

RANDOX

# THIRD PARTY CONTROLS



ACUSERA

# RANDOX

QUALITY CONTROL

## ACUSERA

TRUE THIRD PARTY CONTROLS  
OFFERING COMPLETE TEST MENU CONSOLIDATION



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# BENEFITS

For more than 35 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.



### 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.

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For more information about Randox and for our full range of products,  
please visit [randoxqc.com](http://randoxqc.com), or contact your local Randox representative.  
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# 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”.

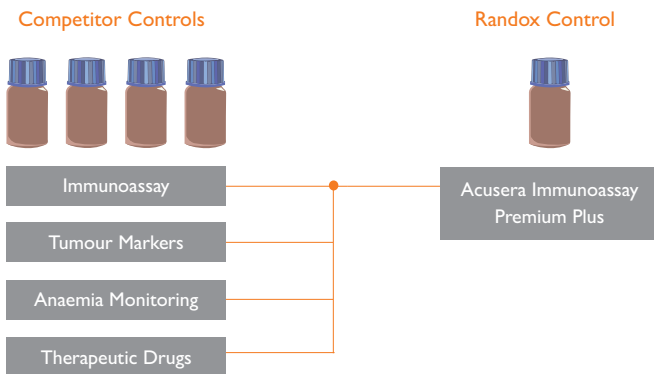
The Randox International Quality Assessment Scheme (RIQAS), is used by more than 45,000 laboratory participants in 133 countries and accredited to ISO 17043. As a result, we have RIQAS users on every continent who are registered for one or more of our 33 flexible EQA programmes, utilising the available 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.

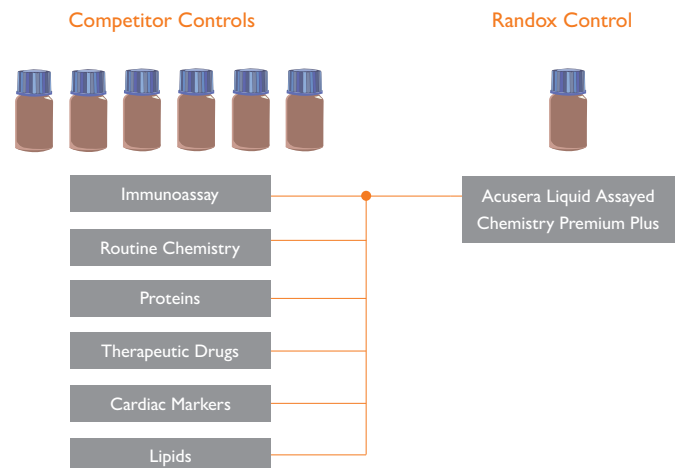


### Immunoassay Premium Plus Control

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<sub>12</sub> 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

### 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



# COMMITMENT TO QUALITY

Radox 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 Radox, 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".



ISO 13485:2016

The International Organisation for Standardisation (ISO) is the largest developer and publisher of international standards in the world. In 2016, Radox was accredited with **ISO 13485:2016** approval.

**ISO 13485:2016** 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.

**ISO 13485:2016** 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 Radox 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

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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 Reductase Control	10 x 5 ml	GR2608	08
Glutathione Reductase Calibrator	10 x 5 ml	GR2609	08
Glutathione Peroxidase (Ransel) Control	10 x 1 ml	SC692	08
Glutathione Peroxidase (Ransel) Calibrator	10 x 1 ml	SC10154	08
Superoxide Dismutase (Ransod) Control	10 x 1 ml	SD126	08
Total Antioxidant Status (TAS) Control	10 x 5 ml	NX2331	08
Total Antioxidant Status (TAS) Calibrator	10 x 1 ml	NX2615	08



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

## 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 day at 2°C to 8°C or 8 hours at 15°C to 25°C

Description	Size	Cat. No.
Glutathione Reductase Control	10 x 5 ml	GR2608
Glutathione Reductase Calibrator	10 x 5 ml	GR2609

## 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

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

## 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

Description	Size	Cat. No.
Total Antioxidant Status Control	10 x 5 ml	NX2331
Total Antioxidant Status Calibrator	10 x 1 ml	NX2615

# BLOOD GAS CONTROLS

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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 Calcium Chloride	Glucose Lactate pCO <sub>2</sub>	pH pO <sub>2</sub> Potassium	Sodium

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

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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 Product Range

Product Description	Size	Cat. No.	Page No.
Tri-Level Cardiac Control	3 x 1 ml	CQ3100	14
Tri-Level Cardiac Control	3 x 2 ml	CQ3259	14
Liquid BNP Control (Beckman Access / Beckman Dx1) Level 1	3 x 1 ml	CQ5133	14
Liquid BNP Control (Beckman Access / Beckman Dx1) Level 2	3 x 1 ml	CQ5134	14
Liquid BNP Control (Beckman Access / Beckman Dx1) Level 3	3 x 1 ml	CQ5135	14
Liquid BNP Control (Abbott Architect) Level 1	3 x 1 ml	CQ5136	14
Liquid BNP Control (Abbott Architect) Level 2	3 x 1 ml	CQ5137	14
Liquid BNP Control (Abbott Architect) Level 3	3 x 1 ml	CQ5138	14
Liquid BNP Control (Siemens Advia Centaur) Level 1	3 x 1 ml	CQ5139	14
Liquid BNP Control (Siemens Advia Centaur) Level 2	3 x 1 ml	CQ5140	14
Liquid BNP Control (Siemens Advia Centaur) Level 3	3 x 1 ml	CQ5141	14
High Sensitivity Troponin T Control	3 x 3 ml	CQ5080	15
CK-MB Control	10 x 2 ml	CK1212	15
CK-MB Calibrator	10 x 1 ml	CK2393	15
Myoglobin Calibrator Series	4 x 1 ml	MY2456	15
H-FABP Control Level 1	3 x 1 ml	FB4026	16
H-FABP Control Level 2	3 x 1 ml	FB4027	16
H-FABP Calibrator Series	6 x 1 ml	FB3134	16
sPLA <sub>2</sub> -IIA Control Level 1 & 2	2 x 3 x 1 ml	PLA8382	16
sPLA <sub>2</sub> -IIA Calibrator	6 x 1 ml	PLA8381	16



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix



## Cardiac Control

Analytes			
CK (Total) CK-MB (Activity)*	CK-MB (Mass) Homocysteine	Myoglobin 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
- 100% human serum
- 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

## Liquid BNP Controls

Dedicated BNP control designed for use in the routine monitoring of accuracy and precision. Instrument dedicated material is supplied liquid ready-to-use with assayed values ensuring specific analyser requirements are met, while maintaining user convenience.

- 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

Description	Size	Cat. No.
Liquid BNP Control (Beckman Access / Beckman DxI) Level 1	3 x 1 ml	CQ5133
Liquid BNP Control (Beckman Access / Beckman DxI) Level 2	3 x 1 ml	CQ5134
Liquid BNP Control (Beckman Access / Beckman DxI) Level 3	3 x 1 ml	CQ5135
Liquid BNP Control (Abbott Architect) Level 1	3 x 1 ml	CQ5136
Liquid BNP Control (Abbott Architect) Level 2	3 x 1 ml	CQ5137
Liquid BNP Control (Abbott Architect) Level 3	3 x 1 ml	CQ5138
Liquid BNP Control (Siemens Advia Centaur) Level 1	3 x 1 ml	CQ5139
Liquid BNP Control (Siemens Advia Centaur) Level 2	3 x 1 ml	CQ5140
Liquid BNP Control (Siemens Advia Centaur) Level 3	3 x 1 ml	CQ5141

# CARDIAC

## High Sensitivity Troponin T Control

Delivering a true third party solution for Roche instruments, the Acusera High Sensitivity Troponin T control will ensure unbiased performance assessment. Assayed target values are provided close to the 99th percentile reference range (14ng/l) helping to deliver accurate performance at key decision levels.

- Lyophilised for enhanced stability
- 100% human serum
- Very low Troponin T levels
- Stable to expiry 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.
High Sensitivity Troponin T Control	3 x 3 ml	CQ5080

## 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

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

## Myoglobin Calibrator Series

Dedicated third party calibrator designed for use in the calibration of Myoglobin immunoturbidimetric assays.

- Lyophilised for enhanced stability
- Prepared from purified human Myoglobin in a stabilised matrix
- Stable to expiry date at 2°C to 8°C
- Reconstituted stability of 30 days at 2°C to 8°C, 8 hours at 25°C and 28 days at -20°C

Description	Size	Cat. No.
Myoglobin Calibrator Series	4 x 1 ml	MY2456

## Heart Type Fatty Acid Binding Protein (H-FABP) Control and Calibrator Set

Dedicated controls and calibrators designed for use in the routine monitoring and calibration of the Randox H-FABP assay.

- Lyophilised for enhanced stability
- 100% human serum
- Stable to expiry at 2°C to 8°C
- Reconstituted stability of 35 days at 2°C to 8°C and 8 weeks at -20°C

Description	Size	Cat. No.
H-FABP Control Level 1	3 x 1 ml	FB4026
H-FABP Control Level 2	3 x 1 ml	FB4027
H-FABP Calibrator Series	6 x 1 ml	FB3134

## sPLA<sub>2</sub>-IIA Control and Calibrator

The Acusera sPLA<sub>2</sub>-IIA control is designed for use in the routine monitoring of both accuracy and precision. This true third party control comes in a lyophilised format and is available in a convenient bi-level pack.

- Lyophilised for enhanced stability
- Human based serum
- Stable to expiry at 2°C to 8°C

Description	Size	Cat. No.
sPLA <sub>2</sub> -IIA Control Level 1 & 2	2 x 3 x 1 ml	PLA8382
sPLA <sub>2</sub> -IIA Calibrator	6 x 1 ml	PLA8381

# CLINICAL CHEMISTRY CONTROLS

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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 Product Range			
Product Description	Size	Cat. No.	Page No.
Precision Chemistry Premium Plus Level 2	20 x 5 ml	UNI557	19
Precision Chemistry Premium Plus Level 3	20 x 5 ml	UE1558	19
Liquid Chemistry Premium Plus Level 1	12 x 5 ml	LUL5069	20
Liquid Chemistry Premium Plus Level 2	12 x 5 ml	LUN5070	20
Liquid Chemistry Premium Plus Level 3	12 x 5 ml	LUE5071	20
Assayed Chemistry Premium Plus Level 2	20 x 5 ml	HNI530	21
Assayed Chemistry Premium Plus Level 3	20 x 5 ml	HE1532	21
Assayed Chemistry Premium Plus Level 2 & 3	2 x 5 x 5 ml	HS2611	21
Liquid Assayed Chemistry Premium Plus Level 1	12 x 5 ml	LAL4213	22
Liquid Assayed Chemistry Premium Plus Level 2	12 x 5 ml	LAN4214	22
Liquid Assayed Chemistry Premium Plus Level 3	12 x 5 ml	LAE4215	22
Bovine Chemistry Assayed Level 1	20 x 5 ml	AL1027	23
Bovine Chemistry Assayed Level 2	20 x 5 ml	AN1026	23
Bovine Chemistry Assayed Level 3	20 x 5 ml	AE1032	23
Clinical Chemistry Calibration Serum Level 2	20 x 5 ml	CAL2350	24
Clinical Chemistry Calibration Serum Level 3	20 x 5 ml	CAL2351	24
Ammonia Ethanol Control Level 1	6 x 2 ml	EA1366	24
Ammonia Ethanol Control Level 2	6 x 2 ml	EA1367	24
Ammonia Ethanol Control Level 3	6 x 2 ml	EA1368	24
Aldolase Calibrator	3 x 1 ml	AD5000	25
Aldolase Control Level 2	3 x 1 ml	AD5001	25
Aldolase Control Level 3	3 x 1 ml	AD5002	25
Bilirubin Elevated Serum	10 x 3 ml	BE454	25
Glycerol Control	3 x 5 ml	GY1369	25
Multi Calibrator	3 x 2 ml	MC1382	26
Multi Control Level 1	5 x 2 ml	MC1379	26
Multi Control Level 2	5 x 2 ml	MC1380	26
Multi Control Level 3	5 x 2 ml	MC1381	26
Glutamine Control Level 1	5 x 5 ml	GM1376	26
Glutamine Control Level 2	5 x 5 ml	GM1377	26
Glutamine Control Level 3	5 x 5 ml	GM1378	26
Glutamine Calibrator	3 x 5 ml	GM1375	26
TXB Cardio Control Level 1	3 x 3 ml	TXB5125	26
TXB Cardio Control Level 2	3 x 3 ml	TXB5126	26
TXB Cardio Control Level 3	3 x 3 ml	TXB5127	26
TXB Cardio Calibrator Series	6 x 3 ml	TXB3132	26



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

# CLINICAL CHEMISTRY

## Precision Chemistry Premium Plus Control

Analytes			
<b>Cardiac</b> CK (Total) Myoglobin Troponin I	Prolactin PSA (Total) T3 (Free) T3 (Total) T4 (Free) T4 (Total) TSH Vitamin B <sub>12</sub>	Ferritin Haptoglobin Immunoglobulin A (IgA) Immunoglobulin E (IgE) Immunoglobulin G (IgG) Immunoglobulin M (IgM) Prealbumin Protein (Total) Transferrin	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)
<b>Drugs</b> Carbamazepine Digoxin Gentamicin Lithium Paracetamol Phenobarbitone Phenytoin Salicylate Theophylline Tobramycin Valproic Acid Vancomycin	<b>Lipids</b> Apolipoprotein A-I Apolipoprotein B Cholesterol (HDL) Cholesterol (Total) NEFA Triglycerides	<b>Routine Chemistry</b> 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	
<b>Immunoassay</b> α-Fetoprotein (AFP) CEA Cortisol Folate hCG	<b>Proteins</b> α-1-Acid Glycoprotein α-1-Antitrypsin Ceruloplasmin Complement C3 Complement C4 CRP		<b>Trace Metals</b> 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 × 5 ml	UNI1557
Precision Chemistry Premium Plus Level 3	20 × 5 ml	UEI1558

## Liquid Chemistry Premium Plus Control

Analytes			
<p><b>Cardiac</b></p> <p>CK (Total) Myoglobin Troponin T</p> <p><b>Drugs</b></p> <p>Amikacin Caffeine Carbamazepine Digoxin Ethanol Gentamicin Lithium Paracetamol Phenobarbitone Phenytoin Salicylate Theophylline Valproic Acid Vancomycin</p> <p><b>Electrophoresis</b></p> <p>α-1-Globulin α-2-Globulin Albumin β-Globulin γ-Globulin</p>	<p><b>Immunoassay</b></p> <p>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<sub>12</sub></p> <p><b>Lipids</b></p> <p>Apolipoprotein A-1 Apolipoprotein B Cholesterol (HDL) Cholesterol (LDL) Cholesterol (Total) Lipoprotein (a) Triglycerides</p>	<p><b>Proteins</b></p> <p>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</p> <p><b>Routine Chemistry</b></p> <p>α-HBDH Acid Phosphatase (Prostatic) Acid Phosphatase (Total) Albumin Alkaline Phosphatase (ALP) ALT (GPT) Amylase Amylase (Pancreatic) AST (GOT) Bicarbonate</p>	<p><b>Bile Acids</b></p> <p>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)</p> <p><b>Trace Metals</b></p> <p>Copper Zinc</p>

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

# CLINICAL CHEMISTRY

## Assayed Chemistry Premium Plus Control

Analytes			
<b>Cardiac</b>	PSA (Total)	<b>Routine Chemistry</b>	Iron
CK (Total)	T3 (Total)	α-HBDH	Iron (TIBC)
	T4 (Free)	Acid Phosphatase (Prostatic)	Lactate
<b>Drugs</b>	T4 (Total)	Acid Phosphatase (Total)	Lactate Dehydrogenase (LDH)
Digoxin	TSH	Albumin	LAP
Gentamicin	Vitamin B <sub>12</sub>	Alkaline Phosphatase (ALP)	Lipase (Colorimetric)
Lithium		ALT (GPT)	Lipase (Turbidimetric)
Paracetamol	<b>Lipids</b>	Amylase	Magnesium
Salicylate	Apolipoprotein A-I	Amylase (Pancreatic)	Osmolality
Theophylline	Apolipoprotein B	AST (GOT)	Phosphate (Inorganic)
Tobramycin	Cholesterol (HDL)	Bicarbonate	Potassium
	Cholesterol (Total)	Bile Acids	Sodium
<b>Electrophoresis</b>	NEFA	Bilirubin (Direct)	Urea
α-1-Globulin	Triglycerides	Bilirubin (Total)	Uric Acid (Urate)
α-2-Globulin		Calcium	
Albumin	<b>Proteins</b>	Chloride	<b>Trace Metals</b>
β-Globulin	Immunoglobulin A (IgA)	Cholinesterase	Copper
γ-Globulin	Immunoglobulin G (IgG)	Creatinine	Zinc
	Immunoglobulin M (IgM)	D-3-Hydroxybutyrate	
<b>Immunoassay</b>	Protein (Total)	γGT	
Cortisol	Transferrin	GLDH	
Folate		Glucose	

One of our most popular controls, the Acusera Assayed Chemistry Premium Plus Control, combines a comprehensive 70 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	HNI530
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



## Liquid Assayed Chemistry Premium Plus Control

Analytes			
<p><b>Cardiac</b></p> <p>CK (Total)</p> <p>Myoglobin</p> <p>Troponin T</p> <p><b>Drugs</b></p> <p>Amikacin</p> <p>Caffeine</p> <p>Carbamazepine</p> <p>Digoxin</p> <p>Ethanol</p> <p>Gentamicin</p> <p>Lithium</p> <p>Paracetamol</p> <p>Phenobarbitone</p> <p>Phenytoin</p> <p>Salicylate</p> <p>Theophylline</p> <p>Valproic Acid</p> <p>Vancomycin</p> <p><b>Electrophoresis</b></p> <p>α-1-Globulin</p> <p>α-2-Globulin</p> <p>Albumin</p> <p>β-Globulin</p> <p>γ-Globulin</p>	<p><b>Immunoassay</b></p> <p>α-Fetoprotein (AFP)</p> <p>CEA</p> <p>Cortisol</p> <p>DHEA Sulphate</p> <p>Folate</p> <p>FSH</p> <p>hCG</p> <p>Luteinising Hormone (LH)</p> <p>Progesterone</p> <p>Prolactin</p> <p>PSA (Total)</p> <p>T Uptake</p> <p>T3 (Free)</p> <p>T3 (Total)</p> <p>T4 (Free)</p> <p>T4 (Total)</p> <p>Testosterone</p> <p>TSH</p> <p>Vitamin B<sub>12</sub></p> <p><b>Lipids</b></p> <p>Apolipoprotein A-I</p> <p>Apolipoprotein B</p> <p>Cholesterol (HDL)</p> <p>Cholesterol (LDL)</p> <p>Cholesterol (Total)</p> <p>Lipoprotein (a)</p> <p>Triglycerides</p>	<p><b>Proteins</b></p> <p>α-1-Acid Glycoprotein</p> <p>α-1-Antitrypsin</p> <p>β-2-Microglobulin</p> <p>Ceruloplasmin</p> <p>Complement C3</p> <p>Complement C4</p> <p>CRP</p> <p>Ferritin</p> <p>Haptoglobin</p> <p>Immunoglobulin A (IgA)</p> <p>Immunoglobulin E (IgE)</p> <p>Immunoglobulin G (IgG)</p> <p>Immunoglobulin M (IgM)</p> <p>Prealbumin</p> <p>Protein (Total)</p> <p>Transferrin</p> <p><b>Routine Chemistry</b></p> <p>α-HBDH</p> <p>Acid Phosphatase (Total)</p> <p>Albumin</p> <p>Alkaline Phosphatase (ALP)</p> <p>ALT (GPT)</p> <p>Amylase</p> <p>Amylase (Pancreatic)</p> <p>AST (GOT)</p> <p>Bicarbonate</p> <p>Bile Acids</p>	<p>Bilirubin (Direct)</p> <p>Bilirubin (Total)</p> <p>Calcium</p> <p>Chloride</p> <p>Cholinesterase</p> <p>Creatinine</p> <p>D-3-Hydroxybutyrate</p> <p>γGT</p> <p>GLDH</p> <p>Glucose</p> <p>Iron</p> <p>Iron (TIBC)</p> <p>Lactate</p> <p>Lactate Dehydrogenase (LDH)</p> <p>LAP</p> <p>Lipase</p> <p>Magnesium</p> <p>Osmolality</p> <p>Phosphate (Inorganic)</p> <p>Potassium</p> <p>Sodium</p> <p>Urea</p> <p>Uric Acid (Urate)</p> <p><b>Trace Metals</b></p> <p>Copper</p> <p>Zinc</p>

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

# CLINICAL CHEMISTRY

## Bovine Chemistry Assayed Control

Analytes			
Cardiac CK (Total)	Lipids Cholesterol NEFA Triglycerides	ALT (GPT) Amylase AST (GOT) Bicarbonate Bile Acids Bilirubin (Direct) Bilirubin (Total) Calcium Chloride Creatinine D-3-Hydroxybutyrate	Iron (TIBC) Lactate Lactate Dehydrogenase (LDH) Lipase Magnesium Osmolality Phosphate (Inorganic) Potassium Sodium Urea Uric Acid (Urate)
Drugs Lithium	Proteins Protein (Total)	$\gamma$ GT GLDH	Trace Metals Copper Zinc
Immunoassay Cortisol PSA (Total) T3 (Total) T4 (Free) T4 (Total) Vitamin B <sub>12</sub>	Routine Chemistry $\alpha$ -HBDH Acid Phosphatase (Prostatic) Acid Phosphatase (Non-Prostatic) Acid Phosphatase (Total) Albumin Alkaline Phosphatase (ALP)	Glucose Iron	

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

Description	Size	Cat. No.
Bovine Chemistry Assayed Level 1	20 x 5 ml	ALI027
Bovine Chemistry Assayed Level 2	20 x 5 ml	ANI026
Bovine Chemistry Assayed Level 3	20 x 5 ml	AEI032

## Clinical Chemistry Calibration Serum

Analytes			
<b>Cardiac</b> CK (Total)	<b>Routine Chemistry</b> 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) LAP Lipase	Magnesium Osmolality Phosphate (Inorganic) Potassium Sodium Urea Uric Acid (Urate)
<b>Drugs</b> Lithium			<b>Trace Metals</b> Copper Zinc
<b>Lipids</b> Cholesterol Triglycerides			
<b>Proteins</b> Protein (Total)			

Comprising 42 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

Description	Size	Cat. No.
Clinical Chemistry Calibration Serum Level 2	20 × 5 ml	CAL2350
Clinical Chemistry Calibration Serum Level 3	20 × 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 × 2 ml	EA1366
Ammonia Ethanol Control Level 2	6 × 2 ml	EA1367
Ammonia Ethanol Control Level 3	6 × 2 ml	EA1368

# CLINICAL CHEMISTRY

## 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 1 ml 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

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

## 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

## 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

Description	Size	Cat. No.
Multi Calibrator	3 x 2 ml	MCI382
Multi Control Level 1	5 x 2 ml	MCI379
Multi Control Level 2	5 x 2 ml	MCI380
Multi Control Level 3	5 x 2 ml	MCI381

\*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

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.

## TXB Cardio Control and Calibrator Series

Dedicated control and calibrator series for use on clinical chemistry systems to monitor the levels of the urinary metabolite 11dhTXB<sub>2</sub>.

- Liquid ready-to-use
- 100% human material
- Stable to expiry at 2°C to 8°C
- Open vial stability of 28 days at 2°C to 8°C

Description	Size	Cat. No.
TXB Cardio Control Level 1	3 x 3 ml	TBX5125
TXB Cardio Control Level 2	3 x 3 ml	TBX5126
TXB Cardio Control Level 3	3 x 3 ml	TBX5127
TXB Cardio Calibrator Series	3 x 3 ml	TBX3132

# COAGULATION AND HAEMATOLOGY CONTROLS

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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	30



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



# COAGULATION AND HAEMATOLOGY

## 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

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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	33
HbA1c Calibrator Series	5 x 2 ml, 1 x 8 ml	HA3444	33
Liquid HbA1c Control Level 1	6 x 1 ml	HA10224	33
Liquid HbA1c Control Level 2	6 x 1 ml	HA10225	33
Liquid HbA1c Control Set	2 x 2 x 0.5 ml	HA10155	33
G-6PDH Control Deficient	6 x 0.5 ml	PD2617	33
G-6PDH Control Normal	6 x 0.5 ml	PD2618	33
Fructosamine Control Level 1	3 x 1 ml	FR2994	34
Fructosamine Control Level 3	3 x 1 ml	FR2996	34
Fructosamine Calibrator	3 x 1 ml	FR2993	34
Haemoglobin F and A2 Control	2 x 2 x 0.2 ml	HA5083	34
Adiponectin Control Level 2	3 x 1 ml	AO2815	34
Adiponectin Control Level 3	3 x 1 ml	AO2816	34
Adiponectin Calibrator	6 x 1 ml	AO8156	34



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

# DIABETES AND WHOLE BLOOD

## 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

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
- Human based whole blood
- 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

## 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
- Human based 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.
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

## Haemoglobin F & A2 Control

Analytes	
Level 1 Haemoglobin A2 (HbA2) Haemoglobin F (HbF)	Level 2 Haemoglobin A2 (HbA2) Haemoglobin F (HbF) Haemoglobin S (HbS)

The Randox Acusera Haemoglobin F and A2 control is specifically designed to monitor the precision of Haemoglobin variants associated with Thalassaemia. As an unassayed, third party control it is suitable for use with all major systems and methods including, HPLC, Immunoassay and Glycation Specific. The level 2 control can also be used as a position marker for Haemoglobin S elution time on HPLC assays.

- Lyophilised for enhanced stability
- 100% human whole blood
- Stable to expiry date at 2°C to 8°C
- Reconstituted stability of up to 30 days at 2°C to 8°C

Description	Size	Cat. No.
Haemoglobin F & A2 Control	2 x 2 x 0.2 ml	HA5083

## Adiponectin Control and Calibrator

Designed specifically for use with the Randox Adiponectin assay, our control and calibrator will help to ensure accurate test system performance. 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

Description	Size	Cat. No.
Adiponectin Control Level 2	3 x 1 ml	AO2815
Adiponectin Control Level 3	3 x 1 ml	AO2816
Adiponectin Calibrator	6 x 1 ml	AO8156

# IMMUNOASSAY CONTROLS

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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 Product Range			
Product Description	Size	Cat. No.	Page No.
Liquid Immunoassay Premium Level 1	12 x 5 ml	LIA3105	37
Liquid Immunoassay Premium Level 2	12 x 5 ml	LIA3106	37
Liquid Immunoassay Premium Level 3	12 x 5 ml	LIA3107	37
Liquid Immunoassay Premium Tri-Level	4 x 3 x 5 ml	LIA3108	37
PTH Control Level 1	3 x 3 ml	PTH10110	37
PTH Control Level 2	3 x 3 ml	PTH10111	37
PTH Control Level 3	3 x 3 ml	PTH10112	37
Immunoassay Premium Level 1	12 x 5 ml	IA2638	38
Immunoassay Premium Level 2	12 x 5 ml	IA2639	38
Immunoassay Premium Level 3	12 x 5 ml	IA2640	38
Immunoassay Premium Tri-Level	4 x 3 x 5 ml	IA2633	38
Immunoassay Premium Plus Level 1	12 x 5 ml	IA3109	39
Immunoassay Premium Plus Level 2	12 x 5 ml	IA3110	39
Immunoassay Premium Plus Level 3	12 x 5 ml	IA3111	39
Immunoassay Premium Plus Tri-Level	4 x 3 x 5 ml	IA3112	39
Immunoassay Speciality I Level 1	5 x 2 ml	IAS3113	40
Immunoassay Speciality I Level 2	5 x 2 ml	IAS3114	40
Immunoassay Speciality I Level 3	5 x 2 ml	IAS3115	40
Immunoassay Speciality II Level 1	5 x 1 ml	IAS3117	40
Immunoassay Speciality II Level 2	5 x 1 ml	IAS3118	40
Immunoassay Speciality II Level 3	5 x 1 ml	IAS3119	40
Tumour Marker Control Level 2	3 x 2 ml	TU5002	41
Tumour Marker Control Level 3	3 x 2 ml	TU5003	41
Liquid Tumour Marker Control Level 1	6 x 3 ml	TU5085	41
Liquid Tumour Marker Control Level 2	6 x 3 ml	TU5086	41
Liquid Tumour Marker Control Level 3	6 x 3 ml	TU5087	41
Maternal Screening Control Level 1	3 x 1 ml	MSS5024	42
Maternal Screening Control Level 2	3 x 1 ml	MSS5025	42
Maternal Screening Control Level 3	3 x 1 ml	MSS5026	42



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

# IMMUNOASSAY

## 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 <sub>12</sub>

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<sub>12</sub> 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 Level 1	12 x 5 ml	LIA3105
Liquid Immunoassay Premium Level 2	12 x 5 ml	LIA3106
Liquid Immunoassay Premium Level 3	12 x 5 ml	LIA3107
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, independent 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 Premium Control 

Analytes			
17-OH-Progesterone	DHEA-Sulphate	Oestradiol	T3 (Total)
1-25-(OH) <sub>2</sub> -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 <sub>12</sub>
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<sub>12</sub> 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) <sub>2</sub> -Vitamin D	Cortisol	Oestradiol	T4 (Free)
25-OH-Vitamin D	DHEA-Sulphate	Paracetamol	T4 (Total)
α-Fetoprotein (AFP)	Digoxin	Phenobarbitone	Testosterone
ACTH <sup>+</sup>	Estriol	Phenytoin	Testosterone (Free)
Aldosterone <sup>+</sup>	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 <sub>12</sub>
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<sub>12</sub> 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<sub>12</sub> 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 Speciality I Control 

Analytes			
I-25-(OH) <sub>2</sub> -Vitamin D 25-OH-Vitamin D Anti-Thyroglobulin (Anti-TG)	Anti-Thyropoxidase (Anti-TPO) C-Peptide Insulin	Insulin Like Growth Factor-I (IGF-I) Intact PTH (Parathyroid Hormone) Osteocalcin	Procalcitonin

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

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
- Reconstituted 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

# IMMUNOASSAY

## Tumour Marker Control

Analytes			
α-Fetoprotein (AFP)	CA 72-4	CYFRA 21-I	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

## Liquid Tumour Marker Control

Analytes			
α-Fetoprotein (AFP)	CA 27-29	CYFRA 21-I	PSA (Total)
β-2-Microglobulin	CA 72-4	Ferritin	Thyroglobulin
CA 15-3	CA 125	NSE	Total β-hCG
CA 19-9	CEA	PSA (Free)	

The multi-analyte Acusera Liquid Tumour Marker control has been designed for use in the daily monitoring of 15 routine and esoteric tumour markers. Conveniently supplied in a liquid ready-to-use format, no preparation is required, saving precious laboratory time. 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 chemistry and immunoassay instruments.

- 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

Description	Size	Cat. No.
Liquid Tumour Marker Control Level 1	6 x 3 ml	TU5085
Liquid Tumour Marker Control Level 2	6 x 3 ml	TU5086
Liquid Tumour Marker Control Level 3	6 x 3 ml	TU5087

Maternal Screening Control 

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

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

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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	45
Specific Protein Control Level 2	3 x 1 ml	PS2683	45
Specific Protein Control Level 3	3 x 1 ml	PS2684	45
Specific Protein Control Level 1	6 x 3 ml	PS10221	45
Specific Protein Control Level 2	6 x 3 ml	PS10222	45
Specific Protein Control Level 3	6 x 3 ml	PS10223	45
Specific Protein Calibrator (Liquid)	5 x 1 ml	IT2691	45
Specific Protein Calibrator (Liquid)	5 x 1 ml	IT2692	46
Liquid CRP Control Level 2	10 x 1 ml	CP2480	46
Liquid CRP Control Level 3	10 x 1 ml	CP2481	46
High Sensitivity CRP Control Level 1	10 x 1 ml	CP2476	46
High Sensitivity CRP Control Level 2	10 x 1 ml	CP2477	46
CRP Calibrator	3 x 1 ml	CP2179	46
High Sensitivity CRP Calibrator Series	6 x 2 ml	CP2478	46
CRP Calibrator Series	6 x 2 ml	CP2479	46
CRP Full Range Calibrator	6 x 1 ml	CP2499	46
Canine CRP Control Level 2	3 x 1 ml	CP2803	46
Canine CRP Control Level 3	3 x 1 ml	CP2804	46
CSF Control Level 2	10 x 3 ml	CF1500	47
CSF Control Level 3	10 x 3 ml	CF1501	47
Liquid CSF Control Level 1	10 x 3 ml	CF10138	47
Liquid CSF Control Level 2	10 x 3 ml	CF10139	47
ASO Standard	5 x 1 ml	LO2306	47
β-2-Microglobulin Calibrator	3 x 1 ml	BMI362	48
Cystatin C Control Level 2	3 x 2 ml	CYS5019	48
Cystatin C Control Level 3	3 x 2 ml	CYS5020	48
Cystatin C Calibrator	5 x 2 ml	CYS2699	48
Immunoglobulin Liquid Protein Calibrator	3 x 1 ml	IT3861	48
IgE Calibrator Series	6 x 1 ml	IE2492	49
High Sensitivity IgG Calibrator	3 x 1 ml	IT3899	49
Rheumatoid Factor Calibrator Series	5 x 1 ml	RF2301	49
sTfR Control Level 1 & 2	3 x 2 x 1 ml	TF10162	49
sTfR Calibrator	6 x 1 ml	TF10161	49



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

Description	Size	Cat. No.	
Specific Protein Calibrator (Liquid)	5 x 1 ml	IT2691	FOR USE WITH SAMPLES THAT <b>DO NOT</b> REQUIRE PRE-DILUTION



## Specific Protein Calibrator - Requires pre-dilution

Analytes			
α-I-Acid Glycoprotein α-I-Antitrypsin	Immunoglobulin A (IgA)	Immunoglobulin G (IgG)	Immunoglobulin M (IgM)

Multi-analyte calibrator designed for use in the routine calibration of 5 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

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

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
CRP Calibrator	3 x 1 ml	CP2179
High Sensitivity CRP Calibrator Series	6 x 2 ml	CP2478
CRP Calibrator Series	6 x 2 ml	CP2479
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 × 3 ml	CF1500
CSF Control Level 3	10 × 3 ml	CF1501

## Liquid CSF Control

Analytes			
α-1-Globulin (Electrophoresis)	Chloride	High Sensitivity Immunoglobulin G (hslgG)	Protein (Total)
α-2-Globulin (Electrophoresis)	γ-Globulin (Electrophoresis)	High Sensitivity Immunoglobulin M (hslgM)*	Sodium
Albumin (Electrophoresis)	Glucose	Lactate	
β-Globulin (Electrophoresis)	High Sensitivity Immunoglobulin A (hslgA)*	Microalbumin	

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 × 3 ml	CF10138
Liquid CSF Control Level 2	10 × 3 ml	CF10139

\*No claims are made regarding values or stability.

## ASO Standard

Our dedicated ASO calibrator is designed for use in the calibration of immunoturbidimetric ASO assays. Compatible for use on a wide range of clinical analysers, this calibrator is supplied in a user-friendly liquid ready-to-use format.

- Liquid ready-to-use
- 100% human serum
- 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.
ASO Standard	5 × 1 ml	LO2306

## 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

Description	Size	Cat. No.
β-2-Microglobulin Calibrator	3 x 1 ml	BMI362

## 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

Description	Size	Cat. No.
Cystatin C Control Level 2	3 x 2 ml	CYS5019
Cystatin C Control Level 3	3 x 2 ml	CYS5020
Cystatin C Calibrator	5 x 2 ml	CYS2699

## 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

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

# IMMUNOLOGY/PROTEIN

## 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

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

## High Sensitivity IgG Calibrator

Dedicated calibrator designed for use with the Randox hslgG assay. Conveniently supplied in a liquid ready-to-use format with a working stability of 30 days, meaning waste and preparation are kept to a minimum.

- Liquid ready-to-use
- 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.
High Sensitivity IgG Calibrator	3 x 1 ml	IT3899

## Rheumatoid Factor Calibrator Series

Comprising 5 levels, our RF calibrator series is designed for use in the calibration of RF immunoturbidimetric assays. Supplied in a user-friendly liquid ready-to-use format, meaning no preparation is required.

- Liquid ready-to-use
- 100% human serum
- 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.
Rheumatoid Factor Calibrator Series	5 x 1 ml	RF2301

## 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

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)

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Serology tests are typically blood tests that look for antibodies within the body. Different types of serological tests can be used to diagnose various conditions. Different types of antigens that affect people can include bacteria, fungi, viruses and parasites. 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.

# INFECTIOUS DISEASE (SEROLOGY)

Infectious Disease (Serology) Product Range			
Product Description	Size	Cat. No.	Page No.
Lyme Disease Negative Control	1 x 5 ml	SR10345	52
Lyme Disease Positive Control	1 x 5 ml	SR10346	52
ToRCH Negative Control	6 x 5 ml	SR10347	52
ToRCH IgG Positive Control	3 x 5 ml	SR10348	52
ToRCH IgM Positive Control	3 x 5 ml	SR10349	52
EBV Positive Control	1 x 5 ml	SR10350	53
Serology Negative Control	6 x 5 ml	SR10351	53
Serology I Positive Control	3 x 5 ml	SR10352	53
Serology II Positive Control	3 x 5 ml	SR10353	53
Serology III Positive Control	3 x 5 ml	SR10354	53



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

# INFECTIOUS DISEASE (SEROLOGY)

## 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

## 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
- 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.
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

# INFECTIOUS DISEASE (SEROLOGY)

## 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
- 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.
EBV Positive Control	1 x 5 ml	SR10350

## Serology Controls

Analytes			
<b>Serology Negative</b>	HbeAg	HBsAg	<b>Serology III Positive</b>
Anti-HAV	HBsAg	<i>Treponema pallidum</i> (Syphilis) IgG	HAV IgM
Anti-HBc	HIV P24Ag		HBc IgM
Anti-Hbe	<i>Treponema pallidum</i> (Syphilis) IgG	<b>Serology II Positive</b>	
Anti-HBs		Anti-HAV	
Anti-HCV	<b>Serology I Positive</b>	Anti-HBc	
Anti-HIV 1 / 2	Anti-HBc	Anti-Hbe	
Anti-HTLV 1 / 2	Anti-HCV	Anti-HBs	
HAV IgM	Anti-HIV 1 / 2		
HBc IgM	Anti-HTLV 1 / 2		

The Acusera Serology controls covers 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



# LIPID CONTROLS

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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	56
Lipid Control Level 2	5 x 1 ml	LE2669	56
Lipid Control Level 3	5 x 1 ml	LE2670	56
Lipid Control Level 1	5 x 3 ml	LE2661	56
Lipid Control Level 2	5 x 3 ml	LE2662	56
Lipid Control Level 3	5 x 3 ml	LE2663	56
Liquid Lipid Control Level 1	5 x 3 ml	LE10174	56
Liquid Lipid Control Level 2	5 x 3 ml	LE10175	56
Liquid Lipid Control Level 3	5 x 3 ml	LE10176	56
Direct HDL/LDL Cholesterol Calibrator (Clearance)	3 x 1 ml	CH2673	57
Apolipoprotein Control Level 1	3 x 1 ml	LE5016	57
Apolipoprotein Control Level 2	3 x 1 ml	LE5017	57
Apolipoprotein Control Level 3	3 x 1 ml	LE5018	57
Apolipoprotein Calibrator	3 x 1 ml	LP3023	57
Apolipoprotein Calibrator 2	3 x 1 ml	LP5047	57
Lipoprotein (a) Control Level 3	3 x 1 ml	LP3406	58
Lipoprotein (a) Calibrator Series	5 x 1 ml	LP3404	58
sLDL Control Level 1	3 x 1 ml	LE5013	58
sLDL Control Level 2	3 x 1 ml	LE5014	58
sLDL Control Level 3	3 x 1 ml	LE5015	58
sLDL Calibrator	3 x 1 ml	CH5050	58
HDL-3 Control Level 2	3 x 1 ml	CH10169	58
HDL-3 Control Level 3	3 x 1 ml	CH10170	58
HDL-3 Calibrator	5 x 1 ml	CH10164	58



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

## Lipid Control

Analytes			
Apolipoprotein A-I Apolipoprotein B	Cholesterol (HDL) Cholesterol (LDL)	Cholesterol (Total) 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

## Liquid Lipid Control

Analytes			
Apolipoprotein A-I Apolipoprotein B	Cholesterol (HDL) Cholesterol (LDL)	Cholesterol (Total) CRP	Lipoprotein (a) Triglycerides

Delivering a true third party solution for a wide range of lipids, the new Acusera Liquid Lipid Control is designed to ensure an unbiased, independent assessment of analytical performance. The added advantage of liquid samples and a 30 day open vial stability keeps waste to a minimum while ensuring the control is easy and convenient to use. Three distinct levels are available covering low risk, borderline and high risk concentrations.

- Liquid frozen
- 100% human serum
- Sodium Azide is not present - no interference occurs with clearance methods
- Stable to expiry date at -20°C to -80°C
- Reconstituted stability of 30 days at 2°C to 8°C

Description	Size	Cat. No.
Liquid Lipid Control Level 1	5 x 3 ml	LE10174
Liquid Lipid Control Level 2	5 x 3 ml	LE10175
Liquid Lipid Control Level 3	5 x 3 ml	LE10176

# LIPIDS

## 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

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

## Apolipoprotein Control and Calibrators

Analytes		
<b>Apolipoprotein Control</b> Apolipoprotein A-II Apolipoprotein C-II Apolipoprotein C-III Apolipoprotein E	<b>Apolipoprotein Calibrator</b> Apolipoprotein A-I Apolipoprotein B	<b>Apolipoprotein Calibrator 2</b> Apolipoprotein A-II Apolipoprotein C-II Apolipoprotein C-III 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 up to 28 days at 2°C to 8°C for Apolipoprotein A-II and Apolipoprotein C-III, 14 days for Apolipoprotein C-II and 8 hours for Apolipoprotein E
- Calibrator - reconstituted stability of 7 days at 2°C to 8°C for Apolipoprotein control A-I, B, A-II, C-II and C-III, 1 day for Apolipoprotein E

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

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

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

## HDL-3 Control and Calibrator

The Randox Acusera HDL3 quality control and calibrator are designed for use in the routine monitoring of HDL3 assays. This single analyte control will help laboratories reduce costs as there is less wastage while measuring two separate levels.

- 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

Description	Size	Cat. No.
HDL-3 Control Level 2	3 x 1 ml	CH10169
HDL-3 Control Level 3	3 x 1 ml	CH10170
HDL-3 Calibrator*	5 x 1 ml	CH10164

\*Calibrator stable for one day only

# SPECIALITY AND RESEARCH CONTROLS

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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	61
Antimicrobial Control III	3 x 1 ml	AMC5036	61
Growth Promoter Control	3 x 1 ml	GP5003	61
Adhesion Molecules Tri-Level Control	3 x 3 x 1 ml	EV3569	62
Adhesion Molecules Calibrator Series	9 x 1 ml	EV3568	62
Cerebral Array II Tri-Level Control	3 x 3 x 0.5 ml	CBB5009	62
Cytokine Array I Tri-Level Control	3 x 3 x 1 ml	CY5006	63
High Sensitivity Cytokine Array Tri-Level Control	3 x 3 x 2 ml	CY5005	63
Cytokine Array Calibrator Series	9 x 1 ml	EV3561	63
Cytokine Array III Tri-Level Control	3 x 3 x 1 ml	CY5012	63
Cytokine Array IV Tri-Level Control	3 x 3 x 1 ml	CY5011	64
Evidence Immunoassay Control	4 x 3 x 5 ml	EV3570	64
Synthetic Steroids Control	3 x 1 ml	EV3709	65
Synthetic Steroids Calibrator	9 x 1 ml	EV3708	65
Metabolic Syndrome Array I Control	3 x 3 x 1 ml	EV3757	65
Metabolic Syndrome Array I Calibrator	9 x 1 ml	EV3756	65
Metabolic Syndrome Array II Control	3 x 3 x 1 ml	EV3761	66
Metabolic Syndrome Array II Calibrator	9 x 1 ml	EV3760	66
Thyroid Total Calibrator Series	9 x 1 ml	EV3555	66
Thyroid Free Calibrator Series	9 x 1 ml	EV3563	66



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 Quinolones (Generic)	Streptomycin 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 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) Boldenone Corticosteroids	Nandrolone Ractopamine	Stanozolol Stilbenes	Trenbolone 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) Intercellular Adhesion Molecule-1 (ICAM-1) L-Selectin (L-SEL)	P-Selectin (P-SEL) Vascular Cell Adhesion Molecule-1 (VCAM-1)

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 D-dimer Neuron Specific Enolase (NSE)	Neutrophil Gelatinase-associated Lipocalin (NGAL) Soluble Tumour Necrosis Factor Receptor I (sTNFR1) 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) Interferon g (IFNg) Interleukin-1α (IL-1α) Interleukin-1β (IL-1β) Interleukin-2 (IL-2) Interleukin-4 (IL-4)	Interleukin-6 (IL-6) Interleukin-8 (IL-8) Interleukin-10 (IL-10) Monocyte Chemoattractant Protein-1 (MCP-1) Tumour Necrosis Factor α (TNFα) 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 × 3 × 1 ml	CY5006
High Sensitivity Cytokine Array I Tri-Level Control	3 × 3 × 2 ml	CY5005
Cytokine Array Calibrator Series	9 × 1 ml	EV3561

## Cytokine Array III Control

Analytes	
GM-CSF Interleukin-5 (IL-5)	Interleukin-15 (IL-15) 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 × 3 × 1 ml	CY5012

## Cytokine Array IV Control

### Analytes

Matrix Metalloproteinase-9 (MMP-9)  
Soluble Interleukin-2-Receptor  $\alpha$  (sIL-2R $\alpha$ )  
Soluble Interleukin-6-Receptor (sIL-6R)

Soluble Tumour Necrosis Factor Receptor I (sTNFRI)  
Soluble Tumour Necrosis Factor Receptor II (sTNFRII)

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  
FSH  
Luteinising Hormone (LH)  
Oestradiol

Progesterone  
Prolactin  
PSA (Free)  
PSA (Total)

T3 (Free)  
T3 (Total)  
T4 (Free)  
T4 (Total)

Testosterone  
TSH

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			
17 $\beta$ -Clostebol Ethinylestradiol	Gestagens (Generic)	Methandriol	Methyltestosterone

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 Ferritin Insulin	Interleukin-1 $\alpha$ (IL-1 $\alpha$ ) Interleukin-6 (IL-6) Leptin	Plasminogen Activator Inhibitor-1 Resistin	Tumour Necrosis Factor $\alpha$ (TNF $\alpha$ )

A multi-analyte control with target values and ranges provided for 9 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 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

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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 Product Range

Product Description	Size	Cat. No.	Page No.
Therapeutic Drug Control Level 1	20 x 5 ml	HD1667	69
Therapeutic Drug Control Level 2	20 x 5 ml	HD1668	69
Therapeutic Drug Control Level 3	20 x 5 ml	HD1669	69
Therapeutic Drug Calibrator	6 x 3 ml	TD3417	69



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 7 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

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



# TOXICOLOGY CONTROLS

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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 Product Range			
Product Description	Size	Cat. No.	Page No.
Ethanol Calibrator/Control Set	4 x 10 ml	DA2703	72
Drugs of Abuse Array I Plus (Urine) Controls	4 x 2 x 1 ml	EV3745	72
Drugs of Abuse Array I Plus (Urine) Calibrators	9 x 1 ml	EV3744	72
Drugs of Abuse Array I Plus (Whole Blood) Controls	4 x 2 x 1 ml	EV3750	72
Drugs of Abuse Array I Plus (Whole Blood) Calibrators	9 x 1 ml	EV3749	72
Drugs of Abuse Array II (Urine) Controls	4 x 2 x 1 ml	EV3657	72
Drugs of Abuse Array II (Whole Blood) Controls	4 x 2 x 1 ml	EV3682	72
Drugs of Abuse Array II (Urine) Calibrator Series	9 x 1 ml	EV3656	72
Drugs of Abuse Array II (Whole Blood) Calibrator Series	9 x 1 ml	EV3687	72
Drugs of Abuse Array III (Urine) Control	4 x 2 x 1 ml	EV3830	73
Drugs of Abuse Array III (Urine) Calibrator Series	9 x 1 ml	EV3829	73
Drugs of Abuse Array III (Whole Blood) Control	4 x 2 x 1 ml	EV3794	73
Drugs of Abuse Array III (Whole Blood) Calibrator Series	9 x 1 ml	EV3797	73
Drugs of Abuse Array IV (Urine) Control	4 x 2 x 1 ml	EV3835	73
Drugs of Abuse Array IV (Urine) Calibrator Series	9 x 1 ml	EV3834	73
Drugs of Abuse Array IV (Whole Blood) Control	4 x 2 x 1 ml	EV3809	73
Drugs of Abuse Array IV (Whole Blood) Calibrator Series	9 x 1 ml	EV3808	73
Drugs of Abuse Array V (Urine) Control	4 x 2 x 1 ml	EV3814	74
Drugs of Abuse Array V (Urine) Calibrator Series	9 x 1 ml	EV3815	74
Drugs of Abuse Array V (Whole Blood) Control	4 x 2 x 1 ml	EV3848	74
Drugs of Abuse Array V (Whole Blood) Calibrator Series	9 x 1 ml	EV3847	74
Cannabinoid Calibrator Set	5 x 3 ml	DA2700	74
Cannabinoid Control Level 1	5 x 3 ml	DA3127	74
Cannabinoid Control Level 2	5 x 3 ml	DA3128	74
Ecstasy Calibrator Set	5 x 10 ml	DA2701	74
Ecstasy Control Level 1	5 x 5 ml	DA3125	74
Ecstasy Control Level 2	5 x 5 ml	DA3126	74
EDDP Calibrator Set	5 x 10 ml	DA2702	75
EDDP Control Level 1	5 x 5 ml	DA3123	75
EDDP Control Level 2	5 x 5 ml	DA3124	75
Multidrug Calibrator Set	5 x 10 ml	DA2704	75
Multidrug Control Level 1	5 x 5 ml	DA3121	75
Multidrug Control Level 2	5 x 5 ml	DA3122	75
Benzodiazepines Control Level 1	5 x 5 ml	DA3130	75
Benzodiazepines Control Level 2	5 x 5 ml	DA3131	75
Benzodiazepines Calibrator Set	5 x 10 ml	DA3129	75



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 I Plus Controls and Calibrators

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

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 I Plus (Urine) Controls	4 x 2 x 1 ml	EV3745
Drugs of Abuse Array I Plus (Urine) Calibrators	9 x 1 ml	EV3744
Drugs of Abuse Array I Plus (Whole Blood) Controls	4 x 2 x 1 ml	EV3750
Drugs of Abuse Array I Plus (Whole Blood) Calibrators	9 x 1 ml	EV3749

## Drugs of Abuse Array II Controls and Calibrators

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

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 Chloral Hydrate Metabolite Creatinine	Ethyl Glucuronide Fentanyl Ketamine	Meperidine Meprobamate Zaleplon	Zolpidem Zopiclone

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 Dextromethorphan Escitalopram Fluoxetine	Haloperidol Ibuprofen Methylphenidate Paracetamol	Salicylate Salicylic Acid Sertraline Tramadol	Trazodone Tricyclic Antidepressants

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

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

Cannabinoid Control and Calibrator 

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

- Liquid ready-to-use
- 100% 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.
Cannabinoid Calibrator Set	5 x 3 ml	DA2700
Cannabinoid Control Level 1	5 x 3 ml	DA3127
Cannabinoid Control Level 2	5 x 3 ml	DA3128

Ecstasy Control and Calibrator 

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

- Liquid ready-to-use
- 100% 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.
Ecstasy Calibrator Set	5 x 10 ml	DA2701
Ecstasy Control Level 1	5 x 5 ml	DA3125
Ecstasy Control Level 2	5 x 5 ml	DA3126

# TOXICOLOGY

## EDDP Control and Calibrator

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

- Liquid ready-to-use
- Human urine
- Stable to expiry date when capped and stored at 2°C to 8°C
- Once opened stable to expiry date at 2°C to 8°C

Description	Size	Cat. No.
EDDP Calibrator Set	5 x 10 ml	DA2702
EDDP Control Level 1	5 x 5 ml	DA3123
EDDP Control Level 2	5 x 5 ml	DA3124

## Multidrug Control

Analytes			
Benzoyllecgonine (Cocaine) Methadone	Methamphetamine	Morphine (Opiates)	Secobarbital

Multi-analyte control and calibrator designed for use in the quality control of the Randox Amphetamines, Barbiturates, Opiates, Cocaine and Methadone assays.

- 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.
Multidrug Control Level 1	5 x 5 ml	DA3121
Multidrug Control Level 2	5 x 5 ml	DA3122
Multidrug Calibrator Set	5 x 10 ml	DA2704

## Benzodiazepines Control and Calibrator

Dedicated calibrator and control set designed for the calibration and control of the Randox Benzodiazepines 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.
Benzodiazepines Control Level 1	5 x 5 ml	DA3130
Benzodiazepines Control Level 2	5 x 5 ml	DA3131
Benzodiazepines Calibrator Set	5 x 10 ml	DA3129

# URINE CONTROLS

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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

Urine Product Range			
Product Description	Size	Cat. No.	Page No.
Assayed Urine Control Level 2	12 x 10 ml	AU2352	78
Assayed Urine Control Level 3	12 x 10 ml	AU2353	78
Liquid Urine Control Level 2	10 x 10 ml	UC5074	78
Liquid Urine Control Level 3	10 x 10 ml	UC5075	78
Urinalysis Control Level 1	12 x 12 ml	UC5033	79
Urinalysis Control Level 2	12 x 12 ml	UC5034	79
Low Level hCG Control	3 x 1 ml	PF10333	79
Microalbumin Control Level 1 & 2	6 x 1 ml	MA1361	79
Microalbumin Calibrator Series	6 x 2 ml	MA1567	79



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix



## 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

## 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

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

# URINE

## 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

## Low Level hCG Control

Third party QC solution for the measurement of hCG on Alere hCG Cassettes. This Acusera control provides an unbiased, independent assessment of analytical performance helping to ensure accurate and reliable patient testing for hCG. This single level control will cover the low level of hCG testing on the Alere hCG Cassettes.

- Lyophilised for enhanced stability
- Human based urine
- Suitable for use in POCT
- Assayed target values provided for Alere hCG Cassette
- 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.
Low Level hCG Control	3 x 1 ml	PF10333

## Microalbumin Control and Calibrator

Our Acusera Microalbumin Control & 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 control, 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 Control Level 1 & 2	6 x 1 ml	MA1361
Microalbumin Calibrator Series	6 x 2 ml	MA1567

# ACCESSORIES

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This accessories section looks at the different products we have that can be used in conjunction with our other products found in this brochure. Further information on each accessory can be found beside the product name.

# ACCESSORIES

## Accessories Product Range

Product Description	Size	Cat. No.	Page No.
Serum Diluent	20 x 5 ml	MS5007	82



Liquid ready-to-use



Liquid frozen



Lyophilised for enhanced stability



Assayed target values provided



100% human matrix

## Serum Diluent

This convenient 5ml serum diluent is designed to assist laboratories with reconstitution of lyophilised controls. The user-friendly pour over vials streamline the reconstitution process and help to eliminate the risk of pipetting errors.

Description	Size	Cat. No.
Serum Diluent	20 x 5 ml	MS5007

The following IQC and EQA products are available for use with this Serum Diluent:

IQC Product Range			
Description	Size	Cat. No.	Page No.
Glutathione Reductase Control	10 x 5 ml	GR2608	08
Glutathione Reductase Calibrator	10 x 5 ml	GR2609	08
Total Antioxidant Status Control	10 x 5 ml	NX2331	08
Precision Chemistry Premium Plus Level 2	20 x 5 ml	UN1557	19
Precision Chemistry Premium Plus Level 3	20 x 5 ml	UE1558	19
Assayed Chemistry Premium Plus Level 2	20 x 5 ml	HNI530	21
Assayed Chemistry Premium Plus Level 3	20 x 5 ml	HE1532	21
Assayed Chemistry Premium Plus Level 2 & 3	2 x 5 x 5 ml	HS2611	21
Bovine Chemistry Assayed Level 1	20 x 5 ml	AL1027	23
Bovine Chemistry Assayed Level 2	20 x 5 ml	ANI026	23
Bovine Chemistry Assayed Level 3	20 x 5 ml	AE1032	23
Clinical Chemistry Calibration Serum Level 2	20 x 5 ml	CAL2350	24
Clinical Chemistry Calibration Serum Level 3	20 x 5 ml	CAL2351	24
Glycerol Control	3 x 5 ml	GY1369	25
Glutamine Control Level 1	5 x 5 ml	GM1376	26
Glutamine Control Level 2	5 x 5 ml	GM1377	26
Glutamine Control Level 3	5 x 5 ml	GM1378	26
Glutamine Calibrator	3 x 5 ml	GM1375	26
Immunoassay Premium Level 1	12 x 5 ml	IA2638	38
Immunoassay Premium Level 2	12 x 5 ml	IA2639	38
Immunoassay Premium Level 3	12 x 5 ml	IA2640	38
Immunoassay Premium Level Tri-level	4 x 3 x 5 ml	IA2633	38
Immunoassay Premium Plus Level 1	12 x 5 ml	IA3109	39
Immunoassay Premium Plus Level 2	12 x 5 ml	IA3110	39
Immunoassay Premium Plus Level 3	12 x 5 ml	IA3111	39
Immunoassay Premium Plus Level Tri-level	4 x 3 x 5 ml	IA3112	39
Evidence Immunoassay Control	4 x 3 x 5 ml	EV3570	64
Therapeutic Drug Control Level 1	20 x 5 ml	HD1667	69
Therapeutic Drug Control Level 2	20 x 5 ml	HD1668	69
Therapeutic Drug Control Level 3	20 x 5 ml	HD1669	69

EQA Product Range			
Description	Size	Cat. No.	Page No.
General Clinical Chemistry Programme (10 parameters)	5 ml	RQ9112/a	96
General Clinical Chemistry Programme (17 parameters)	5 ml	RQ9112/b	96
General Clinical Chemistry Programme (52 parameters)	5 ml	RQ9112/c	96
Immunoassay Programme (4 parameters)	5 ml	RQ9125/a	97
Immunoassay Programme (13 parameters)	5 ml	RQ9125/b	97
Immunoassay Programme (55 parameters)	5 ml	RQ9125/c	97
Immunoassay Programme (55 parameters)	5 ml	RQ9130	97
Therapeutic Drugs Programme (18 parameters)	5 ml	RQ9111	99

# CUSTOMISED QUALITY CONTROL SERA

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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 35 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
- Clinical Chemistry
- Coagulation and Haematology
- Diabetes and Whole Blood
- Immunoassay
- Immunology/Proteins
- Infectious Disease (Serology)
- Lipids
- Tumour Markers
- Therapeutic Drugs and Toxicology
- Urine tests
- 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

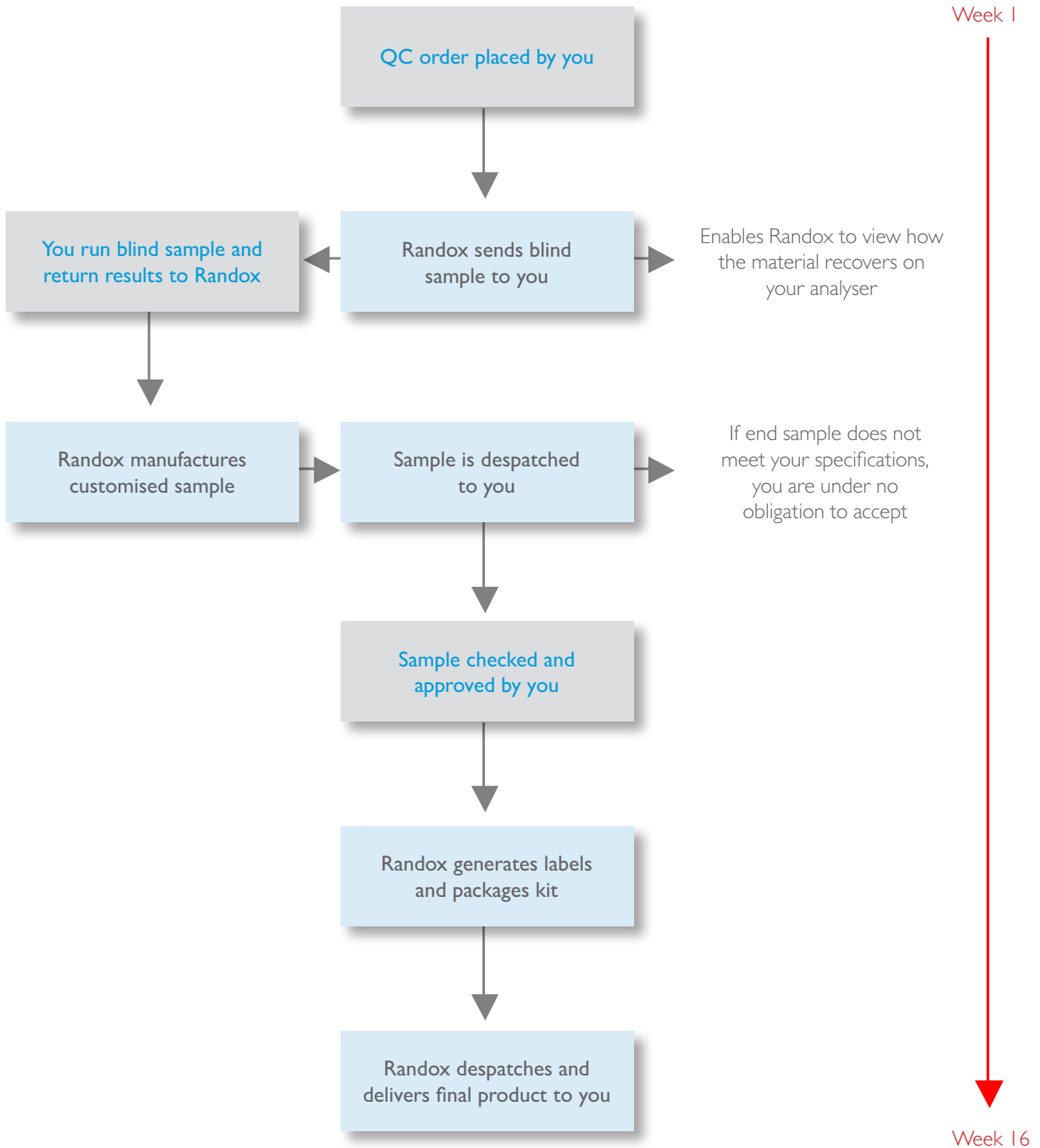
All controls are **produced to high quality specification**, fully compliant with ISO 13485

## Choice

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

# CUSTOMISED QUALITY CONTROL SERA

## Custom Control Timeline





# INTER- LABORATORY DATA MANAGEMENT

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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.

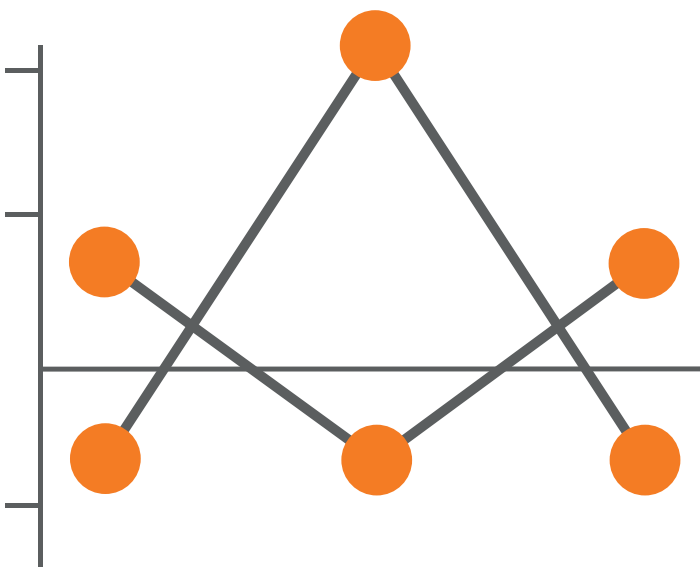
# WHAT IS ACUSERA 24•7?

## 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?

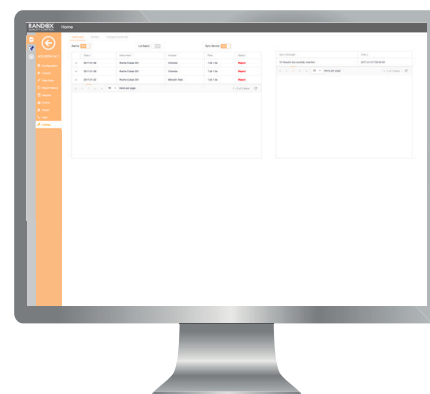
- Quickly identify trends, system errors and reagent issues, minimising expensive repeat tests
- Bridge the gap between daily quality control and external quality assessment
- Improve EQA performance by eliminating any undetected bias
- Facilitate regulatory compliance
- Reduce false rejections through 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



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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.  
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## 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

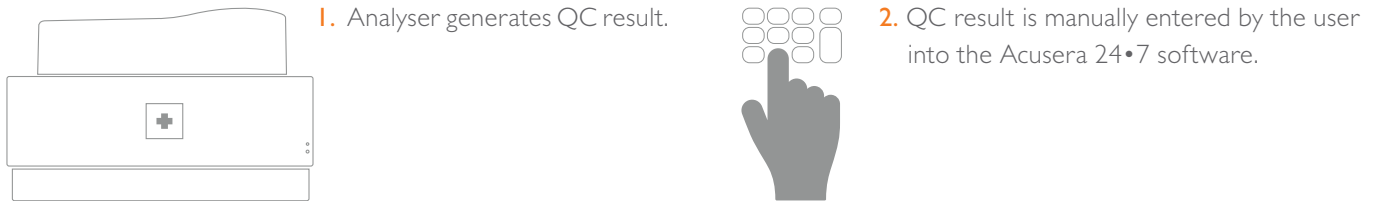
The Statistical Metrics Report incorporates %Bias, Total Error and a Sigma score for optimum QC strategy design while the Uncertainty of Measurement Report helps to meet ISO15189:2012 requirements.

# DATA ENTRY OPTIONS

## 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.



### 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.



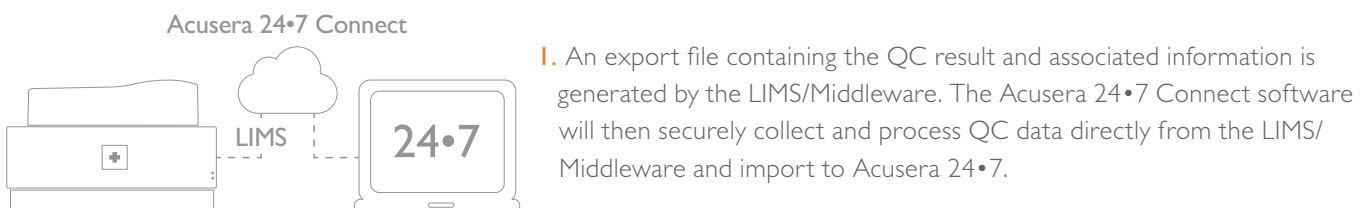
**Note:** First time users must create a new configuration for the EDI file and carry out EDI mapping.

### 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.



**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
<b>Global Peer Data</b>			
Access to real-time peer group data	✓	✓	✓
<b>Users</b>			
Multiple levels of user access	✓	✓	✗
Unlimited number of registered users	✓	✗	✗
<b>Configuration</b>			
Custom Multi-Rules	✓	✗	✗
Ability to use other manufacturer controls or custom controls	✓	✗	✗
<b>Data Entry</b>			
Data import via Acusera 24•7 Connect *	✓	✓	✓
Manual data entry by panel	✓	✓	✗
Semi automated data entry via EDI	✓	✓	✓
Recording of instrument events	✓	✗	✗
<b>Result History</b>			
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	✓	✗	✗
<b>Reports</b>			
Statistical Analysis Report	✓	✓	✓
Peer Group Statistics Report	✓	✓	✓
Exception Report	✓	✓	✗
Statistical Metrics Report	✓	✗	✗
Uncertainty of Measurement Report	✓	✗	✗
<b>Charts</b>			
Levey-Jennings Chart	✓	✓	✓
Histogram Chart	✓	✓	✓
Performance Summary Chart	✓	✓	✓
Multi-Levey Jennings/Histogram Charts	✓	✓	✗
<b>Utilities</b>			
Dashboard	✓	✓	✗
Audit Trail	✓	✗	✗
Advisor Tool	✓	✗	✗
Data Review	✓	✓	✓
<b>ORDERING DETAILS</b>			
<b>Description</b>	<b>Cat. No.</b>	<b>Description</b>	<b>Cat. No.</b>
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

# GLOSSARY

## Bias%

### Bias%

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

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

## 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.

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

## TE

### Total Error (TE)

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

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

## 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.

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

## 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

-----  
"The laboratory shall determine measurement uncertainty for each measurement procedure in the examination phases used to report measured quantity values on patients' samples. The laboratory shall define the performance requirements for the measurement uncertainty of each measurement procedure and regularly review estimates of measurement uncertainty."  
-----

ISO 15189:2012

# EXTERNAL QUALITY ASSESSMENT

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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.

# FEATURES AND BENEFITS

## RIQAS - Randox International Quality Assessment Scheme

RIQAS is the largest international EQA scheme, used by more than 45,000 laboratory participants in over 133 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

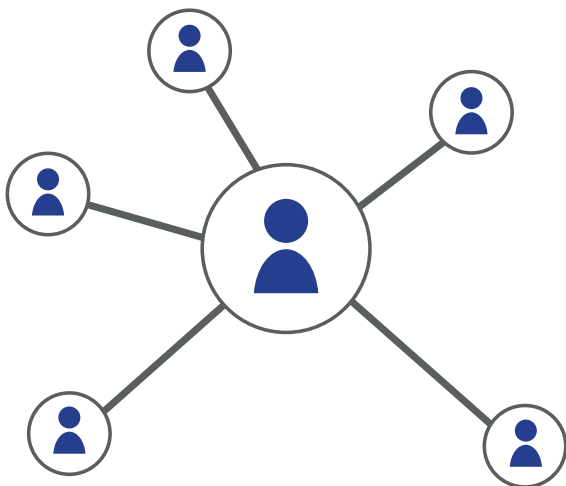
- Frequent reporting allows early identification of system errors and implementation of any necessary corrective actions with minimum disruption to the lab.
- With a turnaround of less than 72 hours for most reports, corrective action can be taken immediately reducing the time spent performing expensive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

#### Highly Accredited

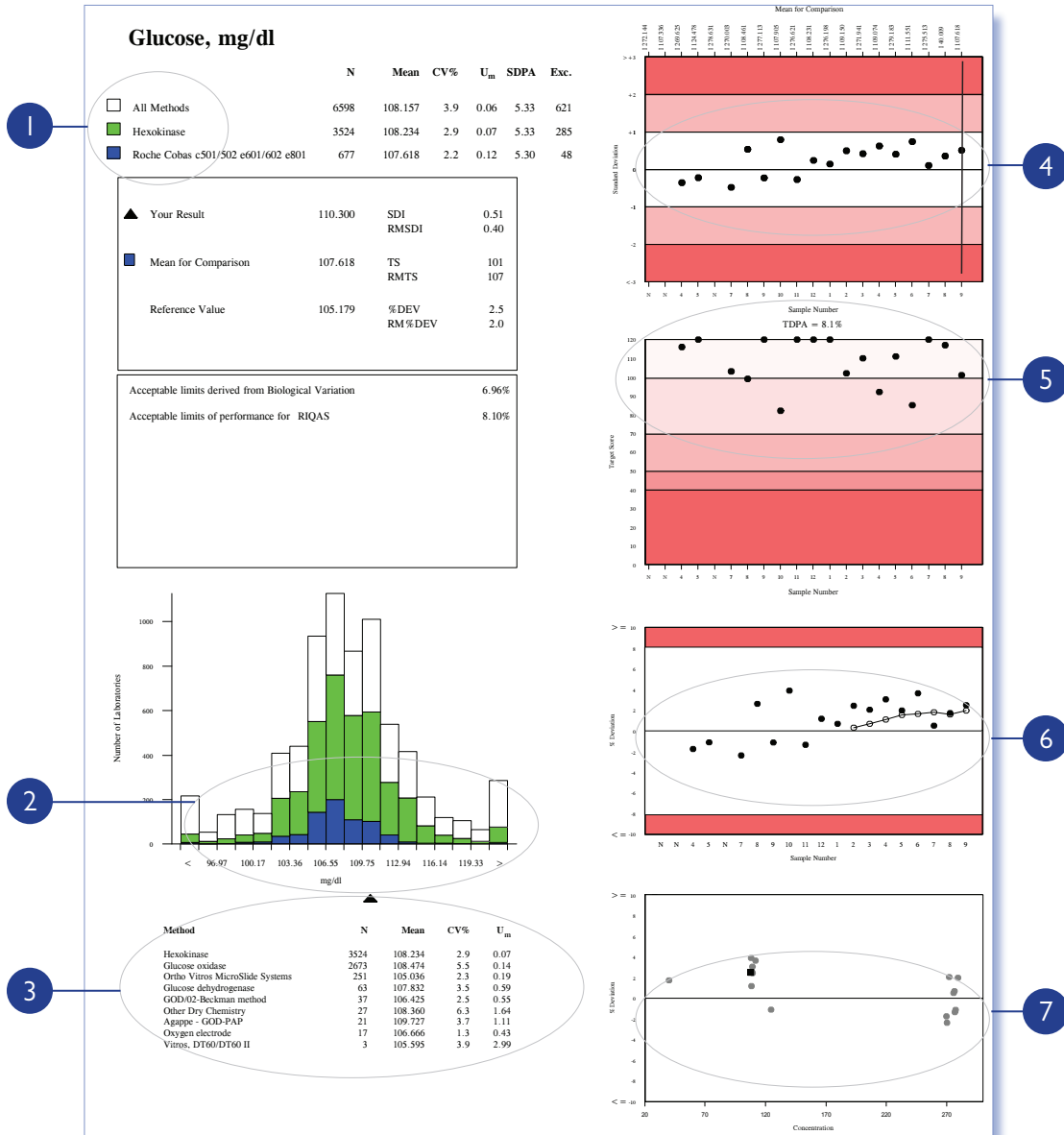
- Programmes accepted by National and International accreditation bodies worldwide.
- Participant certificates provide evidence of participation in a reputable EQA scheme.



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Participation in an EQA scheme will help produce reliable and accurate reporting of patient results. Quality results will reduce time and labour costs, and most importantly provide accurate patient diagnosis & treatment.  
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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 10 Parameters Samples every month, 1 x 12 month cycle, 12 month subscription	RQ9134/A (1.8 ml) Subsequent instruments 10 Parameters
---	--

pCO <sub>2</sub>	CO <sub>2</sub> (Total)	K+	Lactate
pH	Ca <sup>++</sup>	Na+	
pO <sub>2</sub>	Cl-	Glucose	

## 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) Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription	RQ9127/b (1 ml) Full 7 Parameters
--	--------------------------------------

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

## Cerebrospinal Fluid Programme+ *With target scoring*

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

Albumin	Glucose	Lactate	Sodium
Chloride	IgG	Protein (Total)	

## Coagulation Programme *With target scoring*

RQ9135/a (1 ml) 5 Selected parameters only (aPTT, PT, TT, Fibrinogen, Antithrombin III) Samples every month, 1 x 12 month cycle, 12 month subscription	RQ9135/b (1 ml) Full 17 Parameters
---	---------------------------------------

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

 = Liquid ready-to-use samples

 = Lyophilised samples

PURPLE = The only parameters available on RQ9135/a

+ = Not accredited

\* = Pilot study ongoing

## CO-Oximetry Programme+

**RQ9177 (1.2 ml)**      **RQ9177/A (1.2 ml)**  
 First registered instrument      Subsequent instruments  
 7 Parameters      7 Parameters  
 Samples every month, 1 x 12 month cycle, 12 month subscription

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

## CYFRA 21-I Programme+

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

CYFRA 21-I (Cytokeratin 19)

## ESR Programme+

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

ESR (Erythrocyte Sedimentation Rate)

## General Clinical Chemistry Programme *With target scoring*

<b>RQ9112/a (5 ml)</b> 10 Parameters only Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription, reference method values	<b>RQ9112/b (5 ml)</b> 17 Parameters only	<b>RQ9112/c (5 ml)</b> Full 52 Parameters
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ACE (Angiotensin Converting Enzyme)	Calcium	HBDH	PSA
Acid Phosphatase (Prostatic)	Calcium (Ionised)	HDL-Cholesterol	Sodium
Acid Phosphatase (Total)	Chloride	Iron	TIBC
Albumin	Cholesterol	Lactate	T <sub>3</sub> (Free)
Alkaline Phosphatase	Cholinesterase	LD (LDH)	T <sub>3</sub> (Total)
ALT (ALAT)	CK, Total (CPK)	Lipase	T <sub>4</sub> (Free)
Amylase (Pancreatic)	Copper	Lithium	T <sub>4</sub> (Total)
Amylase (Total)	Creatinine	Magnesium	Triglycerides
AST (ASAT)	D-3-Hydroxybutyrate	NEFA	TSH
Bicarbonate	Fructosamine	Osmolality	UIBC
Bile Acids	γGT	Phosphate (Inorganic)	Urea
Bilirubin (Direct)	GLDH	Potassium	Uric Acid
Bilirubin (Total)	Glucose	Protein (Total)	Zinc

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

**RQ9129 (0.5 ml)**  
 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)	Mean Cell Haemoglobin Concentration (MCHC)	Platelets (PLT)	Red Cell Distribution Width (RDW)
Haemoglobin (Hb)	Mean Cell Volume (MCV)	Plateletcrit (PCT)	Total White Blood Cell Count (WBC)
Mean Cell Haemoglobin (MCH)	Mean Platelet Volume (MPV)	Red Blood Cell Count (RBC)	

# RIQAS PROGRAMMES

## Human Urine Programme *With target scoring*

RQ9115 (10 ml)

25 Parameters

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

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

## Immunoassay Programme *With target scoring*

RQ9125/a (5 ml)

4 Parameters only (choose from 55)

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

Samples every month, 1 x 12 month cycle, 12 month subscription (RQ9130)

RQ9125/b (5 ml)

13 Parameters only (choose from 55)

RQ9125/c (5 ml)

Full 55 Parameters

RQ9130 (5 ml)

Full 55 Parameters

ACTH	DHEA Unconjugated	17-OH-Progesterone	T <sub>4</sub> (Free)
AFP	Digoxin	Paracetamol	T <sub>4</sub> (Total)
Aldosterone	Estril Total*	Phenobarbitone	Testosterone (Free)*
Amikacin	Ethosuximide*	Phenytoin	Testosterone (Total)
Androstenedione	Ferritin	Primidone*	Theophylline
β-2-Microglobulin	Folate	Progesterone	Thyroglobulin
CA125	FSH	Prolactin	Tobramycin*
CA15-3	Gentamicin	PSA (Free)	TSH
CA19-9	GH	PSA (Total)	Valproic Acid
Carbamazepine	hCG	PTH	Vancomycin
CEA	IgE	Salicylate	Vitamin B12
Cortisol	Insulin	SHBG	1-25-(OH) <sub>2</sub> -Vitamin D*
C-Peptide	LH	T <sub>3</sub> (Free)	25-OH-Vitamin D
DHEA-Sulphate	Oestradiol	T <sub>3</sub> (Total)	

## Immunoassay Speciality 1 Programme+ *With target scoring*

RQ9141 (2 ml)

10 Parameters

Samples every month, 1 x 12 month cycle, 12 month subscription, reference method values

1-25-(OH) <sub>2</sub> -Vitamin D*	Anti-TG	Osteocalcin	Insulin
25-OH-Vitamin D	Anti-TPO	Procalcitonin	
C-Peptide	IGF-I	PTH	

## Immunoassay Speciality 2 Programme+ *With target scoring*

RQ9142 (1 ml)

5 Parameters

Samples every month, 1 x 12 month cycle, 12 month subscription, reference method values

Calcitonin	Procalcitonin	Plasma Renin Activity	Renin (Direct Concentration)
Gastrin			

## Immunosuppressant Programme+

RQ9159 (2 ml)

4 Parameters

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

Ciclosporin	Everolimus	Sirolimus	Tacrolimus
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## Lipid Programme *With target scoring*

RQ9126/a (3 ml)

3 Parameters only (choose from 7)

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

RQ9126/b (3 ml)

Full 7 Parameters

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

 = Liquid ready-to-use samples

 = Lyophilised samples

PURPLE = The only parameters available on RQ9135/a

+ = Not accredited

\* = Pilot study ongoing

## Liquid Cardiac Programme *With target scoring*

**RQ9136 (3 ml)**  
**9 Parameters**  
 Samples every month, 1 x 12 month cycle, 12 month subscription

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

## 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		

## Serology (EBV) Programme+

**RQ9153 (1 ml)**  
**3 Parameters**  
 3 samples per quarterly distribution, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

Anti-EBV VCA IgG	Anti-EBNA IgG	Anti-EBV VCA IgM
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## Serology (HIV-Hepatitis) Programme+

**RQ9151 (1.8 ml)**  
**10 Parameters**  
 5 samples per quarterly distribution, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

Anti-HIV-1	Anti-HCV	Anti-HTLV-II	HBsAg
Anti-HIV-2	Anti-HBc	Anti-HTLV-I&2 Combined	
Anti-HIV-1&2 Combined	Anti-HTLV-I	Anti-CMV	

## Serology (Syphilis) Programme+

**RQ9154 (1 ml)**  
**1 Parameter**  
 3 samples per quarterly distribution, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

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

## Serology (ToRCH) Programme+

**RQ9152 (1 ml)**  
**12 Parameters**  
 5 samples per quarterly distribution, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

Anti-Toxoplasma IgG	Anti-Rubella IgM	Anti-HSV1 IgG	Anti-HSV 1 IgM
Anti-Toxoplasma IgM	Anti-CMV IgG	Anti-HSV2 IgG	Anti-HSV 2 IgM
Anti-Rubella IgG	Anti-CMV IgM	Anti-HSV-1&2 IgG Combined	Anti-HSV 1 + 2 IgM Combined

## Specific Proteins Programme *With target scoring*

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

AFP	β-2-Microglobulin	IgA	Lambda Light Chain (Total)
Albumin	Ceruloplasmin	IgE	Prealbumin (Transthyretin)
α-1-Acid glycoprotein	Complement C <sub>3</sub>	IgG	Retinol Binding Protein
α-1-Antitrypsin	Complement C <sub>4</sub>	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)	

# RIQAS PROGRAMMES

## 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	Phenobarbitone	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

## 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	Leukocytes	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

Benzoylcegonine	d-Methamphetamine	MDMA	Phenobarbitone
Buprenorphine	EDDP	Methadone	Secobarbital
Cannabinoids (THC)	Ethanol	Nortriptyline	
Cotinine	Free Morphine	Norpropoxyphene	
Creatinine	Lorazepam	Oxazepam	
d-Amphetamine	LSID	Phencyclidine	

 = Liquid ready-to-use samples

 = Lyophilised samples

PURPLE = The only parameters available on RQ9135/a

+ = Not accredited

\* = Pilot study ongoing

# CALIBRATION VERIFICATION SETS

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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?



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

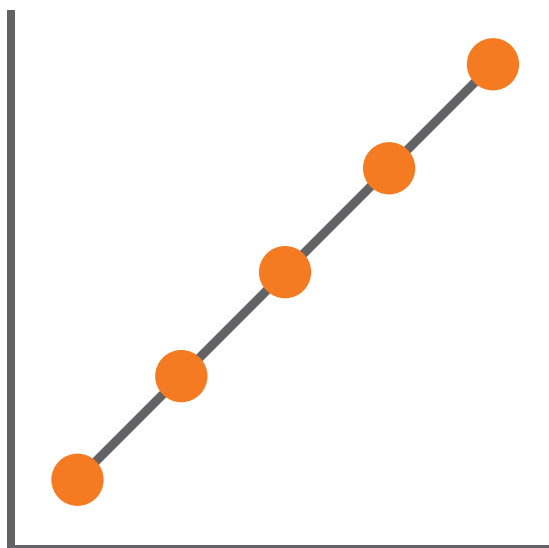
- Help to ensure specific instrument requirements are met with the availability of dedicated solutions for Roche Cobas and Beckman systems.

### 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
-



# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## C-Reactive Protein (CRP) Linearity Verifiers

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

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

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

## Esoterics Linearity Verifier

Analytes			
Acetaminophen Ammonia	Ethanol Microalbumin	Urinary Protein	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

# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## Rheumatoid Factor (RF) Linearity Verifier

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

## Lipids Linearity Verifier

Analytes			
HDL Cholesterol	LDL Cholesterol	Total Cholesterol	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

## Apolipoprotein A-I (Apo A-I) & Apolipoprotein B (Apo B) Linearity Verifier

Analytes	
Apolipoprotein A-I (Apo A-I)	Apolipoprotein B (Apo B)

Dedicated Linearity Verifier for measuring Apo A-I 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

# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## Therapeutic Drug Monitoring (TDM) Linearity Verifier

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

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## CO<sub>2</sub> and Electrolytes Linearity Verifier

Analytes			
CO <sub>2</sub>	Sodium	Potassium	Chloride

Dedicated Linearity Verifier for the measurement of CO<sub>2</sub> 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 <sub>2</sub> and Electrolytes Linearity Verifier	5 x 5 ml	LV10362

# SOLUTIONS FOR ROCHE COBAS ANALYSERS

## Bilirubin Linearity Verifier

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

## Enzyme Linearity Verifier

Analytes			
ALT	Pancreatic Amylase	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

# SOLUTIONS FOR BECKMAN ANALYSERS

## Apolipoprotein A-I (Apo A-I) & Apolipoprotein B (Apo B) Linearity Verifier

Analytes	
Apolipoprotein A-I	Apolipoprotein B

Dedicated Linearity Verifier for measuring Apo A-I 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	LVI0363

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## Lipids Linearity Verifier

Analytes	
HDL Cholesterol LDL Cholesterol	Triglycerides

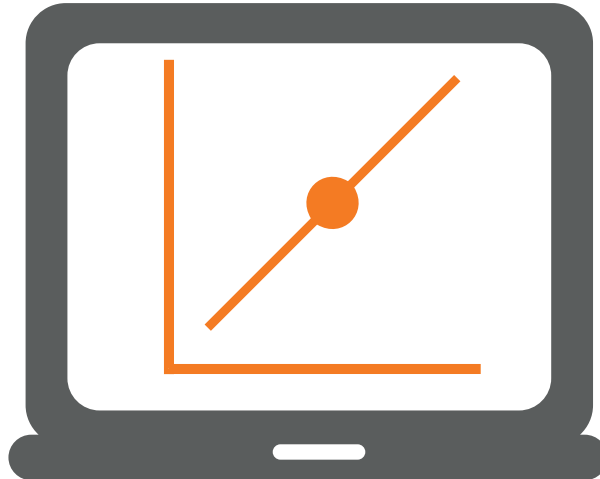
Our Lipids Linearity Verifier comprises 3 common lipid assays and is specifically designed for use on Beckman Coulter analysers. Five levels are available spanning the instrument's complete reportable range. Designed in a liquid frozen format, this linearity verifier will objectively verify calibration 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	LVI0364

## 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.



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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.  
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- 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](http://www.randoxqc.com)

# ANALYTE INDEX

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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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- Coagulation & Haematology Controls
- Diabetes & Whole Blood Controls
- Immunoassay Controls
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- Immunology/Protein Controls
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- Speciality & Research Controls
- Therapeutic Drug Controls
- Toxicology Controls
- Urine Controls

# RANDOX - A GLOBAL DIAGNOSTIC SOLUTIONS PROVIDER

Randox has been supplying laboratories worldwide with revolutionary diagnostic solutions for over 35 years. Our experience and expertise allow us to create a leading product portfolio of high quality diagnostic tools which offer reliable and rapid diagnosis. We believe that by providing laboratories with the right tools, we can improve healthcare worldwide.



## RX SERIES

Renowned for quality and reliability, the RX series combines robust hardware and intuitive software with the world leading RX series test menu comprising an extensive range of high quality reagents including routine chemistries, specific proteins, lipids, therapeutic drugs, drugs of abuse, antioxidants and diabetes testing. The RX series offers excellence in patient care delivering unrivalled precision and accuracy for results you can trust, guaranteeing real cost savings through consolidation of routine and specialised tests onto one single platform.



## REAGENTS

Randox offers an extensive range of third-party diagnostic reagents which are internationally recognised as being of the highest quality; producing accurate and precise results. At Randox, we re-invest significantly in R&D to ensure we meet the ever-changing needs of the laboratory. Consequently, Randox offer a range of novel and superior performance assays, including: sdLDL-C, Lipoprotein (a), H-FABP, Adiponectin, Copper and Zinc. Applications are available detailing instrument-specific settings for the convenient use of Randox Reagents on numerous clinical chemistry analysers.



## EVIDENCE SERIES

In 2002, Randox invented the world's first, Biochip Array Technology, offering highly specific tests, coupled to the highly sensitive chemiluminescent detection, providing quantitative results instantly changing the landscape of diagnostic testing forever. The Randox Evidence Series of multi-analyte immunoanalysers provide an unrivalled increase in patient information per sample offering diagnostic, prognostic and predictive solutions across a variety of disease areas with a highly advanced clinical and toxicology immunoassay test menu including cardiac, diabetes, drugs of abuse, metabolic and renal markers.

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QUALITY CONTROL



LT027SEP19