with values for 6 different antimicrobial agents used extensively in veterinary medicine.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 24 hours at 2°C to 8°C or 14 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Antimicrobial Control II | 3 x 1 ml | AMC5035 |

## Antimicrobial Control III

| Analytes | | | |
|---|---|---|---|
| AHD<br>AMOZ | AOZ | Chloramphenicol | Semicarbazine (SEM) |

Multi-analyte control containing values for 5 different antimicrobial agents.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Antimicrobial Control III | 3 x 1 ml | AMC5036 |

## Growth Promoter Control

| Analytes | | | |
|---|---|---|---|
| β-Agonists (Clenbuterol)<br>Boldenone<br>Corticosteroids | Nandrolone<br>Ractopamine | Stanozolol<br>Stilbenes | Trenbolone<br>Zeranol |

A multi-analyte control provided with accurately assigned target values and ranges for 9 different growth promoters.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 14 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Growth Promoter Control | 3 x 1 ml | GP5003 |

## Adhesion Molecules Control and Calibrator

| Analytes | |
|---|---|
| E-Selectin (E-SEL) | P-Selectin (P-SEL) |
| Intercellular Adhesion Molecule-1 (ICAM-1) | Vascular Cell Adhesion Molecule-1 (VCAM-1) |
| L-Selectin (L-SEL) | |

A multi-analyte control with target values and ranges supplied for 5 different adhesion molecules.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human recombinant material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 24 hours at 2°C to 8°C or 7 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Adhesion Molecules Tri-Level Control | 3 x 3 x 1 ml | EV3569 |
| Adhesion Molecules Calibrator Series | 9 x 1 ml | EV3568 |

## Cerebral Array II Control

| Analytes | |
|---|---|
| CRP | Neutrophil Gelatinase-associated Lipocalin (NGAL) |
| D-dimer | Soluble Tumour Necrosis Factor Receptor I (sTNFRI) |
| Neuron Specific Enolase (NSE) | Thrombomodulin (TM) |

A multi-analyte control with target values and ranges provided for 6 analytes.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 8 hours at 2°C to 8°C or 14 days at -80°C**

| Description | Size | Cat. No. |
|---|---|---|
| Cerebral Array II Tri-Level Control | 3 x 3 x 0.5 ml | CBB5009 |

# SPECIALITY AND RESEARCH

## Cytokine Array I and High Sensitivity Cytokine Array I Controls and Calibrator

| Analytes | |
|---|---|
| Epidermal Growth Factor (EGF) | Interleukin-6 (IL-6) |
| Interferon g (IFNg) | Interleukin-8 (IL-8) |
| Interleukin-1α (IL-1α) | Interleukin-10 (IL-10) |
| Interleukin-1β (IL-1β) | Monocyte Chemoattractant Protein-1 (MCP-1) |
| Interleukin-2 (IL-2) | Tumour Necrosis Factor α (TNFα) |
| Interleukin-4 (IL-4) | Vascular Endothelial Growth Factor (VEGF) |

Multi-analyte controls with target values and ranges provided for 12 different cytokines.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human recombinant material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 10-12 hours at 2°C to 8°C or 14 days at -20°C**
- **High sensitivity - Reconstituted stability of 4 hours at 2°C to 8°C or 7 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Cytokine Array I Tri-Level Control | 3 x 3 x 1 ml | CY5006 |
| High Sensitivity Cytokine Array I Tri-Level Control | 3 x 3 x 2 ml | CY5005 |
| Cytokine Array Calibrator Series | 9 x 1 ml | EV3561 |

## Cytokine Array III Control

| Analytes | |
|---|---|
| GM-CSF | Interleukin-15 (IL-15) |
| Interleukin-5 (IL-5) | Macrophage Inflammatory Protein-1 α (MIP-1α) |

A multi-analyte control with target values and ranges provided for 4 analytes.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 24 hours at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Cytokine Array III Tri-Level Control | 3 x 3 x 1 ml | CY5012 |

## Cytokine Array IV Control

| Analytes | |
|---|---|
| Matrix Metalloproteinase-9 (MMP-9) | Soluble Tumour Necrosis Factor Receptor I (sTNFRI) |
| Soluble Interleukin-2-Receptor α (sIL-2Rα) | Soluble Tumour Necrosis Factor Receptor II (sTNFRII) |
| Soluble Interleukin-6-Receptor (sIL-6R) | |

A multi-analyte control with target values and ranges provided for 5 analytes.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Cytokine Array IV Tri-Level Control | 3 x 3 x 1 ml | CY5011 |

## Evidence Immunoassay Control

| Analytes | | | |
|---|---|---|---|
| CEA | Progesterone | T3 (Free) | Testosterone |
| FSH | Prolactin | T3 (Total) | TSH |
| Luteinising Hormone (LH) | PSA (Free) | T4 (Free) | |
| Oestradiol | PSA (Total) | T4 (Total) | |

Multi-analyte immunoassay control designed for use in the routine monitoring of the Randox Fertility, Thyroid and Tumour Marker Arrays.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Evidence Immunoassay Control | 4 x 3 x 5 ml | EV3570 |

# SPECIALITY AND RESEARCH

## Synthetic Steroids Control and Calibrator

| Analytes | | | |
|---|---|---|---|
| 17β-Clostebol | Gestagens (Generic) | Methandriol | Methyltestosterone |
| Ethinylestradiol | | | |

Human based control designed for use in the routine monitoring of both accuracy and precision. Assayed target values and ranges are provided for 5 different synthetic steroids.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 3 days at 2°C to 8°C or 14 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Synthetic Steroids Control | 3 x 1 ml | EV3709 |
| Synthetic Steroids Calibrator | 9 x 1 ml | EV3708 |

## Metabolic Syndrome Array I Control and Calibrator

| Analytes | | | |
|---|---|---|---|
| C-Peptide | Interleukin-1α (1L-1α) | Plasminogen Activator Inhibitor-1 | Tumour Necrosis Factor α |
| Ferritin | Interleukin-6 (1L-6) | Resistin | (TNFα) |
| Insulin | Leptin | | |

A multi-analyte control with target values and ranges provided for 9 analytes associated with metabolic syndrome.

- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 72 hours at 2°C to 8°C and 7 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Metabolic Syndrome Array I Control | 3 x 3 x 1 ml | EV3757 |
| Metabolic Syndrome Array I Calibrator | 9 x 1 ml | EV3756 |

## Metabolic Syndrome Array II Control and Calibrator

| Analytes | | |
|---|---|---|
| Adiponectin | CRP | Cystatin C |

A multi-analyte control with target values and ranges provided for 3 analytes associated with metabolic syndrome.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 8 hours at 2°C to 8°C and 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Metabolic Syndrome Array II Control | 3 x 3 x 1 ml | EV3761 |
| Metabolic Syndrome Array II Calibrator | 9 x 1 ml | EV3760 |

## Thyroid Total Calibrator

| Analytes | | |
|---|---|---|
| T3 (Total) | T4 (Total) | TSH |

A comprehensive multi analyte calibrator designed for use in the calibration of the Randox Thyroid Total Array on Randox Biochip systems.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C and 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Thyroid Total Calibrator Series | 9 x 1 ml | EV3555 |

## Thyroid Free Calibrator

| Analytes | | |
|---|---|---|
| T3 (Free) | T4 (Free) | TSH |

A comprehensive multi analyte calibrator designed for use in the calibration of the Randox Thyroid Free Array on Randox Biochip systems.

- **Lyophilised for enhanced stability**
- **Assayed values available for Randox Biochip systems**
- **100% human material**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C and 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Thyroid Free Calibrator Series | 9 x 1 ml | EV3563 |

# THERAPEUTIC DRUG CONTROLS

Patients absorb and metabolise medication at different rates. As a result, it is simply not acceptable to administer a standard volume to each one. Due to the problems that over and under prescribing medication can cause, it is vital that levels are closely monitored and medical personnel can trust that the test results they receive are accurate and reliable. Our Therapeutic Drug Controls are manufactured from 100% human serum and have a reconstituted stability of 4 weeks, ensuring minimal waste, thus saving your laboratory money.

# THERAPEUTIC DRUG

| Therapeutic Drug Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Therapeutic Drug Control Level 1 | 20 x 5 ml | HD1667 | 67 |
| Therapeutic Drug Control Level 2 | 20 x 5 ml | HD1668 | 67 |
| Therapeutic Drug Control Level 3 | 20 x 5 ml | HD1669 | 67 |
| Therapeutic Drug Calibrator | 6 x 3 ml | TD3417 | 67 |

Liquid
ready-to-use

Liquid
frozen

Lyophilised for
enhanced stability

Assayed target
values provided

100% human
matrix

# THERAPEUTIC DRUG

## Therapeutic Drug Control

| Analytes | | | |
|---|---|---|---|
| Amikacin | Ethosuximide | Phenobarbitone | Tobramycin |
| Caffeine | Gentamicin | Phenytoin | Valproic Acid |
| Carbamazepine | Lithium | Primidone | Vancomycin |
| Cyclosporine | Methotrexate | Salicylate | |
| Digoxin | Paracetamol | Theophylline | |

Multi-analyte therapeutic drug control covering 18 analytes at three clinically relevant levels. Method specific target values and ranges are supplied for this true third party control. With an extended reconstituted stability of 28 days, waste is kept to a minimum.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Therapeutic Drug Control Level 1 | 20 x 5 ml | HD1667 |
| Therapeutic Drug Control Level 2 | 20 x 5 ml | HD1668 |
| Therapeutic Drug Control Level 3 | 20 x 5 ml | HD1669 |

## Therapeutic Drug Calibrator

| Analytes | | | |
|---|---|---|---|
| Carbamazepine | Gentamicin | Phenytoin | Valproic Acid |
| Digoxin | Phenobarbitone | | |

The Acusera Therapeutic Drug calibrator has been designed for use in the calibration of 6 therapeutic drug assays on clinical chemistry analysers. An extended stability of 28 days will help to reduce waste and costs.

- **Lyophilised for enhanced stability**
- **100% human serum**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 28 days at 2°C to 8°C or 8 weeks at -20°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Therapeutic Drug Calibrator | 6 x 3 ml | TD3417 |

# TOXICOLOGY CONTROLS

The detection and treatment of toxic substances can mean life or death for a patient. As a result, it is essential to ensure that the results you are releasing are accurate and reliable. Our controls are available in both liquid and lyophilised formats and in a variety of matrices, providing you with the flexibility to choose a control to suit your needs.

# TOXICOLOGY

| Toxicology Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Ethanol Calibrator/Control Set | 4 x 10 ml | DA2703 | 70 |
| Drugs of Abuse Array 1 Plus (Urine) Controls | 4 x 2 x 1 ml | EV3745 | 70 |
| Drugs of Abuse Array 1 Plus (Urine) Calibrators | 9 x 1 ml | EV3744 | 70 |
| Drugs of Abuse Array 1 Plus (Whole Blood) Controls | 4 x 2 x 1 ml | EV3750 | 70 |
| Drugs of Abuse Array 1 Plus (Whole Blood) Calibrators | 9 x 1 ml | EV3749 | 70 |
| Drugs of Abuse Array II (Urine) Controls | 4 x 2 x 1 ml | EV3657 | 70 |
| Drugs of Abuse Array II (Whole Blood) Controls | 4 x 2 x 1 ml | EV3682 | 70 |
| Drugs of Abuse Array II (Urine) Calibrator Series | 9 x 1 ml | EV3656 | 70 |
| Drugs of Abuse Array II (Whole Blood) Calibrator Series | 9 x 1 ml | EV3687 | 70 |
| Drugs of Abuse Array III (Urine) Control | 4 x 2 x 1 ml | EV3830 | 71 |
| Drugs of Abuse Array III (Urine) Calibrator Series | 9 x 1 ml | EV3829 | 71 |
| Drugs of Abuse Array III (Whole Blood) Control | 4 x 2 x 1 ml | EV3794 | 71 |
| Drugs of Abuse Array III (Whole Blood) Calibrator Series | 9 x 1 ml | EV3797 | 71 |
| Drugs of Abuse Array IV (Urine) Control | 4 x 2 x 1 ml | EV3835 | 71 |
| Drugs of Abuse Array IV (Urine) Calibrator Series | 9 x 1 ml | EV3834 | 71 |
| Drugs of Abuse Array IV (Whole Blood) Control | 4 x 2 x 1 ml | EV3809 | 71 |
| Drugs of Abuse Array IV (Whole Blood) Calibrator Series | 9 x 1 ml | EV3808 | 71 |
| Drugs of Abuse Array V (Urine) Control | 4 x 2 x 1 ml | EV3814 | 72 |
| Drugs of Abuse Array V (Urine) Calibrator Series | 9 x 1 ml | EV3815 | 72 |
| Drugs of Abuse Array V (Whole Blood) Control | 4 x 2 x 1 ml | EV3848 | 72 |
| Drugs of Abuse Array V (Whole Blood) Calibrator Series | 9 x 1 ml | EV3847 | 72 |

Liquid ready-to-use

Liquid frozen

Lyophilised for enhanced stability

Assayed target values provided

100% human matrix

## Ethanol Calibrator/Control Set

Dedicated calibrator and control set designed for the calibration and quality control of the Randox Ethanol assay.

- **Liquid ready-to-use**
- **Human urine**
- **Stable to expiry date when capped and stored at 2°C to 8°C**
- **Open vial stability of 28 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Ethanol Calibrator/Control Set | 4 x 10 ml | DA2703 |

## Drugs of Abuse Array 1 Plus Controls and Calibrators

| Analytes | | | |
|---|---|---|---|
| Amphetamine | Benzoylecgonine (Cocaine) | MDMA | Opiates |
| Barbiturates | Buprenorphine | Methadone | Phencyclidine |
| Benzodiazepine 1 | Cannabinoids | Methamphetamine | Tricyclic Antidepressants |
| Benzodiazepine 2 | Creatinine | | |

Assayed control for use in monitoring the accuracy and precision on Randox Biochip systems. Two levels of control are provided, covering the cut-off range.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Urine - Reconstituted stability of 14 days at 2°C to 8°C**
- **Whole Blood – Reconstituted stability of 7 days at 2°C to 8°C or 14 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Drugs of Abuse Array 1 Plus (Urine) Controls | 4 x 2 x 1 ml | EV3745 |
| Drugs of Abuse Array 1 Plus (Urine) Calibrators | 9 x 1 ml | EV3744 |
| Drugs of Abuse Array 1 Plus (Whole Blood) Controls | 4 x 2 x 1 ml | EV3750 |
| Drugs of Abuse Array 1 Plus (Whole Blood) Calibrators | 9 x 1 ml | EV3749 |

## Drugs of Abuse Array II Controls and Calibrators

| Analytes | | | |
|---|---|---|---|
| Buprenorphine | Ketamine | MDMA | Oxycodone II |
| Creatinine | LSD | Opiates | Propoxyphene |
| Fentanyl | Methaqualone | Oxycodone I | |

A comprehensive control designed for use in the routine monitoring of accuracy and precision on Randox Biochip systems. Assayed values are provided for 11 analytes.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Urine - Reconstituted stability of 7 days at 2°C to 8°C or 28 days at -20°C**
- **Whole Blood - Reconstituted stability of 7 days at 2°C to 8°C or 28 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Drugs of Abuse Array II (Urine) Controls | 4 x 2 x 1 ml | EV3657 |
| Drugs of Abuse Array II (Whole Blood) Controls | 4 x 2 x 1 ml | EV3682 |
| Drugs of Abuse Array II (Urine) Calibrator Series | 9 x 1 ml | EV3656 |
| Drugs of Abuse Array II (Whole Blood) Calibrator Series | 9 x 1 ml | EV3687 |

# TOXICOLOGY

## Drugs of Abuse Array III Controls and Calibrators

| Analytes | | | |
|---|---|---|---|
| 7-amino Flunitrazepam | Ethyl Glucuronide | Meperidine | Zolpidem |
| Chloral Hydrate Metabolite | Fentanyl | Meprobamate | Zopiclone |
| Creatinine | Ketamine | Zaleplon | |

Assayed control for use in monitoring the accuracy and precision of the analytes above on Randox Biochip systems. Two levels of control are provided covering the cut-off range.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Drugs of Abuse Array III (Urine) Control | 4 x 2 x 1 ml | EV3830 |
| Drugs of Abuse Array III (Urine) Calibrator Series | 9 x 1 ml | EV3829 |
| Drugs of Abuse Array III (Whole Blood) Control | 4 x 2 x 1 ml | EV3794 |
| Drugs of Abuse Array III (Whole Blood) Calibrator Series | 9 x 1 ml | EV3797 |

## Drugs of Abuse Array IV Controls and Calibrators

| Analytes | | | |
|---|---|---|---|
| Creatinine | Haloperidol | Salicylate | Trazodone |
| Dextromethorphan | Ibuprofen | Salicyluric Acid | Tricyclic Antidepressants |
| Escitalopram | Methylphenidate | Sertraline | |
| Fluoxetine | Paracetamol | Tramadol | |

Assayed control for use in monitoring the accuracy and precision of the analytes above on Randox Biochip systems. Two levels of control are provided covering the cut-off range.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Drugs of Abuse Array IV (Urine) Control | 4 x 2 x 1 ml | EV3835 |
| Drugs of Abuse Array IV (Urine) Calibrator Series | 9 x 1 ml | EV3834 |
| Drugs of Abuse Array IV (Whole Blood) Control | 4 x 2 x 1 ml | EV3809 |
| Drugs of Abuse Array IV (Whole Blood) Calibrator Series | 9 x 1 ml | EV3808 |

## Drugs of Abuse Array V Controls and Calibrators

| Analytes | | | |
|---|---|---|---|
| Bath Salts 1 | Mescaline | Synthetic Cannabinoids 1 | Synthetic Cannabinoids 4 |
| Bath Salts 2 | Phenylpiperazines | Synthetic Cannabinoids 2 | |
| Benzylpiperazines | Salvinorin | Synthetic Cannabinoids 3 | |

Assayed control for use in monitoring the accuracy and precision of the analytes above on Randox Biochip systems. Two levels of control are provided covering the cut-off range.

- **Lyophilised for enhanced stability**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 7 days at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Drugs of Abuse Array V (Urine) Control | 4 x 2 x 1 ml | EV3814 |
| Drugs of Abuse Array V (Urine) Calibrator Series | 9 x 1 ml | EV3815 |
| Drugs of Abuse Array V (Whole Blood) Control | 4 x 2 x 1 ml | EV3848 |
| Drugs of Abuse Array V (Whole Blood) Calibrator Series | 9 x 1 ml | EV3847 |

# URINE CONTROLS

Our Acusera Urine Chemistry Controls are available in a choice of lyophilised and liquid ready-to-use formats, covering the full range of clinical testing. With flexible options available, we have a urine control to suit all laboratory sizes and budgets.

| Urine Product Range | | | |
|---|---|---|---|
| Product Description | Size | Cat. No. | Page No. |
| Assayed Urine Control Level 2 | 12 x 10 ml | AU2352 | 75 |
| Assayed Urine Control Level 3 | 12 x 10 ml | AU2353 | 75 |
| Liquid Urine Control Level 2 | 10 x 10 ml | UC5074 | 75 |
| Liquid Urine Control Level 3 | 10 x 10 ml | UC5075 | 75 |
| Urinalysis Control Level 1 | 12 x 12 ml | UC5033 | 76 |
| Urinalysis Control Level 2 | 12 x 12 ml | UC5034 | 76 |
| Microalbumin Calibrator Series | 6 x 2 ml | MA1567 | 76 |


Liquid ready-to-use


Liquid frozen


Lyophilised for enhanced stability


Assayed target values provided


100% human matrix

# URINE

## Assayed Urine Control

| Analytes | | | |
|---|---|---|---|
| 5-HIAA* | Creatinine | Microalbumin | Potassium |
| Amylase | Dopamine* | Norepinephrine* | Protein (Total) |
| Calcium | Epinephrine* | Normetanephrine | Sodium |
| Chloride | Glucose | Osmolality | Urea |
| Copper* | Magnesium | Oxalate* | Uric Acid (Urate) |
| Cortisol | Metanephrine | Phosphate (Inorganic) | Vanillylmandelic Acid (VMA)* |

Comprising 24 urine chemistry analytes in a single multi-analyte control, the Acusera Assayed Urine Control is designed to cover your complete test menu, reducing costs and preparation time. Our unique 100% human urine matrix will mirror the performance of patient samples and ensure target values don't shift after changing reagent batch. Assayed target values and ranges are provided for this true third party control.

- **Lyophilised for enhanced stability**
- **100% human urine**
- **Stable to expiry date at 2°C to 8°C**
- **Reconstituted stability of 5 days at 2°C to 8°C or 14 days at -20°C**

| Description | Size | Cat. No. |
|---|---|---|
| Assayed Urine Control Level 2 | 12 x 10 ml | AU2352 |
| Assayed Urine Control Level 3 | 12 x 10 ml | AU2353 |

***No claims are made regarding stability.**

## Liquid Urine Control

| Analytes | | | |
|---|---|---|---|
| Amylase | Glucose | pH | Specific Gravity |
| Calcium | hCG | Phosphate (Inorganic) | Urea |
| Chloride | Magnesium | Potassium | Uric Acid (Urate) |
| Cortisol | Microalbumin | Protein (Total) | |
| Creatinine | Osmolality | Sodium | |

Our Acusera Liquid Urine Control has been designed to consolidate up to 18 commonly used urine chemistry analytes in a single vial, reducing the number of controls required to cover your complete test menu. Supplied in a user-friendly liquid ready-to-use format with an open vial stability of 30 days, waste and time is kept to a minimum. Assayed target values and ranges are provided for this true third party control.

- **Liquid ready-to-use**
- **100% human urine**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability 30 days at 2°C to 8°C**
- **Multi-point calibrator**

| Description | Size | Cat. No. |
|---|---|---|
| Liquid Urine Control Level 2 | 10 x 10 ml | UC5074 |
| Liquid Urine Control Level 3 | 10 x 10 ml | UC5075 |

## Urinalysis Control

| Analytes | | | |
|---|---|---|---|
| Albumin | Glucose | Nitrite | Urobilinogen |
| Bilirubin | hCG | pH | |
| Blood | Ketones | Protein (Total) | |
| Creatinine | Leukocytes | Specific Gravity | |

The Acusera Urinalysis Control has been specifically designed for use in the quality control of urine test strips. Our user-friendly liquid ready-to-use format will dramatically reduce preparation time while a stability of 30 days will keep waste to a minimum. Assayed values are provided for 13 analytes covering a range of test strip manufacturers.

- **Liquid ready-to-use**
- **100% human urine**
- **Suitable for use in POCT**
- **Stable to expiry date at 2°C to 8°C**
- **Open vial stability of 30 days or 20 immersions at 2°C to 25°C**

| Description | Size | Cat. No. |
|---|---|---|
| Urinalysis Control Level 1 | 12 x 12 ml | UC5033 |
| Urinalysis Control Level 2 | 12 x 12 ml | UC5034 |

## Microalbumin Calibrator

Our Acusera Microalbumin Calibrator have been developed for use in the calibration and monitoring of microalbumin immunoturbidimetric assays. Our unique 100% human urine matrix ensures it behaves like a patient sample and reduces costly shifts when reagent batch is changed. As a true third party calibrator, it is compatible for use on a wide range of clinical analysers.

- **Liquid ready-to-use**
- **100% human urine**
- **Stable to expiry date at 2°C to 8°C**
- **Once opened stable to expiry date at 2°C to 8°C**

| Description | Size | Cat. No. |
|---|---|---|
| Microalbumin Calibrator Series | 6 x 2 ml | MA1567 |

# CUSTOMISED QUALITY CONTROL SERA

Don’t see what you are looking for? No problem! Randox Quality Control can work with you to develop a customised quality control for your laboratory. With our custom sera, you can select the analytes, levels, format and vial size required by your laboratory, ensuring the final product meets all your needs and guarantees you can continue to produce accurate and reliable patient results.

# CUSTOMISED QUALITY CONTROL SERA

For over 40 years, laboratories, EQA scheme organisers and other diagnostic companies have looked to Randox to provide their QC needs. Randox Laboratories manufactures a full portfolio of quality controls, calibrators and standards for over 400 analytes. In addition to 'off the shelf' quality control products, Randox is the world's leading provider of customised control materials. Customising control materials can involve adding/removing analytes, specifying concentrations or choosing alternative vial sizes.

## Our principal control products are:

- **Antioxidants**
- **Cardiac Markers**
- **Clinical Chemistry**
- **Coagulation and Haematology**
- **Diabetes and Whole Blood**
- **Immunoassay**
- **Immunology/Proteins**
- **Infectious Disease (Serology)**
- **Lipids**
- **Tumour Markers**
- **Therapeutic Drugs and Toxicology**
- **Urine Chemistry**
- **Specialist and Research controls such as Cytokines, Growth Promoters, Antimicrobials, Cerebral Markers and a variety of single-analyte control products**

Randox also produces custom sera for EQA schemes and specialised controls for research projects.

Quality is our focus during the manufacturing process, as all control products are produced to the same high specifications using procedures complying with ISO 13485 for medical devices. State of the art clinical chemistry and immunoassay analysers are used during the manufacturing and quality control processes.

To enable us to identify and fulfil your needs, please discuss your requirements with your Randox representative. We are happy to consider any requirements you may have.

### Consolidation

Randox will **significantly consolidate your existing controls**. An average laboratory may rationalise from 7 individual controls to a single control product

### Tailor Made

**Specify the analytes and levels** you require. We can provide the levels tailored to your cut off values

### Stability

Randox lyophilised controls are **stable for up to 4 years, reducing costly lot changes** and enabling use of the same lot over an extended period

### Options

**Customised controls are available in different matrices** e.g. serum, urine, aqueous

### Flexibility

Batch sizes manufactured between **50 – 250,000 vials**. Randox can provide a wide range of **vial sizes from 1 ml to 10 ml**

### Quality

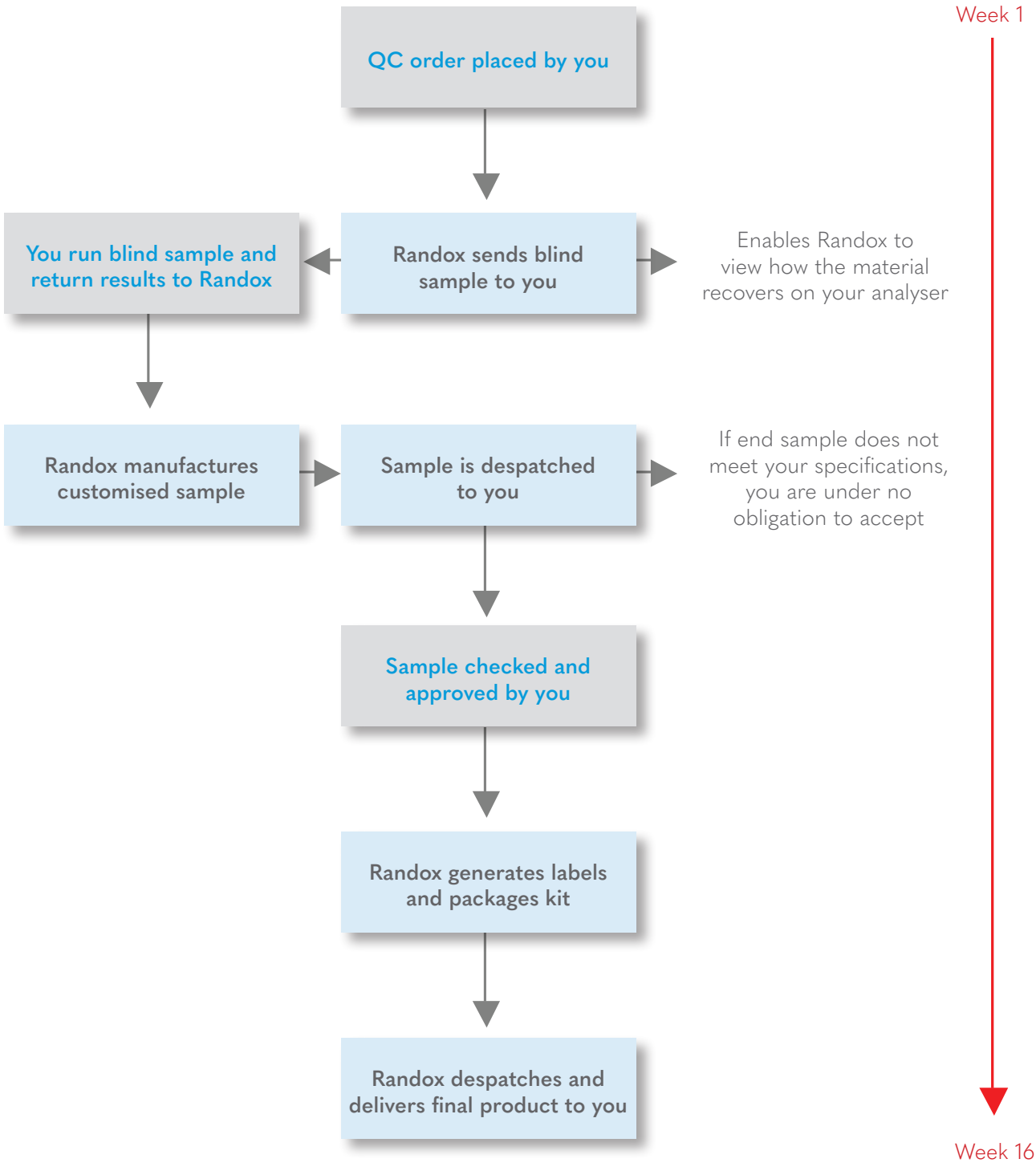
All controls are **produced to high quality specification**, fully compliant with ISO 13485

### Choice

**3 different formats** – lyophilised/liquid/liquid frozen

# CUSTOMISED QUALITY CONTROL SERA

## Custom Control Timeline



# INTER-LABORATORY DATA MANAGEMENT

Compatible for use with the Acusera range of third party controls, the Acusera 24•7 software is designed to help laboratories monitor and interpret their QC data. Access to an impressive range of features including interactive charts and real-time peer group data generated from our extensive database of laboratory participants, ensures Acusera 24•7 is the most comprehensive package available.

# WHAT IS ACUSERA 24•7?

## ACUSERA 24•7

**Acusera 24•7** is an interlaboratory data management and peer group reporting package designed to complement the **Acusera** range of third party controls. Using **Acusera 24•7** will help you to improve error detection, reduce false rejections and ensure accurate patient test results.

### Why run a peer group reporting program?

- Quickly identify trends, system errors and reagent issues, minimising expensive repeat tests
- Bridge the gap between daily quality control and external quality assessment
- Improve EQA performance by eliminating any undetected bias
- Facilitate regulatory compliance
- Reduce false rejections through the use of QC multi-rules
- Increase confidence in assigned QC target values
- Carry out rapid and effective troubleshooting leading to shorter delays in reporting

With Acusera 24•7, peer group data is uniquely updated live, in real-time, giving you access to the most up-to-date information available. Access to relevant peer group data enables rapid and effective troubleshooting, it may even help to identify errors earlier.

# FEATURES

### Dashboard

The unique Dashboard interface displays any alerted or rejected QC results that have fallen outside user-defined performance limits and multi-rules in the last seven days.

### Acusera Advisor

Acusera Advisor is an optional tool designed to help you select an optimum QC strategy for each individual test in use. Not only will the advisor tool recommend a set of QC multi-rules, it will also suggest a minimum QC frequency based on the performance of the method in question.

### Interactive Charts

Levey-Jennings, Histogram and Performance Summary Charts are automatically generated by the software. The ability to combine multiple data sets enables you to identify and assess trends in QC data or a bias between instruments. It is also possible to record events such as instrument service/maintenance on Levey-Jennings Charts for faster troubleshooting.

### Peer Group Statistics

Peer groups can be customised depending on your instrument, method or reagent supplier. Peer group reporting allows you to compare the performance of your own instrument and/or assay method against other laboratories using the same lot of control. Statistics are uniquely updated live, in real-time, and are generated from our extensive database of laboratory participants.

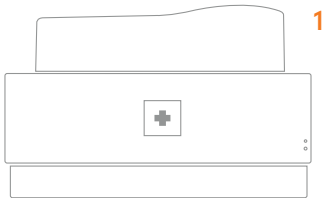
### Advanced Statistical Analysis

The Statistical Metrics Report incorporates %Bias, Total Error and a Sigma score for optimum QC strategy design while the Uncertainty of Measurement Report helps to meet ISO15189:2012 requirements.

## There are three options for QC data entry with Acusera 24•7

### Manual result entry

Easily create custom panels for faster result entry of multiple tests at once, with the option to enter single or summarised data for each test or panel.

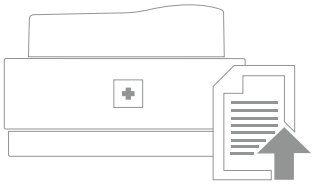


1. Analyser generates QC result.

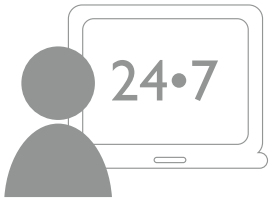
2. QC result is manually entered by the user into the Acusera 24•7 software.

### Semi-automated result entry via EDI

EDI is the ideal solution for laboratories that don't want the hassle of manual data input but still want to benefit from a reduction in time and elimination of transcription errors.



1. An export file containing the QC result and associated information is generated by the analyser, LIMS or Middleware.




2. The user imports the EDI file into the Acusera 24•7 software at their desired frequency.

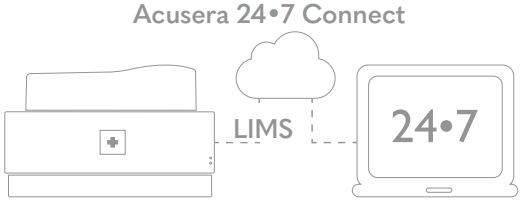
**Note:** First time users must create a new configuration for the EDI file and carry out EDI mapping.

### Fully automated import of QC data direct from your LIMS/Middleware

Automatically capture data directly from your LIMS/Middleware with Acusera 24•7 Connect and import into Acusera 24•7 without the need to import files or manually input data.

- Reduce workload by eliminating manual data entry or file import
- Eliminate transcription errors
- Secure real-time connection without disruption to the laboratory workflow

Several options are available for automated data entry, our Acusera 24•7 Connect team will work directly with you and your IT team to implement the best solution for your lab's requirements.




1. An export file containing the QC result and associated information is generated by the LIMS/Middleware. The Acusera 24•7 Connect software will then securely collect and process QC data directly from the LIMS/Middleware and import to Acusera 24•7.

**Note:** First time users must create a new configuration for the EDI file and carry out EDI mapping.

# OPTIONS FOR PARTICIPATION

**Randox offers several options for participation in the Acusera 24•7 program ranging from basic to advanced user options. The table below is designed to help determine the best solution for your laboratory.**

| FEATURES | PLATINUM | GOLD | SILVER |
|---|---|---|---|
| **Global Peer Data** | | | |
| Access to real-time peer group data | ✓ | ✓ | ✓ |
| **Users** | | | |
| Multiple levels of user access | ✓ | ✓ | × |
| Unlimited number of registered users | ✓ | × | × |
| **Configuration** | | | |
| Custom Multi-Rules | ✓ | × | × |
| Ability to use other manufacturer controls or custom controls | ✓ | × | × |
| **Data Entry** | | | |
| Data import via Acusera 24•7 Connect * | ✓ | ✓ | ✓ |
| Manual data entry by panel | ✓ | ✓ | × |
| Semi automated data entry via EDI | ✓ | ✓ | ✓ |
| Recording of instrument events | ✓ | × | × |
| **Result History** | | | |
| Automatic calculation of Mean, SD and %CV | ✓ | ✓ | ✓ |
| Result History | ✓ | ✓ | ✓ |
| Automatic calculation of %Bias and Total Error | ✓ | ✓ | × |
| Automatic calculation of Inter-Precision, Sigma Scores, Uncertainty of Measurement and Expanded Uncertainty | ✓ | × | × |
| **Reports** | | | |
| Statistical Analysis Report | ✓ | ✓ | ✓ |
| Peer Group Statistics Report | ✓ | ✓ | ✓ |
| Exception Report | ✓ | ✓ | × |
| Statistical Metrics Report | ✓ | × | × |
| Uncertainty of Measurement Report | ✓ | × | × |
| **Charts** | | | |
| Levey-Jennings Chart | ✓ | ✓ | ✓ |
| Histogram Chart | ✓ | ✓ | ✓ |
| Performance Summary Chart | ✓ | ✓ | ✓ |
| Multi-Levey Jennings/Histogram Charts | ✓ | ✓ | × |
| **Utilities** | | | |
| Dashboard | ✓ | ✓ | × |
| Audit Trail | ✓ | × | × |
| Advisor Tool | ✓ | × | × |
| Data Review | ✓ | ✓ | ✓ |

| ORDERING DETAILS | | | |
|---|---|---|---|
| **Description** | **Cat. No.** | **Description** | **Cat. No.** |
| Acusera 24•7 Platinum (1 - year licence) | QC4218 | Acusera 24•7 Connect Box | QC4227 |
| Acusera 24•7 Gold (1 - year licence) | QC10232 | Acusera 24•7 Cloud Connect | QC4228 |
| Acusera 24•7 Silver (1 - year licence) | QC10233 | Installation of Randox Connect Box (Onsite) | QC4229 |
| Acusera 24•7 Configuration/Mapping | QC4224 | Installation of Customer Connect Box (Onsite) | QC4230 |
| Acusera 24•7 Training (on-site) | QC4225 | Installation of Customer Connect Box (Remote) | QC4231 |
| Acusera 24•7 Training (remote) | QC4226 | Acusera 24•7 End User Cloud Connect* | QC4232 |

** 1 connection*

Bias%

### Bias%

In Acusera 24•7, Bias is the difference between the Peer Group Mean and the observed value.

$$\text{Bias\%} = \frac{\text{Laboratory Mean - Peer Group Mean}}{\text{Peer Group Mean}} \times 100$$

CVI

### Coefficient of Variation Index (CVI)

The CVI compares the precision from your laboratory to the precision of other laboratories in your chosen peer group.

$$\text{CVI} = \frac{\text{Laboratory CV}}{\text{Peer Group CV}}$$

SDI

### Standard Deviation Index (SDI)

SDI provides an indication of how well your Mean compares to the Peer Group Mean for a given assay and control lot.

$$\text{SDI} = \frac{\text{Laboratory Mean - Peer Group Mean}}{\text{Peer Group Standard Deviation}}$$

TE

### Total Error (TE)

Total Error represents the overall error in a test result that is attributed to imprecision (%CV) and inaccuracy (Bias%).

$$\text{TE} = \text{Bias\%} + (1.96 \times \text{\%CV})$$

σ

### Sigma

Sigma looks at the number of standard deviations (SD) or 'sigmas' that fit within the quality specifications of the process. In the laboratory, the quality specifications relate to the Total Allowable Error (TEa). The higher the number of standard deviations that fit between these limits, the higher the sigma score and the more robust the process or method is.

$$\text{Sigma} = \frac{\text{TEa\% - Bias\%}}{\text{\%CV}}$$

UM

### Uncertainty of Measurement (UM)

With every result generated in the laboratory, there will always be a degree of error. Uncertainty of Measurement (UM) looks at the doubt that exists for the result of any measurement.

$$u = \sqrt{A^2 + B^2}$$

$$U = 2 \times u$$

Where:

A = SD or SEM of the Intra-assay precision
B = SD of the Inter-assay precision
u = Standard Uncertainty
U = Expanded Uncertainty

# EXTERNAL QUALITY ASSESSMENT

EQA is an effective partner to your IQC plans. An EQA scheme, such as RIQAS, utilises ‘blind’ samples to measure a laboratory’s accuracy. These ‘blind’ samples are analysed by the laboratory as though they are patient samples and the results returned to the scheme organiser for statistical analysis. When the analysis is complete, each participant receives a report enabling them to compare the performance of their laboratory to other participants within their method and instrument groups.

# Randox International Quality Assessment Scheme RIQAS

**RIQAS** is the largest international EQA scheme, used by more than 55,000 laboratory participants in over 134 countries worldwide. This large number of participants ensures an extensive database of results for many analytical methods, directly increasing statistical validity as a result.

## Benefits

### Large Database of Users

- A high level of participation means peer group numbers are maximised whilst ensuring availability of data for a wide range of instruments and methods.

### User-friendly Reports

- Simple one page per parameter format enables at-a-glance performance assessment, saving valuable laboratory time.
- Complimentary multi-instrument and interlaboratory reports allow comparative performance assessment of all laboratory systems and multiple connected laboratories.
- End-of-Cycle reports summarising performance compared to the previous cycle allow you to identify improvements in quality over time.

### Cost Effective

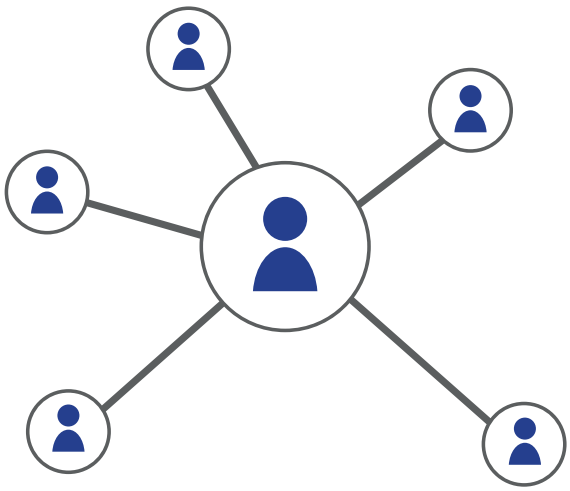
- Our extensive range of multi-analyte programmes will reduce the number of individual programmes required to cover your test menu, saving both time and money.
- Reduced parameter options for selected programmes offer greater flexibility, ensuring suitability for laboratories of all sizes and budgets.
- Register up to five instruments per programme at no extra cost for comparative performance assessment.

### Frequency

- Frequent reporting allows early identification of system errors and implementation of any necessary corrective actions with minimum disruption to the lab.
- With a turnaround of less than 72 hours for most reports, corrective action can be taken immediately reducing the time spent performing expensive re-tests.

### High Quality Samples

- Samples spanning clinically relevant levels, allows identification of concentration related biases and ensures accurate instrument performance.
- Human samples free from interfering preservatives increase confidence that EQA performance mirrors the performance of patient samples.
- Reference method values are provided in the Clinical Chemistry and Immunosuppressant programmes for selected parameters and lots.

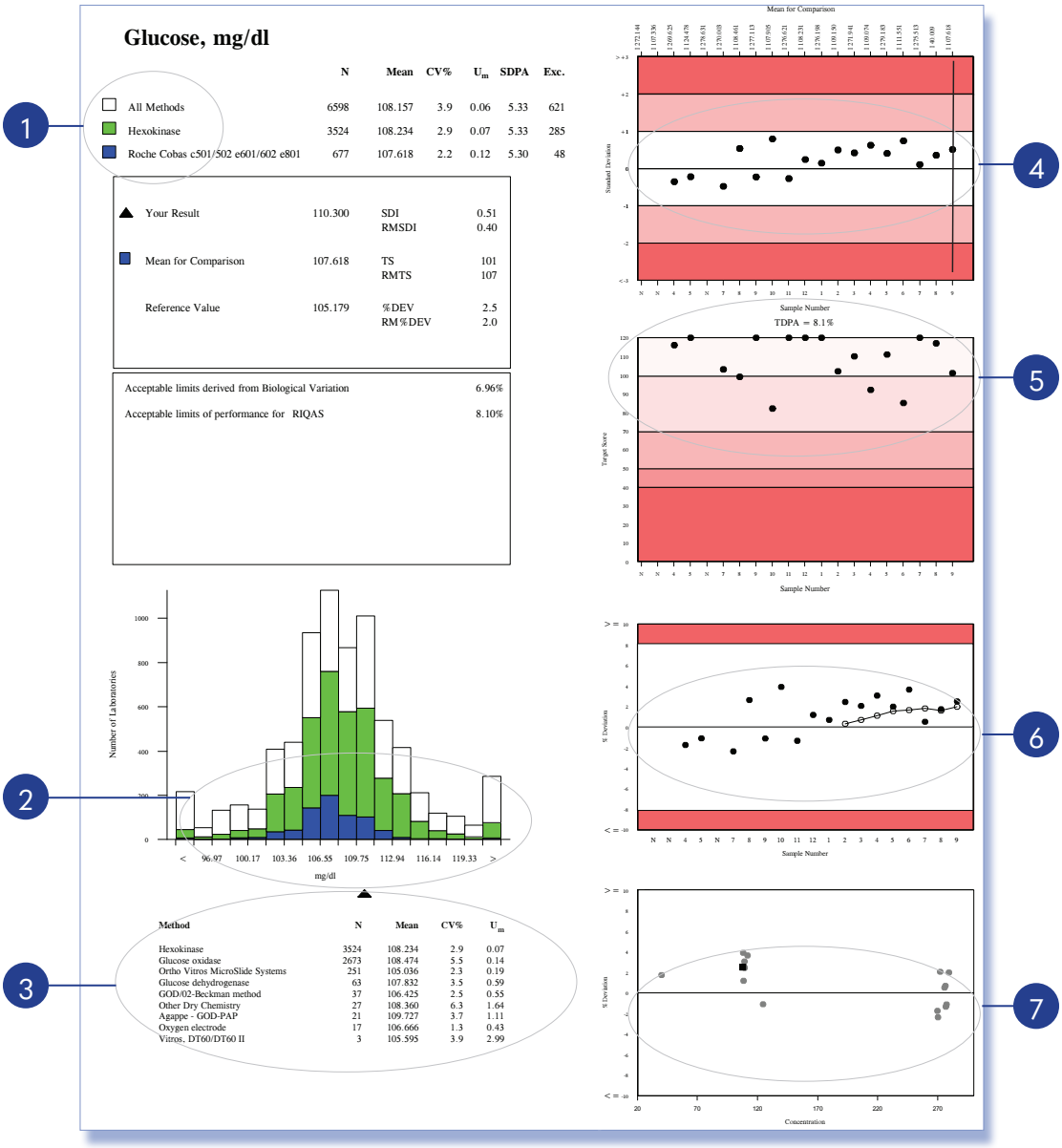


### Highly Accredited

- Programmes accepted by National and International accreditation bodies worldwide.
- Participant certificates provide evidence of participation in a reputable EQA scheme.

# STANDARD REPORT

Performance data is presented in a one page per parameter format, with up to seven sub-reports.




| | | |
|---|---|---|
| 1 | **Text Section:** | Statistics for all methods, your method and instrument group (programme specific). |
| 2 | **Histogram:** | Method and instrument comparison. |
| 3 | **Multi-Method Stat Section:** | Enables assessment of the performance of each method. |
| 4 | **Levey-Jennings Chart:** | Details features of your laboratory's performance. |
| 5 | **Target Score:** | This unique chart provides a numerical index of performance, allowing at-a-glance assessment. |
| 6 | **%Deviation by Sample:** | Helps to identify trends and shifts in performance. |
| 7 | **%Deviation by Concentration:** | Rapid assessment of concentration related biases. |

**Note:** *This example is for quantitative programmes. Other types of report are also available.*

# RIQAS PROGRAMMES

## Ammonia/Ethanol Programme *With target scoring*

**RQ9164 (2 ml)**
**2 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

Ammonia
Ethanol

## Anti-TSH Receptor Programme+ *With target scoring*

**RQ9174 (1 ml)**
**1 Parameter**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

Anti-TSH Receptor (TRAb)

## Blood Gas Programme *With target scoring*

**RQ9134 (1.8 ml)**
**First registered instrument**
**11 Parameters**

**RQ9134/A (1.8 ml)**
**Subsequent instruments**
**11 Parameters**

**Samples every month, 1 x 12 month cycle, 12 month subscription**

Bicarbonate
Ca++
Cl-
$CO_2$(Total)
Glucose
Lactate
K+
Na+
$pCO_2$
pH
$pO_2$

## BNP Programme+ *With target scoring*

**RQ9165 (1 ml)**
**1 Parameter**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

BNP

## Cardiac Programme *With target scoring*

**RQ9127/a (1 ml)**
**2 Parameters only (choose from 7)**

**RQ9127/b (1 ml)**
**Full 7 Parameters**

**RQ9186 (1 ml)**
**Full 7 Parameters**

**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription**
**Samples every month, 1 x 12 monthly cycle, 12 month subscription**

CK, Total
CK-MB (Activity)
CK-MB (Mass)
Homocysteine
Myoglobin
Troponin I
Troponin T

## Cardiac Plus Programme *With target scoring*

**RQ9190 (3 ml)**
**11 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

CK, Total
CK-MB Activity
CK-MB Mass
D-dimer
Digoxin
Homocysteine
hsCRP
Myoglobin
NT proBNP
Troponin I
Troponin T

## Cerebrospinal Fluid Programme+ *With target scoring*

**RQ9168 (3 ml)**
**7 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

Albumin
Chloride
Glucose
IgG
Lactate
Protein (Total)
Sodium

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

# RIQAS PROGRAMMES

## Coagulation Programme *With target scoring*

**RQ9135/a (1 ml)**
**5 Selected parameters only + 1 pilot**
**(aPTT, PT, TT, Fibrinogen, Antithrombin III)**

**RQ9135/b (1 ml)**
**Full 16 Parameters + 1 pilot**

**Samples every month, 1 x 12 month cycle, 12 month subscription**

aPTT
PT (including INR)
TT
Fibrinogen
Antithrombin III
D-dimer*
Factor II
Factor V
Factor VII
Factor VIII
Factor IX
Factor X
Factor XI
Factor XII
Plasminogen
Protein C
Protein S

## CO-Oximetry Programme+

**RQ9177 (1.2 ml)**
**First registered instrument**
**7 Parameters**

**RQ9177/A (1.2 ml)**
**Subsequent instruments**
**7 Parameters**

**Samples every month, 1 x 12 month cycle, 12 month subscription**

Carboxyhaemoglobin (COHb / HbCO)
Deoxyhaemoglobin (HHb)
Methaemoglobin (MetHb)
Oxygen Content (O2CT)
Oxygen Saturation (sO2 / Vol O2)
Oxyhaemoglobin (O2Hb / HbO2)
Total Haemoglobin (tHb)

## CYFRA 21-1 Programme+

**RQ9175 (1 ml)**
**1 Parameter**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

CYFRA 21-1 (Cytokeratin 19)

## Cytokines Programme+

**RQ9195 (1 ml)**
**1 Parameter + 11 pilots**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

Epidermal Growth Factor (EGF)*
Interleukin – 1 alpha (IL-1α)*
Interleukin – 1 beta (IL-1β)*
Interleukin – 2 (IL-2)*
Interleukin – 4 (IL-4)*
Interleukin – 6 (IL-6)
Interleukin – 8 (IL-8)*
Interleukin – 10 (IL-10)*
Interferon gamma (INF-Y)*
Monocyte Chemoattractant Protein -1 (MCP-1)*
Tumour Necrosis Factor alpha (TNF-α)*
Vascular Endothelial Growth Factor (VEGF)*

## ESR Programme+

**RQ9163 (4.5 ml)**
**1 Parameter**
**2 samples per quarterly distribution, 1 x 12 month cycle, 12 month subcription**

ESR (Erythrocyte Sedimentation Rate)

## General Clinical Chemistry Programme *With target scoring*

**RQ9112/a (5 ml)**
**10 Parameters + 4 pilots**

**RQ9112/b (5 ml)**
**17 Parameters + 4 pilots**

**RQ9112/c (5 ml)**
**Full 52 Parameters + 4 pilots**

**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription, reference method values**

**RQ9128 (5ml)**
**Full 52 Parameters + 4 pilots**

**Samples every month, 1 x 12 monthly cycle, 12 month subscription**

ACE (Angiotensin Converting Enzyme)
Acid Phosphatase (Prostatic)
Acid Phosphatase (Total)
Albumin
Alkaline Phosphatase
ALT (ALAT)
Amylase (Pancreatic)
Amylase (Total)
AST (ASAT)
Bicarbonate
Bile Acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Calcium, Adjusted*
Calcium (Ionised)
Chloride
Cholesterol
Cholinesterase
CK, Total (CPK)
Copper
Creatinine
D-3-Hydroxybutyrate
eGFR (estimated glomerular filtration rate)*
Fructosamine
γGT
GLDH
Glucose
HBDH
HDL-Cholesterol
Iron
Lactate
LD (LDH)
LDL-Cholesterol*
Lipase
Lithium
Magnesium
NEFA
Non-HDL Cholesterol*
Osmolality
Phosphate (Inorganic)
Potassium
Protein (Total)
PSA
Sodium
TIBC
$T_3$ (Free)
$T_3$ (Total)
$T_4$ (Free)
$T_4$ (Total)
Triglycerides
TSH
UIBC
Urea
Uric Acid
Zinc

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

## Glycated Haemoglobin Programme (HbA1c) *With target scoring*

**RQ9129 (0.5ml)**
**2 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

HbA1c
Total Haemoglobin

## Haematology Programme *With target scoring*

**RQ9118 (2 ml)**
**11 Parameters**
**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription**

Haematocrit (HCT)
Haemoglobin (Hb)
Mean Cell Haemoglobin (MCH)
Mean Cell Haemoglobin Concentration (MCHC)
Mean Cell Volume (MCV)
Mean Platelet Volume (MPV)
Platelets (PLT)
Plateletcrit (PCT)
Red Blood Cell Count (RBC)
Red Cell Distribution Width (RDW)
Total White Blood Cell Count (WBC)

**RQ9140 (2ml)**
**11 Parameters**
**Samples every month, 1 x 12 monthly cycle, 12 month subscription**

## Human Urine Programme *With target scoring*

**RQ9115 (10 ml)**
**25 Parameters**
**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription**

ACR
Albumin/Microalbumin
Amylase
Calcium
Chloride
Copper
Cortisol
Creatinine
Dopamine
Epinephrine
Glucose
Metanephrine
Norepinephrine
Normetanephrine
Magnesium
Osmolality
Oxalate
Phosphate (Inorganic)
Potassium
Protein (Total)
Sodium
Urea
Uric Acid
VMA
5-HIAA

**RQ9185 (10ml)**
**25 Parameters**
**Samples every month, 1 x 12 monthly cycle, 12 month subscription**

## Immunoassay Programme *With target scoring*

**RQ9125/a (5 ml)**
**4 Parameters only + 2 pilots**

**RQ9125/b (5 ml)**
**13 Parameters only + 2 pilots**

**RQ9125/c (5 ml)**
**Full 49 Parameters + 2 pilots**

**Samples every two weeks, 2 x 6 monthly cycles, 12 month subscription (RQ9125/a, RQ9125/b, RQ9125/c)**

**RQ9130 (5 ml)**
**Full 49 Parameters + 2 pilots**
**Samples every month, 1 x 12 month cycle, 12 month subscription RQ9130)**

ACTH
AFP
Aldosterone
Amikacin
Androstenedione
β-2-Microglobulin
CA125
CA15-3
CA19-9
Carbamazepine
CEA
Cortisol
C-Peptide
DHEA-Sulphate
DHEA Unconjugated
Digoxin
Ferritin
Folate
FSH
Gentamicin
GH
hCG
IgE
Insulin
LH
Oestradiol
17-OH-Progesterone
Paracetamol
Phenobarbital
Phenytoin
Progesterone
Prolactin
PSA (Free)
PSA (Total)
PTH
Salicylate
SHBG
$T_3$ (Free)
$T_3$ (Total)
$T_4$ (Free)
$T_4$ (Total)
Testosterone (Free)*
Testosterone (Total)
Theophylline
Thyroglobulin
TSH
Valproic Acid
Vancomycin
Vitamin B12
1-25-$(OH)_2$-Vitamin D*
25-OH-Vitamin D

## Immunoassay Speciality 1 Programme *With target scoring*

**RQ9141 (2 ml)**
**9 Parameters + 1 pilot**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

1-25-$(OH)_2$-Vitamin D*
25-OH-Vitamin D
C-Peptide
Anti-TG
Anti-TPO
IGF-1
Osteocalcin
Procalcitonin
PTH
Insulin

## Immunoassay Speciality 2 Programme *With target scoring*

**RQ9142 (1 ml)**
**5 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

Calcitonin
Gastrin
Procalcitonin
Plasma Renin Activity
Renin (Direct Concentration)

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

# RIQAS PROGRAMMES

## Immunosuppressant Programme+

**RQ9159 (2 ml)**
**4 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription, reference method values**

| | | | |
|---|---|---|---|
| Ciclosporin | Everolimus | Sirolimus | Tacrolimus |

## Lipid Programme *With target scoring*

**RQ9126/a (3 ml)**
**3 Parameters only (choose from 7)**

**RQ9126/b (3 ml)**
**Full 7 Parameters**

**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription**

| | | | |
|---|---|---|---|
| Apolipoprotein A1 | Cholesterol (Total) | LDL-Cholesterol | Triglycerides |
| Apolipoprotein B | HDL-Cholesterol | Lipoprotein (a) | |

## Maternal Screening Programme *With target scoring*

**RQ9137 (1 ml)**
**6 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| AFP | Total hCG | PAPP-A | Unconjugated Oestriol |
| free β-hCG | Inhibin A | | |

## Neonatal Bilirubin Programme+

**RQ9191 (3 ml)**
**2 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | |
|---|---|
| Direct Bilirubin | Total Bilirubin |

## Serology (Anti-SARS-CoV-2) Programme+

**RQ9193 (0.5 ml)**
**3 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | |
|---|---|---|
| IgG | IgM | Total Antibodies |

## Serology (EBV) Programme+

**RQ9153 (1 ml)**
**3 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results**

| | | |
|---|---|---|
| Anti-EBV VCA IgG | Anti-EBNA IgG | Anti-EBV VCA IgM |

## Serology (HIV-Hepatitis) Programme+

**RQ9151 (1.8 ml)**
**16 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results**

| | | | |
|---|---|---|---|
| Anti-CMV (Total) | Anti-HBc IgM* | Anti-HIV-1 | Anti-HTLV II |
| Anti-HAV IgM* | Anti-HBe (Total)* | Anti-HIV-2 | Anti-HTLV combined |
| Anti-HAV (Total)* | Anti-HBs (Total)* | Anti-HIV combined | HBsAg |
| Anti-HBc | Anti-HCV | Anti-HTLV I | P24* |

## Serology (Syphilis) Programme+

**RQ9154 (1 ml)**
**1 Parameter**
**Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results**

Syphilis (Methods available include immunoassay RPR, VDRL and TPHA)

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

## Serology (ToRCH) Programme+

**RQ9152 (1 ml)**
**15 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results**

| | | | |
|---|---|---|---|
| Anti-CMV IgG | Anti-HSV2 IgG | Anti-Measles IgG* | Anti-Toxoplasma IgG |
| Anti-CMV IgM | Anti-HSV2 IgM | Anti-Mumps IgG* | Anti-Toxoplasma IgM |
| Anti-HSV1 IgG | Anti-HSV1/2 IgG | Anti-Rubella IgG | Anti-VZV IgG* |
| Anti-HSV1 IgM | Anti-HSV1/2 IgM | Anti-Rubella IgM | |

## Serum Indices Programme+

**RQ9194 (1 ml)**
**3 Indices Assessments**
**25 Parameters**
**Samples Bi-Monthly (9 samples per distribution), 2 distributions per cycle**

**RQ9194/A (1 ml)**

### Indices Assessment (Quantitative and Semi-Quantitative)

| | | |
|---|---|---|
| Haemolysis | Icteric | Lipaemic |

### Parameter Assessment (Quantitative)

| | | | |
|---|---|---|---|
| ALP | Cholesterol | Lactate | Sodium |
| ALT | CK NAC | LDH | Triglycerides |
| AST | Creatinine | Lipase | Urea |
| Bilirubin (Direct) | GGT | Magnesium | Uric Acid |
| Bilirubin (Total) | Glucose | Phosphate | |
| Calcium | HDL | Potassium | |
| Chloride | Iron | Protein (Total) | |

## Specific Proteins Programme *With target scoring*

**RQ9114 (3 ml)**
**26 Parameters**
**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription**

**RQ9187 (1ml)**
**26 Parameters**
**Samples every month, 1 x 12 monthly cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| AFP | β-2-Microglobulin | IgA | Lambda Light Chain (Total) |
| Albumin | Ceruloplasmin | IgE | Prealbumin (Transthyretin) |
| α-1-Acid glycoprotein | Complement $C_3$ | IgG | Retinol Binding Protein |
| α-1-Antitrypsin | Complement $C_4$ | IgM | Rheumatoid Factor |
| α-2-Macroglobulin | C-Reactive Protein | Kappa Light Chain (Free) | Transferrin |
| Anti Streptolysin O | Ferritin | Kappa Light Chain (Total) | |
| Antithrombin III | Haptoglobin | Lambda Light Chain (Free) | |

## Sweat Testing Programme+

**RQ9173 (2 ml)**
**2 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | |
|---|---|
| Chloride | Conductivity |

## Therapeutic Drugs Programme *With target scoring*

**RQ9111 (5 ml)**
**18 Parameters**
**Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription, Weighed-in values**

| | | | |
|---|---|---|---|
| Amikacin | Ethosuximide | Phenobarbital | Tobramycin |
| Caffeine | Gentamicin | Phenytoin | Valproic Acid |
| Carbamazepine | Lithium | Primidone | Vancomycin |
| Ciclosporin | Methotrexate | Salicylic Acid | |
| Digoxin | Paracetamol (Acetaminophen) | Theophylline | |

## Trace Elements In Blood Programme+

**RQ9172 (3 ml)**
**7 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| Copper | Lead | Manganese | Zinc |
| Iodine | Magnesium | Selenium | |

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

# RIQAS PROGRAMMES

## Trace Elements In Serum Programme+

**RQ9170 (3 ml)**
**10 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| Aluminium | Copper | Manganese | Zinc |
| Chromium | Iodine | Nickel | |
| Cobalt | Lead | Selenium | |

## Trace Elements In Urine Programme+

**RQ9171 (3 ml)**
**11 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| Cadmium | Copper | Magnesium | Nickel |
| Chromium | Iodine | Manganese | Thallium |
| Cobalt | Lead | Molybdenum | |

## Urinalysis Programme *With scoring*

**RQ9138 (12 ml)**
**14 Parameters**
**Samples every 2 months, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| Albumin | Galactose | Leucocytes | Specific Gravity |
| Bilirubin | Glucose | Nitrite | Urobilinogen |
| Blood | hCG | pH | |
| Creatinine | Ketones | Protein | |

## Urine Toxicology Programme+

**RQ9139 (5 ml)**
**20 Parameters**
**Samples every month, 1 x 12 month cycle, 12 month subscription**

| | | | |
|---|---|---|---|
| Benzoylecgonine | d-Methamphetamine | MDMA | Phenobarbital |
| Buprenorphine | EDDP | Methadone | Secobarbital |
| Cannabinoids (THC) | Ethanol | Nortriptyline | |
| Cotinine | Free Morphine | Norpropoxyphene | |
| Creatinine | Lorazepam | Oxazepam | |
| d-Amphetamine | LSD | Phencyclidine | |

= Liquid ready-to-use samples = Lyophilised samples PURPLE = The only parameters available on RQ9135/a + = Not accredited * = Pilot study ongoing

*Whilst every attempt is made to ensure that information is accurate and up-to-date, some information is subject to change, please contact RIQAS for current details.*

# CALIBRATION VERIFICATION SETS

Specifically designed with convenience in mind, the Acusera Verify range of linearity sets will help you to easily meet CLIA requirements for calibration verification and assessment of linearity.

# WHAT IS ACUSERA VERIFY?

ACUSERA VERIFY

Our linearity verifiers are supplied in varying levels and are available in multiple configurations to meet the specific requirements of Roche Cobas and Beckman analysers while challenging the complete reportable range. All linearity sets are supplied with complimentary data reduction software, providing instant access to reports and real-time peer group data.

## Benefits

**Consolidation**
- Reduce costs, storage space and the number of individual products required to cover your test menu with our comprehensive, multi-analyte Calibration Verifiers.

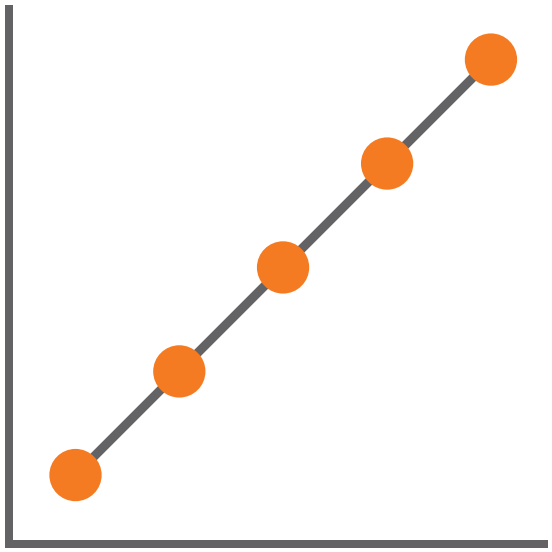
**Format**
- Many of our samples are provided in a user-friendly, liquid format significantly reducing preparation time and the risk of pipetting errors.

**Clinically Relevant Levels**
- Specifically designed to challenge the complete Analytical Measuring Range (AMR), helping to ensure accurate and reliable instrument performance. A minimum of 5 levels eliminates the need for manual dilution and allows for more comprehensive assessment than the minimum requirement of 3 levels set by CLIA.

**Instrument Dedicated**
- Help to ensure specific instrument requirements are met with the availability of dedicated solutions for Roche Cobas and Beckman systems.

**Stability**
- An extended open vial stability keeps waste to a minimum and ensures availability of product for troubleshooting.

**Data Reduction Software**
- Complimentary data reduction software is provided delivering an immediate indication of performance.



**In order to ensure the highest possible standards in laboratory testing, CLIA has recommended that laboratories perform and document calibration verification procedures at least twice per year and/or in the event of the following;**

- Change of reagents
- Instrument maintenance
- Poor QC results
- New instrument

## Apolipoprotein A-1 (Apo A-1) & Apolipoprotein B (Apo B) Linearity Verifier (Roche Cobas)

| Analytes | |
|---|---|
| Apolipoprotein A-1 (Apo A-1) | Apolipoprotein B (Apo B) |

Dedicated Linearity Verifier for measuring Apo A-1 and Apo B on Roche Cobas analysers. Supplied in a liquid frozen format this linearity verifier will objectively verify calibration of the instrument whilst remaining convenient and easy to use. Five levels are provided spanning the instrument's reportable range.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 14 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Apolipoproteins Linearity Verifier | 5 x 3 ml | LV10357 |

## Bilirubin Linearity Verifier (Roche Cobas)

| Analytes | |
|---|---|
| Direct Bilirubin | Total Bilirubin |

Our Bilirubin verifier contains both Direct Bilirubin and Total Bilirubin so testing is fully covered. Dedicated for use on Roche Cobas systems, this verifier spans five levels ensuring the instruments entire reportable range is measured.

- **Lyophilised for enhanced stability**
- **5 levels provided**
- **Open vial stability of 10 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Bilirubin Linearity Verifier | 5 x 3 ml | LV10356 |

## C-Reactive Protein (CRP) Linearity Verifiers (Roche Cobas)

This dedicated CRP Linearity Verifier is supplied in a liquid ready-to-use format, specifically for use on Roche Cobas analysers. This verifier is designed to objectively verify calibration whilst remaining convenient and easy to use. There are five distinct levels provided that span the instrument's complete reportable range.

- **Convenient, liquid ready-to-use format**
- **5 levels provided**
- **14 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| CRP Linearity Verifier | 5 x 1 ml | LV10334 |

# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## Clinical Chemistry Linearity Verifier (Roche Cobas)

| Analytes | | | |
|---|---|---|---|
| Albumin | Creatinine | Magnesium | Triglycerides |
| BUN | Glucose | Phosphate | Uric Acid |
| Calcium | Iron | Potassium | |
| Chloride | Lactate | Protein (Total) | |
| Cholesterol (Total) | Lithium | Sodium | |

This Chemistry verifier for use on Roche Cobas analysers, comes in a liquid frozen format. Designed to objectively verify calibration of the instrument, the five levels available span the complete measuring range.

- **Convenient, liquid for ease of use format**
- **5 levels provided**
- **7 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Clinical Chemistry Linearity Verifier | 5 x 5 ml | LV10390 |

## $CO_2$ and Electrolytes Linearity Verifier (Roche Cobas)

| Analytes | | | |
|---|---|---|---|
| $CO_2$ | Sodium | Potassium | Chloride |

Dedicated Linearity Verifier for the measurment of $CO_2$ and electrolytes on Roche Cobas analysers. This verifier is supplied in a liquid ready-to-use format and can be used to objectively verify calibration of the instrument. Five levels are available spanning the instrument's complete reportable range.

- **Convenient, liquid ready-to-use format**
- **5 levels provided**
- **7 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| $CO_2$ and Electrolytes Linearity Verifier | 5 x 5 ml | LV10362 |

## Enzyme Linearity Verifier (Roche Cobas)

| Analytes | | | |
|---|---|---|---|
| ALT | Amylase (Pancreatic) | CKMB | Lipase |
| ALP | AST | γGT | |
| α-Amylase | CK | LDH | |

Our Enzyme Linearity Verifier contains 10 commonly tested enzymes in one unique multi-marker verifier allowing you to consolidate testing. Spanning 5 clinical levels, this verifier ensures the systems entire reportable range is measured. Designed specifically for use with Roche Cobas systems, our Verifier is available in a convenient liquid frozen format.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 10 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Enzyme Linearity Verifier | 5 x 3 ml | LV10366 |

## Esoterics Linearity Verifier (Roche Cobas)

| Analytes | | |
|---|---|---|
| Acetaminophen | Ethanol | Protein (Urinary) |
| Ammonia | Microalbumin | Salicylate |

Our Esoterics Linearity Verifier comprises 6 analytes and is supplied in a liquid ready-to-use format specifically for use on Roche Cobas analysers. Designed to objectively verify calibration whilst remaining convenient and easy to use, there are five distinct levels provided that span the instrument's complete reportable range.

- **Convenient, liquid ready-to-use format**
- **5 levels provided**
- **14 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Esoterics Linearity Verifier | 5 x 3 ml | LV10336 |

## High Sensitivity C-Reactive Protein (hsCRP) Linearity Verifier (Roche Cobas)

Dedicated hsCRP Linearity Verifier supplied in a liquid ready-to-use format specifically for use on Roche Cobas analysers. Designed to objectively verify calibration whilst remaining convenient and easy to use, there are five distinct levels provided that span the instrument's complete reportable range.

- **Convenient, liquid ready-to-use format**
- **5 levels provided**
- **14 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| hsCRP Linearity Verifier | 5 x 1 ml | LV10335 |

## Lipids Linearity Verifier (Roche Cobas)

| Analytes | | | |
|---|---|---|---|
| Cholesterol (HDL) | Cholesterol (LDL) | Cholesterol (Total) | Triglycerides |

Our Lipids Linearity Verifier comprises 4 common lipid assays and is specifically designed for use on Roche Cobas analysers. Five levels are available and span the instrument's complete reportable range. Designed in a liquid frozen format, this linearity verifier will objectively verify calibration of the instrument whilst remaining convenient and easy to use.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 14 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Lipids Linearity Verifier | 5 x 3 ml | LV10344 |

# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## Rheumatoid Factor (RF) Linearity Verifier (Roche Cobas)

Dedicated Rheumatoid Factor (RF) Linearity Verifier supplied in a liquid ready-to-use format specifically for use on Roche Cobas analysers. Designed to objectively verify calibration whilst remaining convenient and easy to use, there are five distinct levels provided that span the instrument's complete reportable range.

- **Convenient, liquid ready-to-use format**
- **5 levels provided**
- **14 day stability when stored at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Rheumatoid Factor (RF) Linearity Verifier | 5 x 1 ml | LV10343 |

## Therapeutic Drug Monitoring (TDM) Linearity Verifier (Roche Cobas)

| Analytes | | | |
|---|---|---|---|
| Acetaminophen | Gentamicin | Phenytoin | Theophylline |
| Amikacin | Lithium | Procainamide | Tobramycin |
| Carbamazepine | N-Acetylprocainamide | Quinidine | Valproic Acid |
| Digoxin | Phenobarbitone | Salicylate | Vancomycin |

Our Therapeutic Drug Monitoring (TDM) Linearity Verifier comprises 16 commonly tested drugs in a single vial. Dedicated for use on Roche Cobas systems, and available in a liquid frozen format, this verifier is convenient and easy to use. Five levels span the instrument's entire reportable range.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 14 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Therapeutic Drug Monitoring Linearity Verifier | 5 x 5 ml | LV10355 |

## Apolipoprotein A-1 (Apo A-1) & Apolipoprotein B (Apo B) Linearity Verifier (Beckman Coulter)

| Analytes | |
|---|---|
| Apolipoprotein A-1 | Apolipoprotein B |

Dedicated Linearity Verifier for measuring Apo A-1 and Apo B on Beckman Coulter analysers. Spanning 5 levels designed to challenge the instruments reportable range, this verifier will objectively verify calibration of the instrument whilst remaining convenient to use.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 14 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Apolipoproteins Linearity Verifier | 5 x 3 ml | LV10363 |

## Lipids Linearity Verifier (Beckman Coulter)

| Analytes | | |
|---|---|---|
| Cholesterol (HDL) | Cholesterol (LDL) | Triglycerides |

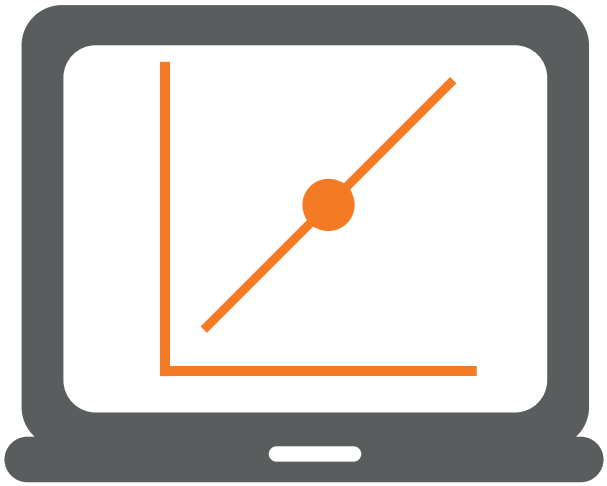
Our Lipids Linearity Verifier comprises 3 common lipid assays and is specifically designed for use on Beckman Coulter analysers. Five levels are available spanning the instrument's complete reportable range. Designed in a liquid frozen format, this linearity verifier will objectively verify calibration of the instrument whilst remaining convenient and easy to use.

- **Convenient, liquid frozen format**
- **5 levels provided**
- **Open vial stability of 14 days at 2°C to 8°C**
- **Shelf life up to 2 years from date of manufacture**

| Description | Size | Cat. No. |
|---|---|---|
| Lipids Linearity Verifier | 5 x 3 ml | LV10364 |

# DATA REDUCTION SOFTWARE

**Complimentary data reduction software is available for use with all Randox calibration verification sets, delivering instant access to a wide range of functionality to make the data review process faster.**



**Providing instant access to automatically generated charts, statistics and real-time peer group data, the Acusera Verify software is designed to significantly reduce the time spent analysing data, facilitating immediate laboratory decisions.**

- Cloud based software allowing convenient access from anywhere in the lab
- Intuitive user-friendly interface with simple data entry functionality
- Easy-to-interpret, interactive charts for at-a-glance performance assessment
- Automatically generated statistics
- Peer group data updated live in real-time for faster troubleshooting

**Did you know you can manage both daily QC activities and calibration verification on one centralised platform?**

**Find out more at www.randoxqc.com**

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Approximately 70% of clinical decisions are based on laboratory test results. Poor laboratory quality can result in unreliable test results, ultimately leading to misdiagnosis, inappropriate treatment and may even be potentially life threatening to your patient. Availability of comprehensive controls covering the full spectrum of laboratory tests is critical in order to assure quality of testing.

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Glutathione Peroxidase (Ransel) Control and Calibrato | Glutathione Reductase Control and Calibrator | Superoxide Dismutase (Ransod) Control | Total Antioxidant Status Control | Blood Gas Control | Cardiac Control | Tri-Level Cardiac Control | Troponin T Control | CK-MB Control and Calibrator | Precision Chemistry Premium Plus Control | Liquid Chemistry Premium Plus Control | Assayed Chemistry Premium Plus Control | Liquid Assayed Chemistry Premium Plus Control | Bovine Chemistry Assayed Control | Clinical Chemistry Calibrator Serum | Ammonia Ethanol Control | Aldolase Control and Calibrator | Liquid Bilirubin Control | Bilirubin Elevated Serum | Glycerol Control | Multi Control and Calibrator | Glutamine Control and Calibrator | Serum Indices Control | Coagulation Control | Haematology Control | HbA1c Control and Calibrator Series | Liquid HbA1c Control | G-6-PDH Control | Fructosamine Control and Calibrator | Liquid Immunoassay Premium Control | PTH Control | Immunoassay Premium Control | Immunoassay Premium Plus Control | Immunoassay Speciality I Control | Immunoassay Specialty II Control | Tumour Marker Control | Maternal Screening Control | Specific Protein Control | Specific Protein Calibrator |
| # | 5-HIAA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 7-amino flunitrazepam | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 17-OH-progesterone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | 17β Clostebol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1-25-($OH_2$)-Vitamin D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | x | | | | | |
| | 25-OH-Vitamin D | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | x | | | | | |
| A | α-1-Acid Glycoprotein | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | α-1-Antitrypsin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | α-1-Globulin (Electrophoresis) | | | | | | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | α-2-Globulin (Electrophoresis) | | | | | | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | α-2-Macroglobulin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | α-Fetoprotein (AFP) | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | x | x | x | |
| | α-HBDH | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | ACE (Angiotensin Converting Enzyme) | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Acetaminophen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Acid Phosphatase (Non-Prostatic) | | | | | | | | | | | | | x | | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Acid Phosphatase (Prostatic) | | | | | | | | | | | x | x | | | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Acid Phosphatase (Total) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | ACTH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | | | |
| | Activated Partical Thromboplastin Time (APTT) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | AHD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Albumin | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | x | |
| | Albumin (Electrophoresis) | | | | | | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Aldolase | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | | | | | | | |
| | Aldosterone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Alkaline Phosphatase (ALP) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | ALT (GPT) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Amikacin | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | x | | | | x | | | | | | | | | | | | | | | | | | |
| | AMOZ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Amphetamine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Amylase | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Amylase (Pancreatic) | | | | | | | | | | | x | x | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Androstenedione | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | | | |
| | Anti-HAV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HBc | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HBe | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HBs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HCV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HIV 1 / 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-HTLV 1 / 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-SARS-CoV-2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Anti-Streptolysin (ASO) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Anti-Thyroglobulin (Anti-TG) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | |
| | Anti-Thyroperoxidase (Anti-TPO) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | |
| | Anti-Thrombin III (AT III) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | AOZ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein A-I | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein A-II | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein B | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein C-II | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein C-III | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Apolipoprotein E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | AST (GOT) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| B | β-Globulin (Electrophoresis) | | | | | | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |

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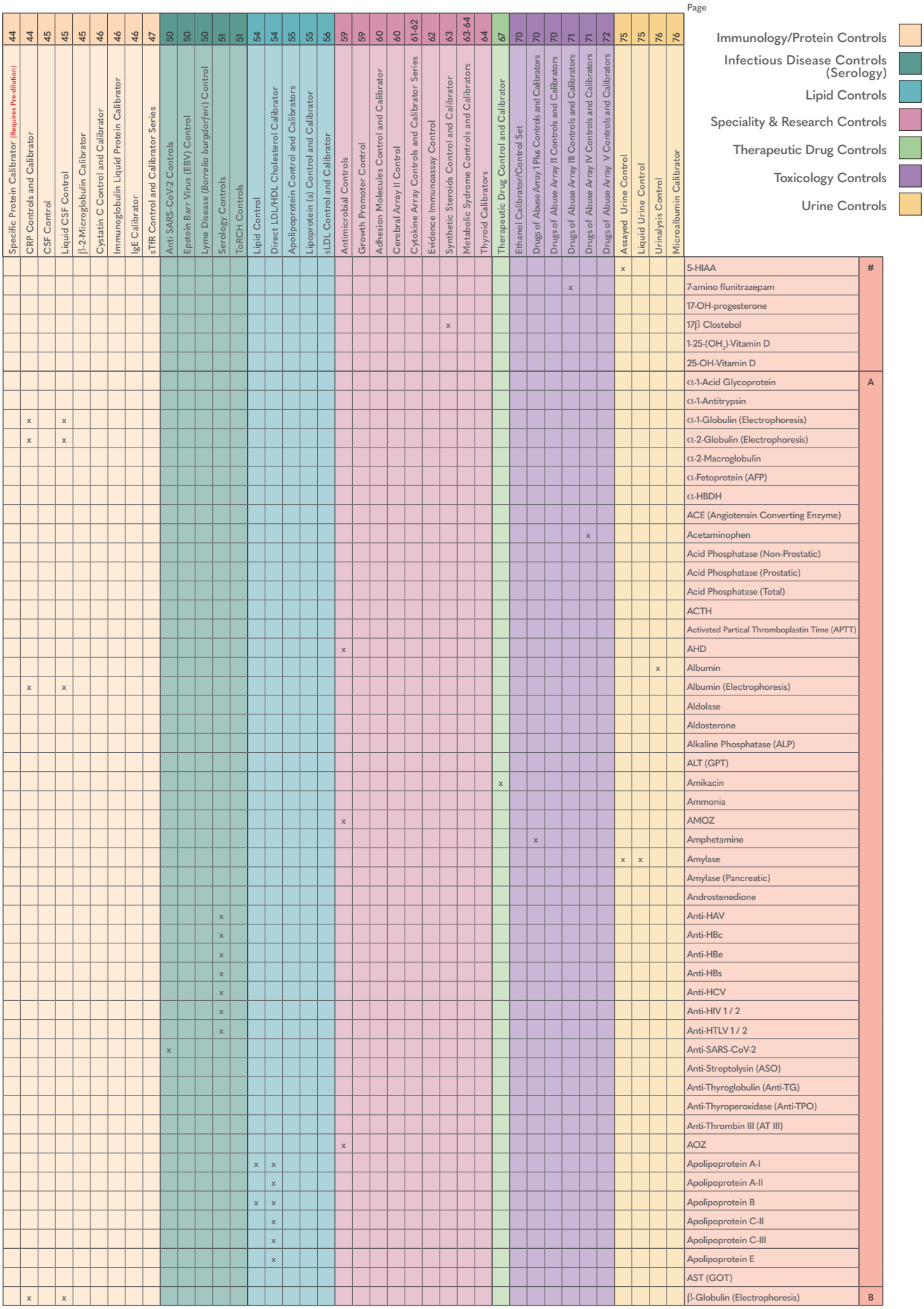

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| | | | Glutathione Peroxidase (Ransel) Control and Calibrato | Glutathione Reductase Control and Calibrator | Superoxide Dismutase (Ransod) Control | Total Antioxidant Status Control | Blood Gas Control | Cardiac Control | Tri-Level Cardiac Control | Troponin T Control | CK-MB Control and Calibrator | Precision Chemistry Premium Plus Control | Liquid Chemistry Premium Plus Control | Assayed Chemistry Premium Plus Control | Liquid Assayed Chemistry Premium Plus Control | Bovine Chemistry Assayed Control | Clinical Chemistry Calibrator Serum | Ammonia Ethanol Control | Aldolase Control and Calibrator | Liquid Bilirubin Control | Bilirubin Elevated Serum | Glycerol Control | Multi Control and Calibrator | Glutamine Control and Calibrator | Serum Indices Control | Coagulation Control | Haematology Control | HbA1c Control and Calibrator Series | Liquid HbA1c Control | G-6-PDH Control | Fructosamine Control and Calibrator | Liquid Immunoassay Premium Control | PTH Control | Immunoassay Premium Control | Immunoassay Premium Plus Control | Immunoassay Speciality I Control | Immunoassay Specialty II Control | Tumour Marker Control | Maternal Screening Control | Specific Protein Control | Specific Protein Calibrator |
| B | β-2-Microglobulin | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | x | | x | |
| | β-Agonists (Clenbuterol) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Barbiturates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BASO-X | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | BASO-Y | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Basophils (BASO) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Basophils % (% BASO) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Bath Salts 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bath Salts 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Benzodiazepines 1 + 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Benzoylecgonine (Cocaine) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Benzylpiperazines | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bicarbonate | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bile Acids | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bilirubin (Direct) | | | | | | | | | | | x | x | x | x | x | x | | | x | x | | | | | | | | | | | | | | | | | | | | |
| | Bilirubin (Total) | | | | | | | | | | | x | x | x | x | x | x | | | x | x | | | | | | | | | | | | | | | | | | | | |
| | Blood | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BNP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Boldenone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | *Borrelia burgdorferi* IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | *Borrelia burgdorferi* IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Buprenorphine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | C-Peptide | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | x | | | | | | |
| | CA 15-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | x | | | |
| | CA 19-9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | x | | | |
| | CA 72-4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | |
| | CA 125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | x | | | |
| | Caffeine | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Calcitonin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | |
| | Calcium | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cannabinoids | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Carbamazepine | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | CEA | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | x | | | |
| | Ceftiofur | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ceruloplasmin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Chloral Hydrate Metabolite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chloramphenicol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Chloride | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cholesterol (HDL) | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cholesterol (LDL) | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cholesterol (Total) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cholinesterase | | | | | | | | | | | x | x | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | CK-MB | | | | | | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CK (Total) | | | | | | | | x | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Complement C3 | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Complement C4 | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Copper | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Corticosteroids | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cortisol | | | | | | | | | | | x | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | CRP | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Creatinine | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cyclosporine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cytomegalovirus (CMV) IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cytomegalovirus (CMV) IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | CYFRA 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | |

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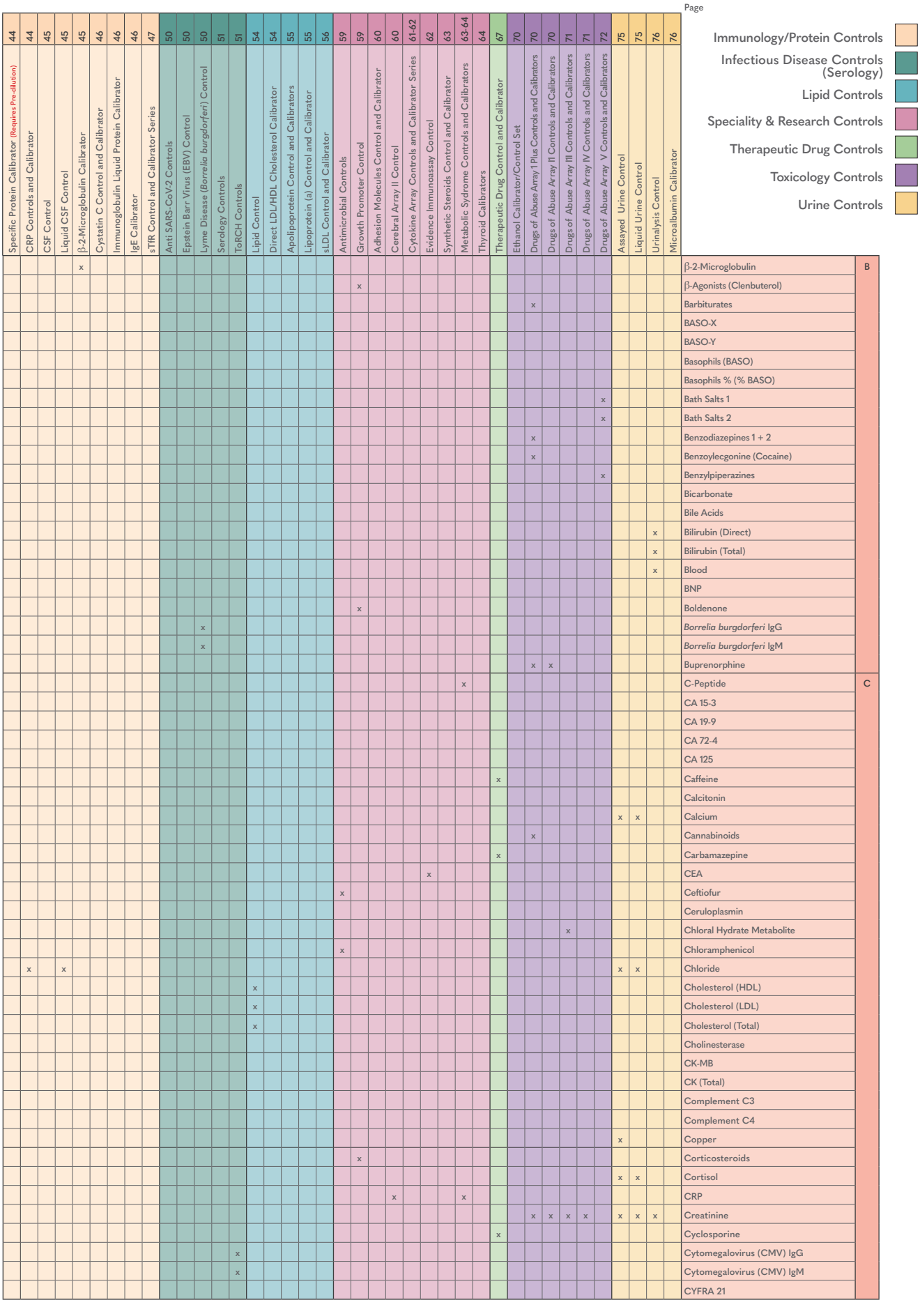

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| C | Cystatin C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D | D-3-Hydroxybutyrate | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | D-dimer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Dextromethorphan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DHEA-Sulphate | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | DIFF-X | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | DIFF-Y | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Digoxin | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Dopamine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| E | E-Selectin (E-SEL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Eosinophils (EOS) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | % Eosinophils (% EOS) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Epidermal Growth Factor (EGF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Epinephrine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Epstein Barr Virus (EBV) EBNA IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Epstein Barr Virus (EBV) IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Epstein Barr Virus (EBV) VCA IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Escitalopram | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Estriol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Ethanol | | | | | | | | | | | | x | | x | | | x | | | | | | | | | | | | | | | | | | | | | | |
| | Ethinylestradiol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ethosuximide | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Ethyl Glucuronide | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | Factor II | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor V | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor VII | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor VIII | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor IX | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor X | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor XI | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Factor XII | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Fentanyl | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ferritin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | x | | x | x |
| | Fibrinogen | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Fluoxetine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Folate | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Fructosamine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | |
| | FSC-X | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | FSH | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| G | G-6-PDH | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | |
| | γ-Globulin (Electrophoresis) | | | | | | | | | | | | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | γGT | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Gastrin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | |
| | Gentamicin | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Gestagens (Generic) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GLDH | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Glucose | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | x | | | | | | | | | | | | | | | | |
| | Glutamate | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | | |
| | Glutamine | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Glutathione Peroxidase (Ransel) | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Glutathione Reductase | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Glycerol | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | | | | |
| | GM-CSF | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Growth Hormone (GH) | | | | | | | | | | | | x | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| H | Haematocrit (HCT) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |

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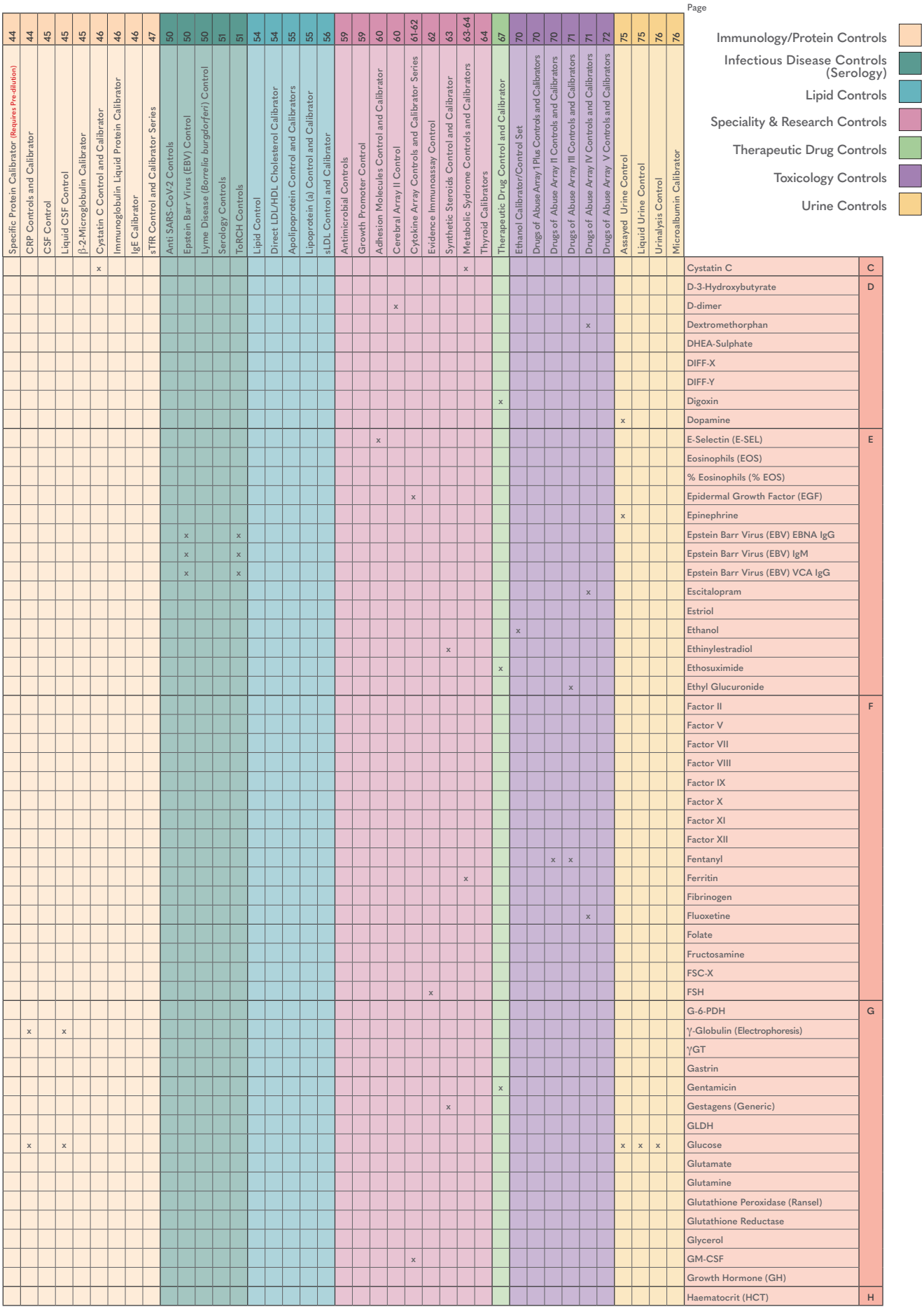

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| H | Haemoglobin (HGB) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Haemoglobin A2 (HbA2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Haemoglobin F (HbF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Haemoglobin S (HbS) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Haemoglobin (Total) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Haemolysis (H) | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | | |
| | Haemopioetic Progenitor Cell (HPC) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Haloperidol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Haptoglobin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | x | x | |
| | HAV IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HbA1c | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | | | | | | | | | | | |
| | HBc IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | HBsAg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | hCG | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | x | | | |
| | Free β-hCG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | |
| | Total β-hCG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | |
| | HDL-3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | *Helicobacter pylori* IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Herpes Simplex Virus 1 (HSV-1) IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Herpes Simplex Virus 1 (HSV-1) IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Herpes Simplex Virus 2 (HSV-2) IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Herpes Simplex Virus 2 (HSV-2) IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Homocysteine | | | | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| I | Ibuprofen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Icterus (I) | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | | |
| | IMIDC | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | IMIRF | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Immature Granulocytes (IG) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | % Immature Granulocytes (% IG) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Immature Myeloid Information (IMI) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Immature Platelet Fraction (IPF) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Immunoglobulin A (IgA) | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | x | x | |
| | High Sensitivity Immunoglobulin A (hsIgA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Immunoglobulin E (IgE) | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | x | | |
| | Immunoglobulin G (IgG) | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | x | x | |
| | High Sensitivity Immunoglobulin G (hsIgG) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Immunoglobulin M (IgM) | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | x | x | |
| | High Sensitivity Immunoglobulin M (hsIgM) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Inhibin A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | |
| | Insulin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | x | | | | | |
| | Insulin Like Growth Factor-1 (IGF-I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | |
| | Intercellular Adhesion Molecule-I (ICAM-I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interferon-γ (IFN-γ) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-Iα (IL-Iα) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-1β (IL-1β) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-2 (IL-2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-4 (IL-4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-5 (IL-5) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-6 (IL-6) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-8 (IL-8) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-10 (IL-10) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Interleukin-15 (IL-15) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Iron | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Iron (TIBC) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Iron (UIBC) | | | | | | | | | | | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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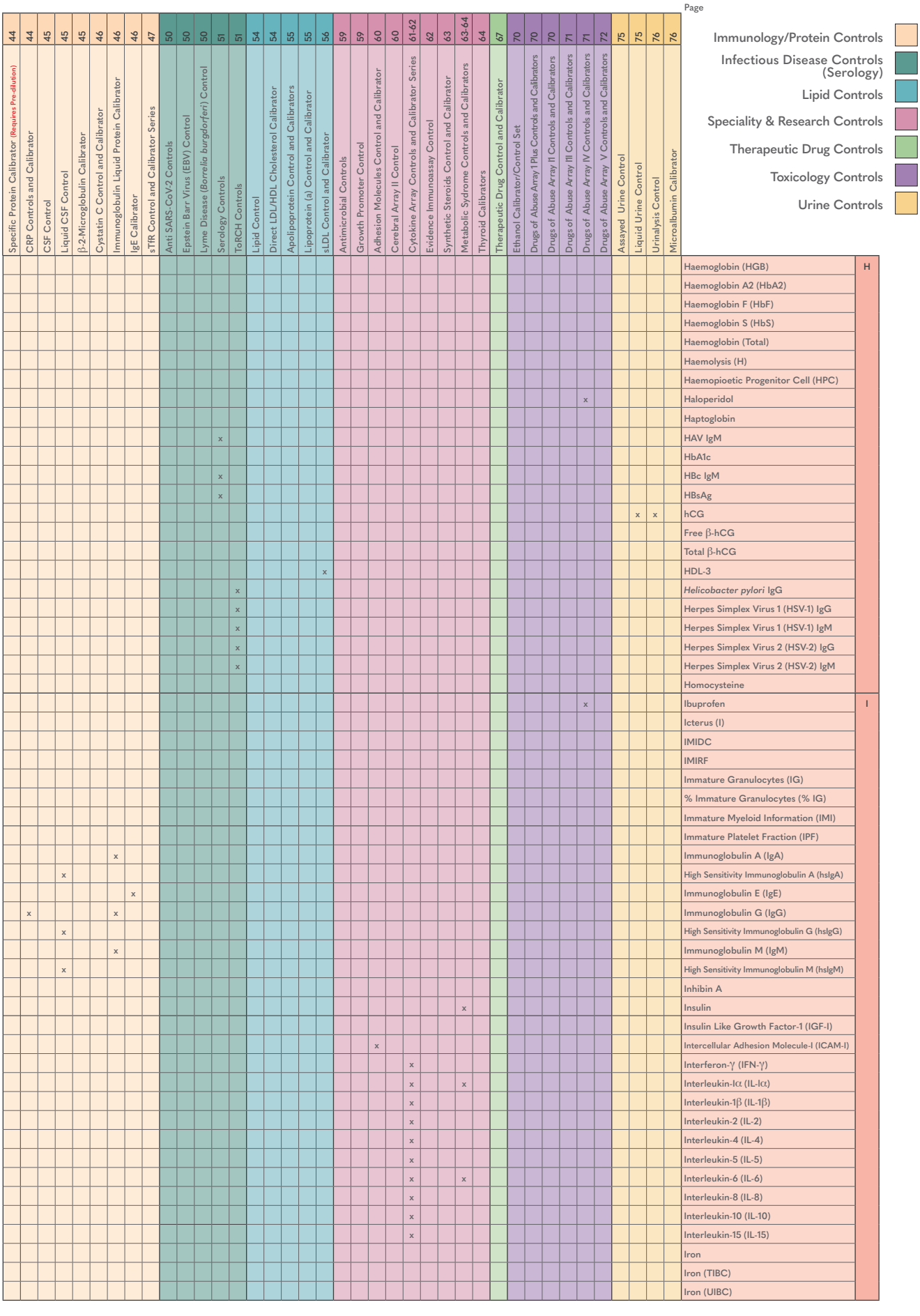

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| K | Kappa Light Chain | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | Ketamine Metabolite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Ketones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L | L-Selectin (L-SEL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Lactate | | | | | | x | | | | | x | x | x | x | x | x | | | | | x | | | | | | | | | | | | | | | | | |
| | Lactate Dehydrogenase (LDH) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | |
| | Lambda Light Chain | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | Lambda Light Chain (Free) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | LAP | | | | | | | | | | | x | x | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Leptin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Leukocytes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Lipase | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | |
| | Lipemia (L) | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Lipoprotein (a) | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Lithium | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | |
| | Luteinising Hormone (LH) | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | |
| | Lymphocytes (LYMPH) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | % Lymphocytes (% LYMPH) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Lysergic Acid Diethylamide (LSD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | Magnesium | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | |
| | Matrix Metalloproteinase-9 (MMP-9) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Measles IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Mean Corpuscular Haemoglobin (MCH) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Mean Corpuscular Haemoglobin Concentration (MCHC) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Mean Corpuscular Volume (MCV) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Mean Platelet Volume (MPV) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Meprobamate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Meperidine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Mescaline | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Metanephrine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methadone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methandriol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methamphetamine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methaqualone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methotrexate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methylphenidate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Methyltestosterone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MDMA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Microalbumin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Macrophage Inflammatory Protein-1α (MIP-1α) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Monocytes (MONO) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Monocytes % (% MONO) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Monocyte Chemoattractant Protein-1 (MCP-1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Mumps IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Myoglobin | | | | | | | | x | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| N | Nandrolone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | NEFA | | | | | | | | | | | x | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Neuron-Specific Enolase (NSE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | |
| | Neutrophils (NEUT) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Neutrophils % (% NEUT) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Neutrophil Gelatinase-associated Lipocalin (NGAL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Nitrite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Norepinephrine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Normetanephrine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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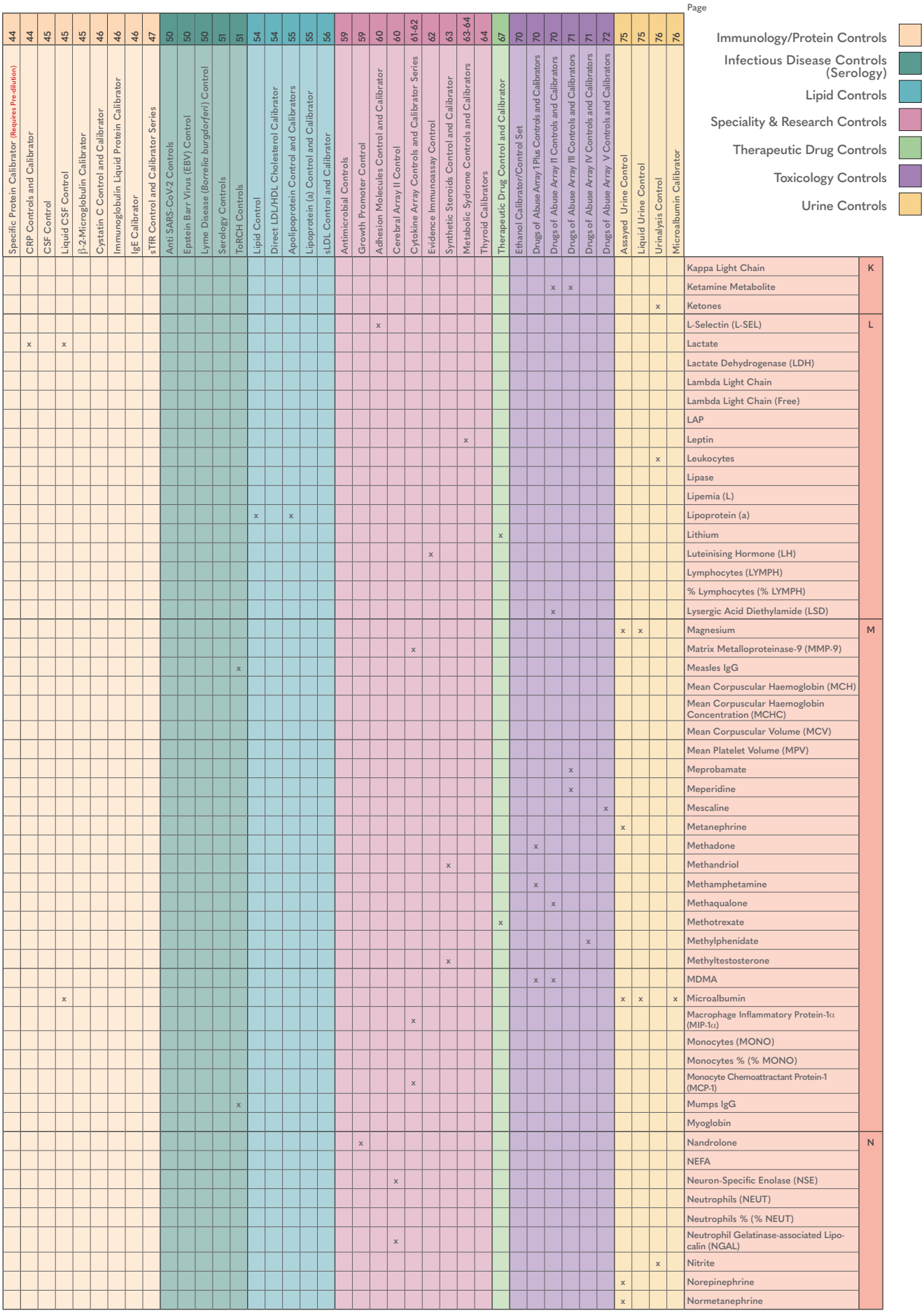

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| N | NT-proBNP | | | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Nucleated Red Blood Cells (NRBC) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Nucleated Red Blood Cells % (% NRBC) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Nucleated Red Blood Cells X (NRBC-X) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | Nucleated Red Blood Cells Y (NRBC-Y) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| O | Oestradiol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Opiates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Osmolality | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Osteocalcin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | |
| | Oxalate | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Oxycodone (I+II) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P | P-Selectin (P-SEL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Paracetamol | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | PAPP-A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | |
| | $pCO_2$ | | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | pH | | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Phencyclidine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Phenobarbitone | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Phenylpiperazines | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Phenytoin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Phosphate (Inorganic) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Plasminogen | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Plasminogen Activator Inhibitor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Platelet Distribution Width (PDW) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Platelet Large Cell Ratio (P-LCR) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Plateletcrit (PCT) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Platelet (PLT) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Platelet Optical Count (PLT-O) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | $pO_2$ | | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Potassium | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Prealbumin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Primidone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Procalcitonin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | | |
| | Progesterone | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Prolactin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Propoxyphene | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Protein C | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Protein S | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Protein (Total) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | x | |
| | Prothrombin Time (PT) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | PSA (Free) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | x | | | |
| | PSA (Total) | | | | | | | | | | | x | | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | x | | | |
| | PTH (Intact) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | x | | | | | |
| Q | Quinolones (Generic) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R | Ractopamine | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Red Blood Cell Y (RBC-Y) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Red Blood Cell Distribution Width CV (RDW-CV) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Red Blood Cell Distribution Width SD (RDW-SD) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | |
| | Renin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | |
| | Resistin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Retinol Binding Protein (RBP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | |
| | Rheumatoid Factor (RF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x |

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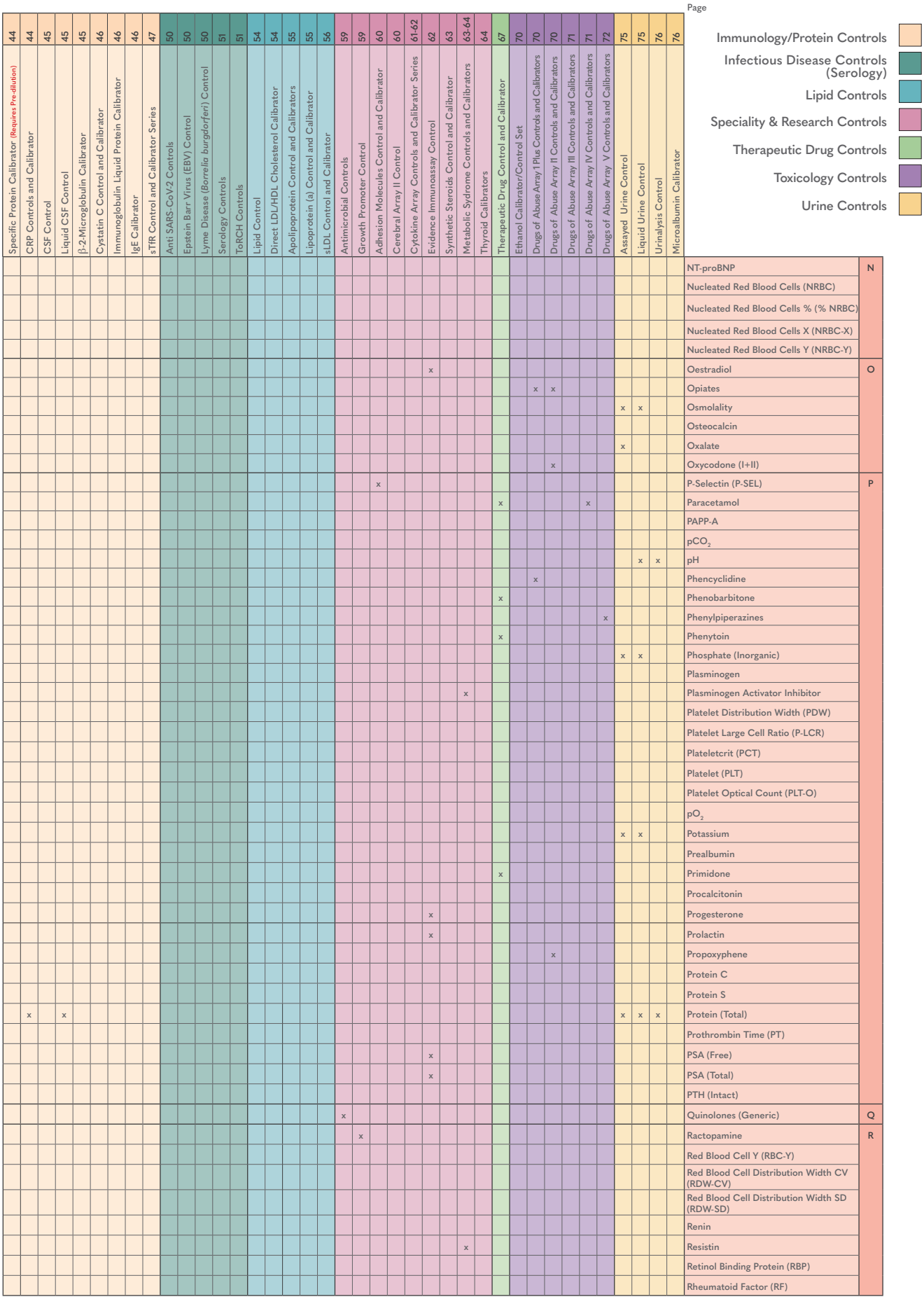

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| R | Rubella IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Rubella IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S | Salicylate | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Salicyluric Acid | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Salvinorin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Semicarbazine (SEM) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Sertraline | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Sex Hormone Binding Globulin (SHBG) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | sLDL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Sodium | | | | | | x | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Soluble IL-2 Receptor α (sIL-2Rα) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Soluble IL-6 Receptor (sIL-6R) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Soluble Transferrin Receptor (sTfR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Soluble Tumour Necrosis Factor Receptor 1 (sTNFR I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Soluble Tumour Necrosis Factor Receptor 11 (sTNFR II) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Specific Gravity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Stanozolol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Stilbenes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Streptomycin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Superoxide Dismutase (Ransod) | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Synthetic Cannabinoids (1 to 4) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | T Uptake | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | T3 (Free) | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | T4 (Free) | | | | | | | | | | | x | x | x | x | x | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | T3 (Total) | | | | | | | | | | | x | x | x | x | x | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | T4 (Total) | | | | | | | | | | | x | x | x | x | x | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Testosterone | | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Testosterone (Free) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | | | | |
| | Tetracyclines (Generic) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Theophylline | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Thiamphenicol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Thrombin Time (TT) | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | | | |
| | Thrombomodulin (TM) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Thyroglobulin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | x | | | x | | | |
| | Tobramycin | | | | | | | | | | | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Total Antioxidant Status (TAS) | | | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Toxoplasma *gondii* IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Toxoplasma *gondii* IgM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tramadol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Transferrin | | | | | | | | | | | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | x | x |
| | Trazadone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Trenbolone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | *Treponema pallidum* (Syphilis) IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tricyclic Antidepressants | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Triglycerides | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | |
| | Trimethoprim | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Troponin I | | | | | | | x | x | | | x | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Troponin T | | | | | | | | x | x | | | x | | x | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TSH | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | x | | x | x | | | | | | |
| | Tumour Necrosis Factor α (TNFα) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Tylosin | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| U | Unconjugated Estriol | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | x | | |

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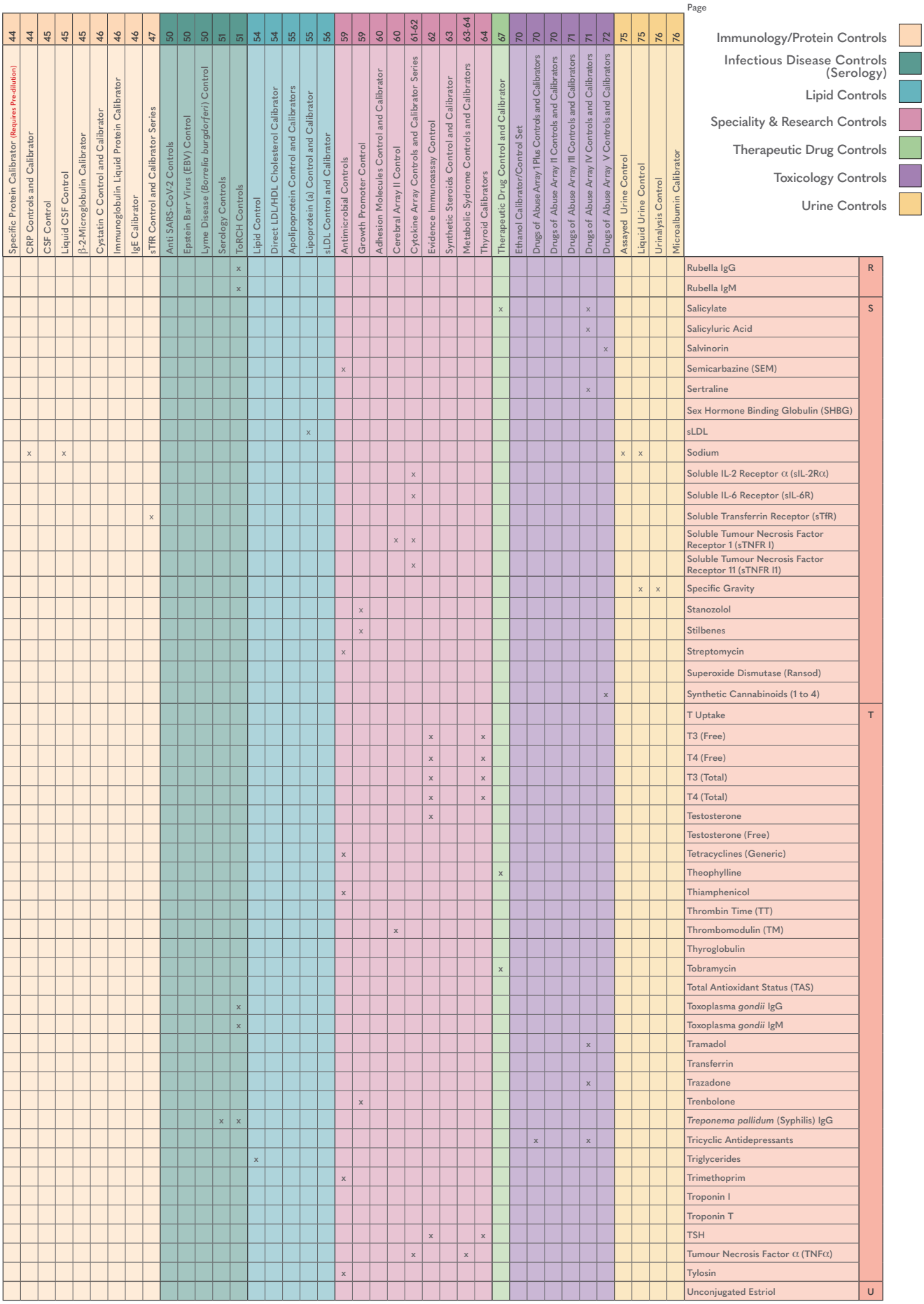

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 08 | 08 | 08 | 08 | 11 | 14 | 14 | 15 | 15 | 18 | 19 | 20 | 21 | 22 | 23 | 23 | 24 | 24 | 24 | 25 | 25 | 25 | 26 | 29 | 29 | 32 | 32 | 32 | 33 | 36 | 36 | 37 | 38 | 39 | 39 | 40 | 40 | 43 | 43 |
| U | Urea | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Uric Acid (Urate) | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Urobilinogen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| V | Valproic Acid | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Vancomycin | | | | | | | | | | | x | x | | x | | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| | Vanillylmandelic Acid (VMA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Varicella Zoster Virus (VZV) IgG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vascular Cell Adhesion Molecule-1 (VCAM-1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vascular Endothelial Growth Factor (VEGF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Vitamin $B_{12}$ | | | | | | | | | | | x | x | x | x | x | | | | | | | | | | | | | | | | x | | x | x | | | | | |
| W | White Blood Cells (WBC) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| | White Blood Cells Differential (WBC-D) | | | | | | | | | | | | | | | | | | | | | | | | | | x | | | | | | | | | | | | | |
| Z | Zaleplon | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Zeronal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Zinc | | | | | | | | | | | x | x | x | x | x | x | | | | | | | | | | | | | | | | | | | | | | | | |
| | Zolpidem | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Zopiclone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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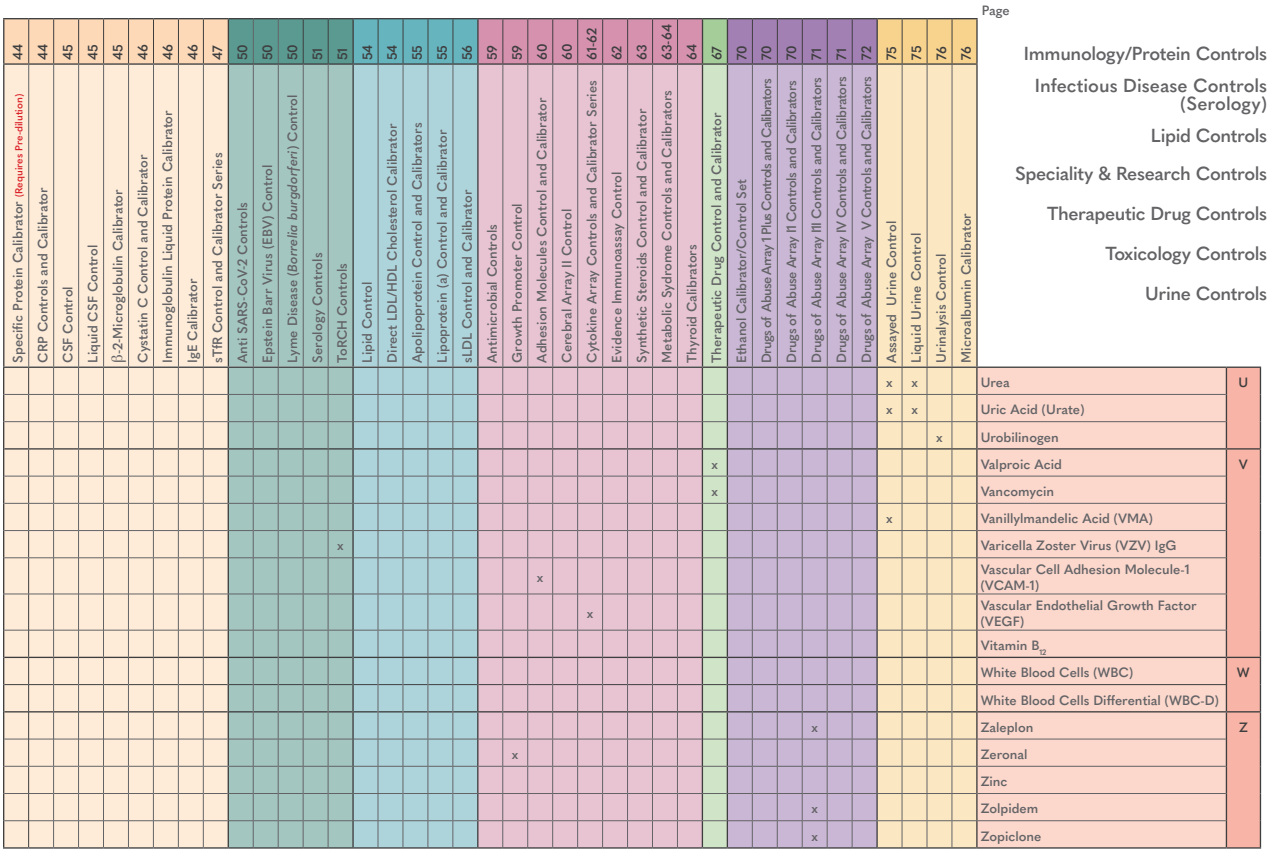

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## NOTES


LT027 FEB22

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