RIQAS

RANDOX INTERNATIONAL QUALITY ASSESSMENT SCHEME

RANDOX

RIQAS

The largest global EQA scheme
with over 45,000 lab participants

BENEFITS

Delivering a comprehensive yet cost effective EQA solution, RIQAS will help meet regulatory requirements and increase confidence in test system accuracy.

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 implemented earlier, potentially reducing costly errors with patient results.

High Quality Samples

- Samples spanning clinically relevant levels allow identification of concentration related biases helping to ensure 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.

RIQAS is the largest international EQA scheme in the world. It is used by more than 45,000 laboratory participants in 133 countries. 32 programmes are currently available.

RIQAS Programmes

- Ammonia/Ethanol
- Anti-TSH Receptor
- Blood Gas
- BNP
- Cardiac
- Cerebrospinal Fluid (CSF)
- Clinical Chemistry
- Coagulation
- CYFRA 21-1
- ESR
- Glycated Haemoglobin (HbA1c)
- Haematology
- Human Urine
- Immunoassay
- Immunoassay Speciality 1
- Immunoassay Speciality 2
- Immunosuppressant Drugs
- Lipid
- Liquid Cardiac
- Maternal Screening
- Serology Epstein Barr Virus (EBV)
- Serology (HIV/Hepatitis)
- Serology (Syphilis)
- Serology (ToRCH)
- Specific Proteins
- Sweat Testing
- Therapeutic Drugs
- Trace Elements in Blood
- Trace Elements in Serum
- Trace Elements in Urine
- Urinalysis
- Urine Toxicology

Accreditation

- RIQAS provides certificates as proof of EQA participation and performance for laboratory accreditation purposes.
- RIQAS is a UKAS accredited Proficiency Testing Provider, No. 0010, and is accredited to ISO/IEC 17043:2010, 'Conformity Assessment- General Requirements for Proficiency Testing'.
- Accreditation to ISO/IEC 17043:2010 highlights the superior quality and excellence of RIQAS.

UK Performance Surveillance

- Recognised by the Joint Working Group on Quality Assurance (JWG QA).
- Recognised by various National Quality Assurance Advisory Panels (NQAAP).

Independent Advisory Panel

RIQAS participants have access to an independent advisory panel consisting of scientific and clinical experts. This ensures professional and ethical conduct of the scheme and participant confidentiality.

RIQAS support staff are on hand to offer advice and troubleshoot technical queries.

RIQAS REPORTS

RIQAS reports are presented in a user-friendly, one page per parameter format. This allows easy interpretation of your analytical performance.

RIQAS Reports

- Statistical breakdown by all methods, your method and, where applicable, your instrument, including running means for the last 10 samples.
- Compare your instrument group, method group and all methods using the histogram.
- Identify trends, biases and precision problems using the visual charts.
- The Target Score chart grades your performance in a moving window over the last 20 samples, including the previous cycle.
- At-a-glance summary page for all parameters in the programme.
- Compare your result with statistically robust consensus means.
- Identify acceptable and poor performance using fit-for-purpose performance indicators:
  - SDI
  - %Deviation
  - Target Score

Summary CSV files

It is possible to receive an additional summary of your report statistics, acceptable limits and performance indicators as a .csv file for every sample.

Multi-Instrument Reports

Laboratories can register up to five instruments at no extra cost. Individual reports for each instrument plus a unique multi-instrument report are provided. The multi-instrument report plots the performance of each individual instrument on a single, colour coded Levey-Jennings chart, ensuring instant identification of any differences in instrument performance. Additional sample packs may be ordered as required.

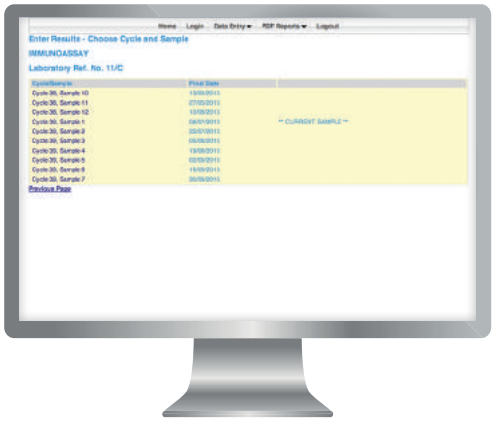
Laboratory Group Reports

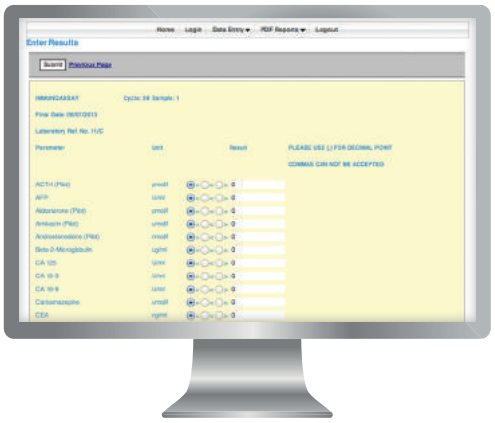
The Group Reporting facility enables laboratory groups or chains to monitor the performance of satellite sites. Each affiliated laboratory will receive an individual report with the group supervisor also receiving a summary report comparing each laboratory in the network.

WEB-BASED DATA TRANSFER

RIQAS.Net offers easy, direct access for the submission of results and retrieval of reports direct from the RIQAS host server.

- Available in multiple languages.
- Confidentiality and security is maintained through the use of password protected access.
- Submit current, corrected and future results (normal policies apply), directly into the RIQAS database. Receipt of results is confirmed by e-mail.
- Multi-lingual registration identifier provides simple identification of multiple registrations.
- Additions and changes to assay details can be made quickly and easily online.
- Requests for new method, instrument and reagent codes can be made online.
- Reports are emailed in PDF format as soon as they are prepared.
- Reports for the previous two cycles can be downloaded from the website.
- View, print, store or distribute reports as you wish.
- Update your laboratory's certificate of participation details in multiple languages.
- All that is required is web access, Adobe Reader (for viewing reports) and a valid password to access the system.
- No additional software required.

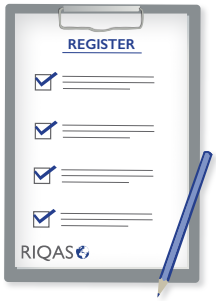




PARTICIPATION IN RIQAS

Participation in RIQAS follows these simple steps:

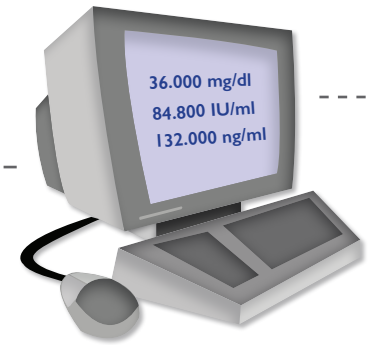
1 Register the instruments and methods used in your lab by completing the enrolment document. Enrolment documents are available from riqas.com and should be submitted 3 weeks before the cycle starts. Check RIQAS policies in method questionnaire.



2 Receive a set of numbered samples along with a username/password to access RIQAS.Net.

3 Analyse the sample on the recommended date, carefully following the instructions for use.

4 Enter your results via RIQAS.Net or on the return sheet and submit electronically, by fax or post before the final deadline.



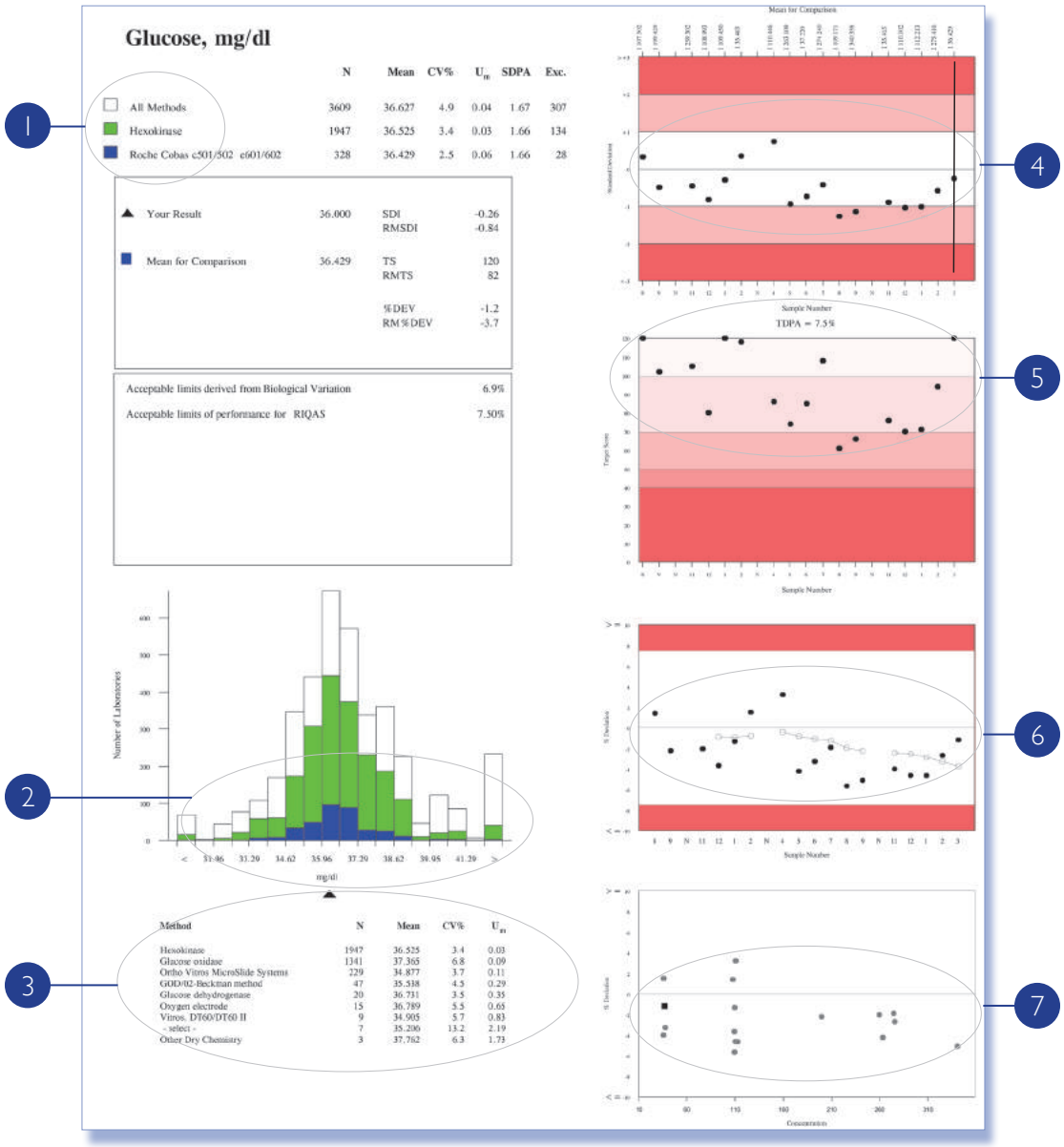
5 Participant receives report by email or post and reviews to assess performance.

6 Receive an end-of-cycle report, a certificate of acceptable performance and a certificate of participation at the end of the cycle, provided that more than half results are returned.

7 Method changes and registration of additional parameters can be submitted via RIQAS.Net.

STANDARD REPORT

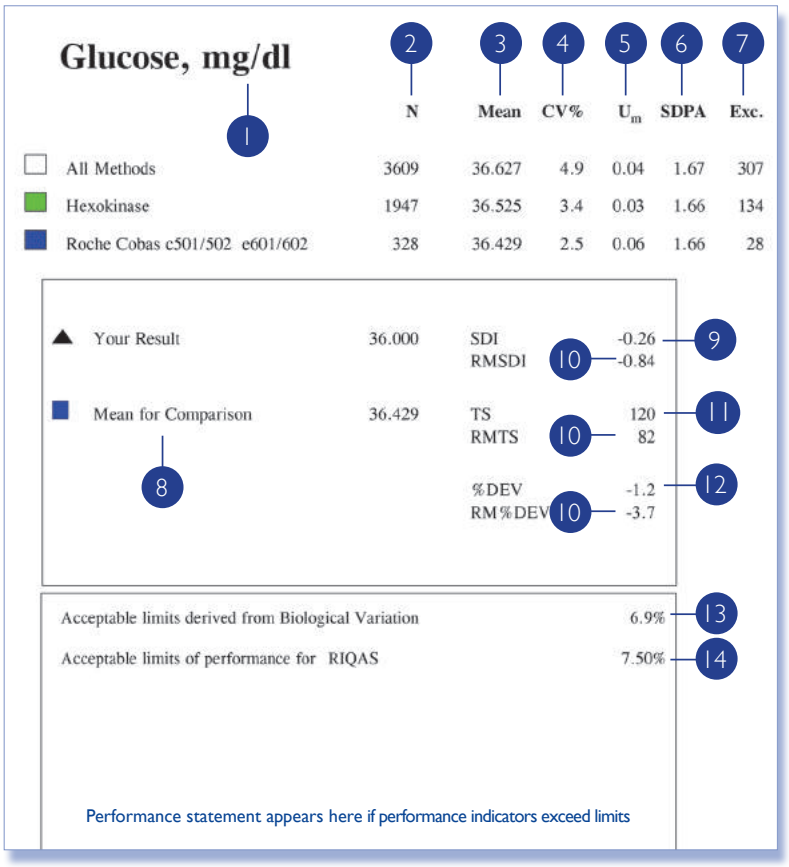
Performance data is presented in a one page format with up to seven sub-reports.



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.

TEXT SECTION

The text section summarises the statistical information for each parameter.



RIQAS performance indicators include SDI, Target Score and %Deviation.

Acceptable performance criteria:

SDI < 2

Target score ≥ 50

%Deviation < defined acceptable limits

1. Report is presented in your chosen unit.
2. Number of returned results used to generate Mean for Comparison.
3. Average value of all laboratories' results.
4. Coefficient of Variation.
5. Uncertainty associated with the Mean for Comparison.

   $U_m = \frac{1.25 \times SD}{\sqrt{n}}$
6. SDPA = Standard Deviation for Performance Assessment, calculated from the Target Deviation for Performance Assessment (TDPA) and the Mean for Comparison.

   $SDPA = \frac{TDPA \times \text{Mean for Comparison}}{\text{t-value} \times 100}$

   t-value = factor which represents the % of poor performers reflected in the TDPA (t-value ~ 1.645 when ~10% laboratories achieve poor performance) SDPA is combined with U_m, where appropriate.

   If $U_m > (0.3 \times SDPA)$ then $SDPA_{adjusted} = \sqrt{(U_m^2 + SDPA^2)}$ and the reported value is suffixed with "a"

   If U_m is less than $(0.3 \times SDPA)$ then $SDPA_{adjusted} = SDPA$
7. After statistical reduction, some results are excluded.
8. Ideally this will be your instrument group mean. If N<5 for instrument group, your method group Mean is selected as Mean for Comparison.
9. Standard Deviation Index = $\frac{\text{Your Result - Mean for Comparison}}{SDPA_{adjusted}}$
10. Running Mean average of the last 10 performance indicators is used to monitor performance over time and concentration range.
11. Target Score - The closer a value is to 120, the better the performance.
12. %Deviation from the Mean for Comparison - the closer the value is to zero, the better the performance.
13. Biological Variation stated for information purposes only.
14. Performance limit set for this parameter.

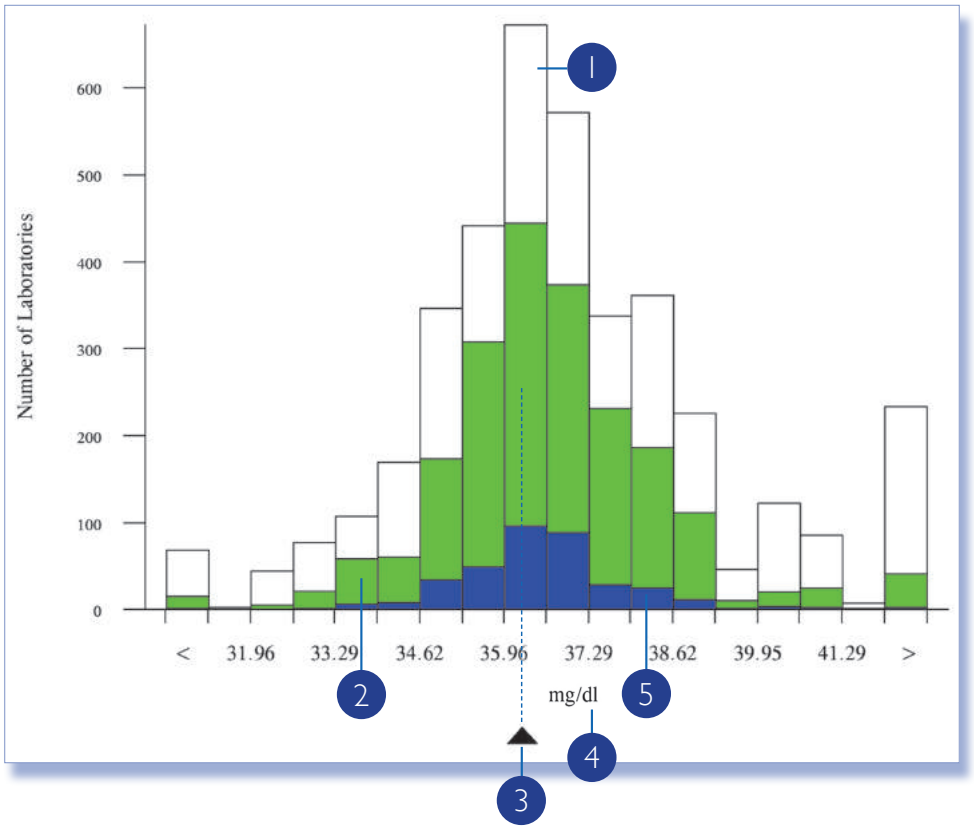
HISTOGRAM

The Bar Graph is intended as a quick visualisation of how your lab's result compares to the method mean, instrument mean and all method mean.

All methods

Your method group

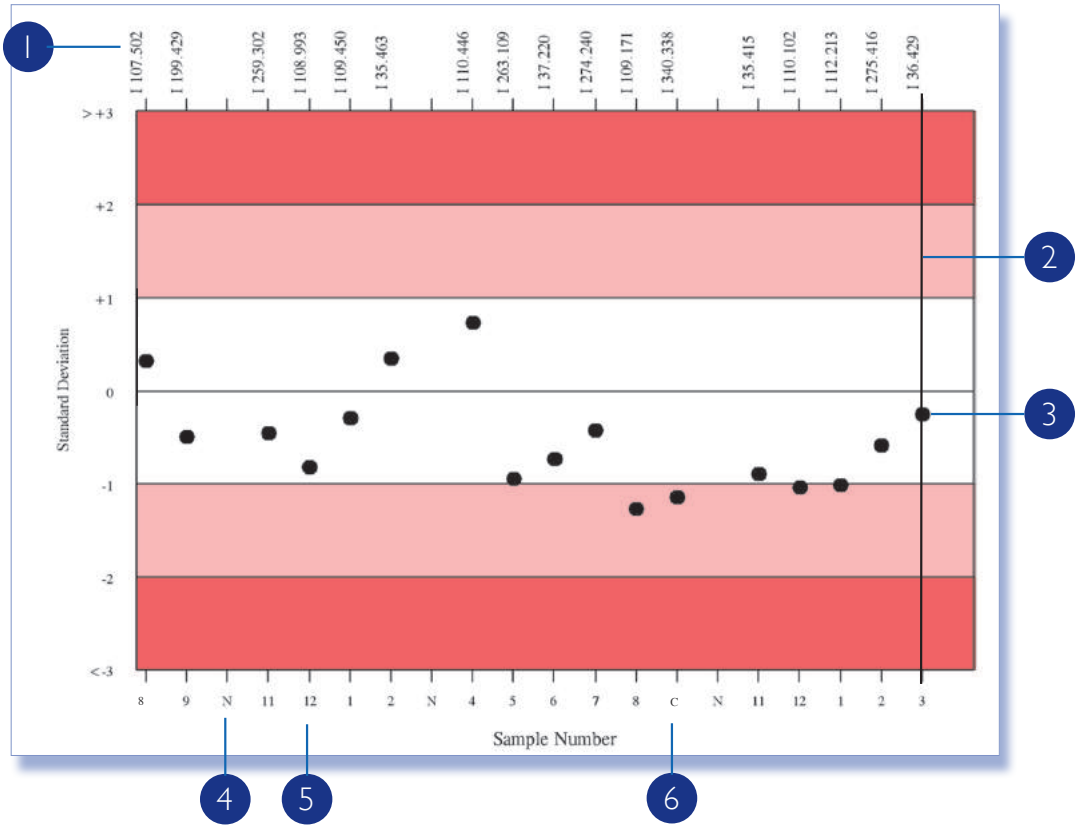
Your instrument group (programme specific)



1. Total of 673 laboratories reported values between 35.96 and 36.63.
2. 58 laboratories reported values between 33.29 and 33.96 in your method group.
3. Your result is indicated by the black triangle.
4. RIQAS reports show your unit of measurement.
5. 25 laboratories reported values between 37.96 and 38.62 in your instrument group.

LEVEY-JENNINGS CHART

SDIs reflect laboratory performance in relation to fit-for-purpose SDPAs and are useful to monitor performance over time. Acceptable performance is SDI < 2.



1 Where a result has been returned, the Mean for Comparison for each sample is indicated at the top of the chart. This allows easy assessment of concentration related bias:

I:	Instrument mean
M:	Method mean
A:	All method mean

2 This line indicates a change in registration details for this parameter.

3 Your SDI (Standard Deviation Index).

4 N = No result returned from your laboratory.

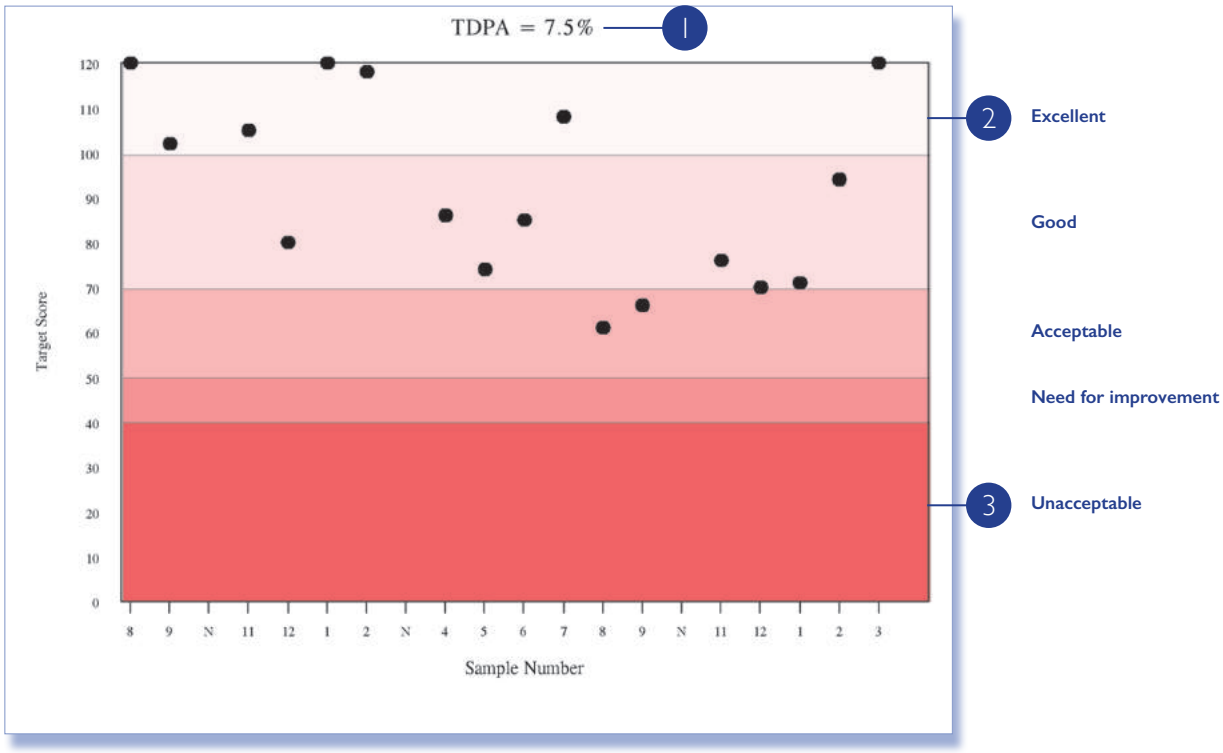
5 Sample number.

6 C = Corrected results will be accepted for non-analytical errors. Corrected results will be accepted up to 4 weeks after the final submission deadline, on application, with evidence of analysis. Late results are only accepted if there has been a Randox error.

R = Incorrect results can be removed retrospectively on request.

TARGET SCORE CHART

The Target Score (TS) allows participants to assess their performance at a glance. The TS relates the %Deviation of your result from the Mean to a Target Deviation for Performance Assessment (TDPA). TDPAs are set to encourage participants to achieve and maintain acceptable performance. TDPAs are fit-for-purpose performance criteria which are set taking guidance from ISO/IEC17043, ISO13528 and IUPAC. Target Deviations for Performance Assessment are also used to calculate the Standard Deviation for Performance Assessment (SDPA).



1 This is the upper deviation limit of performance for this parameter. TDPAs are reviewed regularly and deemed fit for purpose by the RIQAS Advisory Panel.

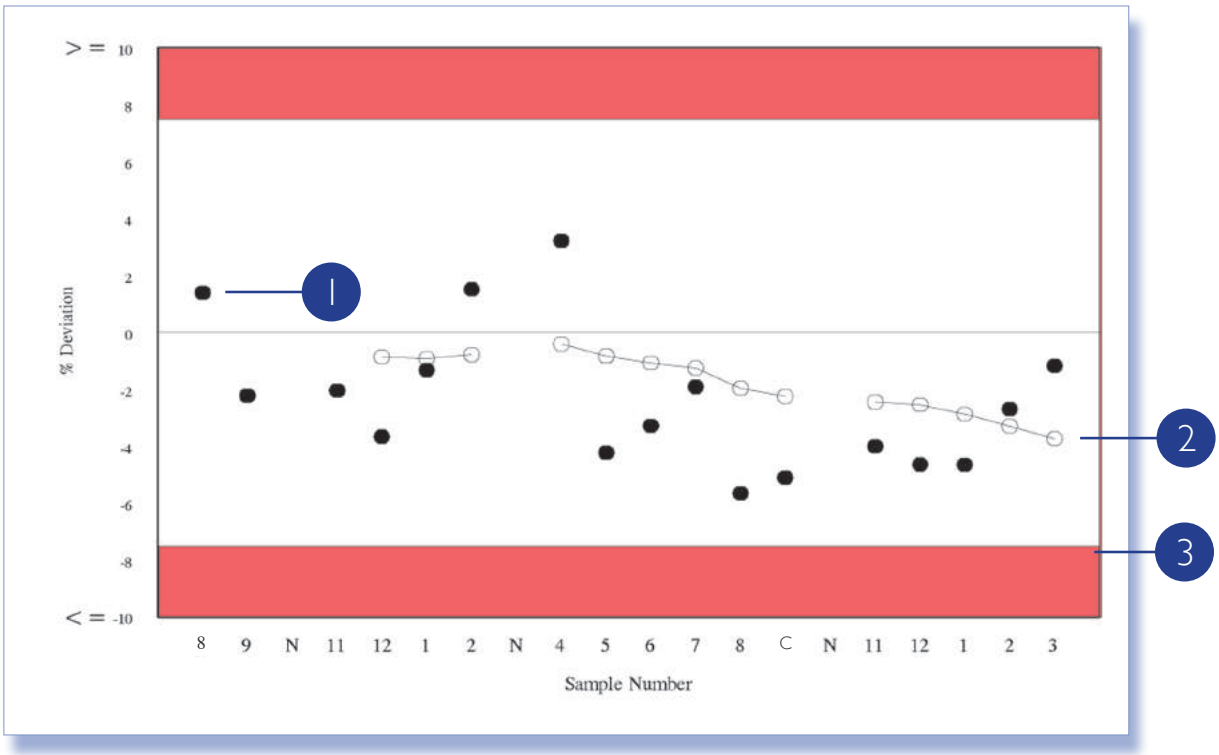
2 High scores ≥50 in the lighter shaded area represents acceptable, good or excellent performance.

3 Heavy shading for values 10 to 50 signifies poor performance.

%DEVIATION BY SAMPLE CHART

This chart helps to identify trends and shifts in performance.

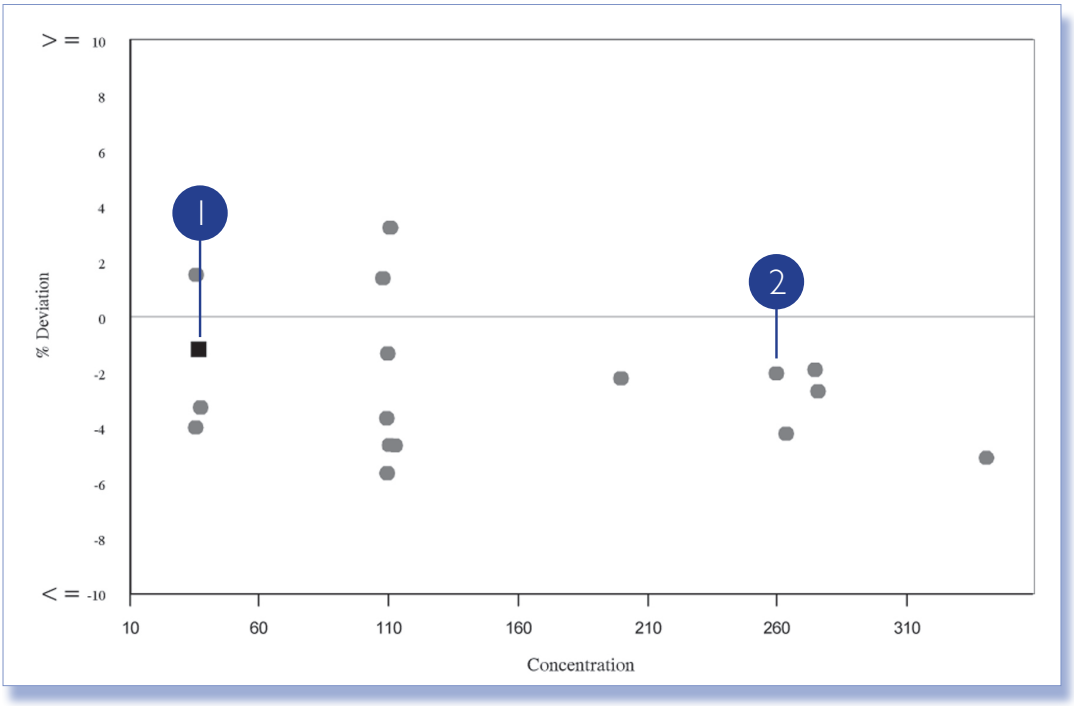
$$\%\text{Deviation} = \frac{\text{Your Result - Consensus Mean}}{\text{Consensus Mean}} \times 100\%$$



1. %Deviation from Mean for Comparison.
2. Plot of Running Mean %Deviations (average of the last 10 %Deviations for the sample indicated).
3. Acceptable limits of performance. These are defaulted to RIQAS TDPAs but can be set to e.g. biological variation or regulatory requirement on request.

%DEVIATION BY CONCENTRATION CHART

This chart enables rapid assessment of concentration related biases. Biases at low or high concentrations can be easily determined.



1 Current sample indicated by square.

2 %Deviation at specific concentration.

MULTI-METHOD STAT SECTION

This section provides an easy way of assessing the performance of other methods used to analyse the parameter in question.

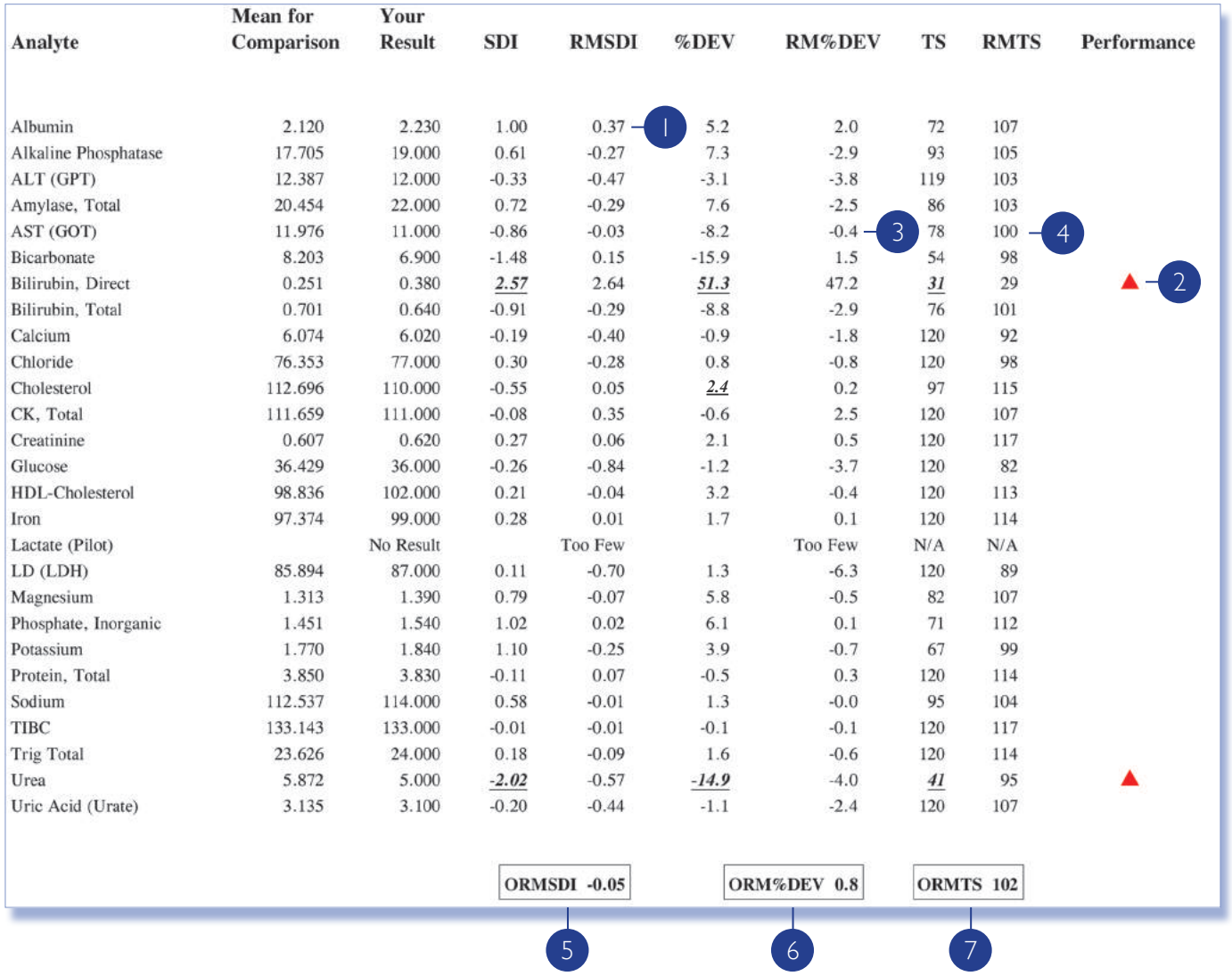
Method	N	Mean	CV%	U_m
Hexokinase	1947	36.525	3.4	0.03
Glucose oxidase	1341	37.365	6.8	0.09
Ortho Vitros MicroSlide Systems	229	34.877	3.7	0.11
GOD/02-Beckman method	47	35.538	4.5	0.29
Glucose dehydrogenase	20	36.731	3.5	0.35
Oxygen electrode	15	36.789	5.5	0.65
Vitros, DT60/DT60 II	9	34.905	5.7	0.83

SUMMARY PAGE

Located at the back of the RIQAS Report, the Summary Page collates the key information, allowing participants to review the performance of all parameters at-a-glance.

Analyte	Mean for Comparison	Your Result	SDI	RMSDI	%DEV	RM%DEV	TS	RMTS	Performance
Albumin	2.120	2.230	1.00	0.37	5.2	2.0	72	107	
Alkaline Phosphatase	17.705	19.000	0.61	-0.27	7.3	-2.9	93	105	
ALT (GPT)	12.387	12.000	-0.33	-0.47	-3.1	-3.8	119	103	
Amylase, Total	20.454	22.000	0.72	-0.29	7.6	-2.5	86	103	
AST (GOT)	11.976	11.000	-0.86	-0.03	-8.2	-0.4	78	100	
Bicarbonate	8.203	6.900	-1.48	0.15	-15.9	1.5	54	98	
Bilirubin, Direct	0.251	0.380	***2.57***	2.64	***51.3***	47.2	***31***	29	▲
Bilirubin, Total	0.701	0.640	-0.91	-0.29	-8.8	-2.9	76	101	
Calcium	6.074	6.020	-0.19	-0.40	-0.9	-1.8	120	92	
Chloride	76.353	77.000	0.30	-0.28	0.8	-0.8	120	98	
Cholesterol	112.696	110.000	-0.55	0.05	***2.4***	0.2	97	115	
CK, Total	111.659	111.000	-0.08	0.35	-0.6	2.5	120	107	
Creatinine	0.607	0.620	0.27	0.06	2.1	0.5	120	117	
Glucose	36.429	36.000	-0.26	-0.84	-1.2	-3.7	120	82	
HDL-Cholesterol	98.836	102.000	0.21	-0.04	3.2	-0.4	120	113	
Iron	97.374	99.000	0.28	0.01	1.7	0.1	120	114	
Lactate (Pilot)		No Result		Too Few		Too Few	N/A	N/A	
LD (LDH)	85.894	87.000	0.11	-0.70	1.3	-6.3	120	89	
Magnesium	1.313	1.390	0.79	-0.07	5.8	-0.5	82	107	
Phosphate, Inorganic	1.451	1.540	1.02	0.02	6.1	0.1	71	112	
Potassium	1.770	1.840	1.10	-0.25	3.9	-0.7	67	99	
Protein, Total	3.850	3.830	-0.11	0.07	-0.5	0.3	120	114	
Sodium	112.537	114.000	0.58	-0.01	1.3	-0.0	95	104	
TIBC	133.143	133.000	-0.01	-0.01	-0.1	-0.1	120	117	
Trig Total	23.626	24.000	0.18	-0.09	1.6	-0.6	120	114	
Urea	5.872	5.000	***-2.02***	-0.57	***-14.9***	-4.0	***41***	95	▲
Uric Acid (Urate)	3.135	3.100	-0.20	-0.44	-1.1	-2.4	120	107	

ORMSDI -0.05 **ORM%DEV 0.8** **ORMTS 102**



1. RMSDI - is the Running Mean of the 10 previous SDIs (if fewer than 10 results on file, "Too Few" is printed).
2. Red triangle appears when all performance indicators (SDI, %DEV and TS) exceed acceptable performance, i.e: when
   SDI > 2
   TS < 50
   %DEV > acceptable limits set
3. RM %DEV - Average of the last 10 %DEV for this parameter.
4. RMTS - Average of the last 10 Target Scores for this parameter.
5. Overall RMSDI = average RMSDI for this sample distribution.
6. Overall RM%DEV = average RM%DEV for this sample distribution.
7. Overall RMTS = average RMTS for this sample distribution.

URINE TOXICOLOGY REPORT

Laboratory performance is presented in both quantitative and qualitative screening formats, allowing for easy interpretation at-a-glance.

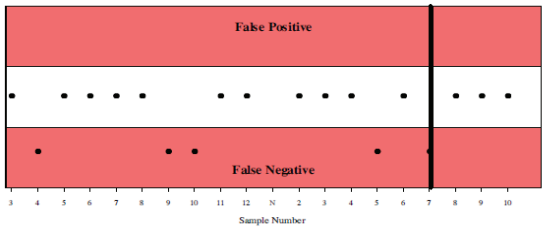
Screening Section

Quantitative Section

Amphetamines Group, ng/ml

Your Result Positive

Based on weighed-in value of 1400
and your chosen cut-off value of 500
the correct response was Positive



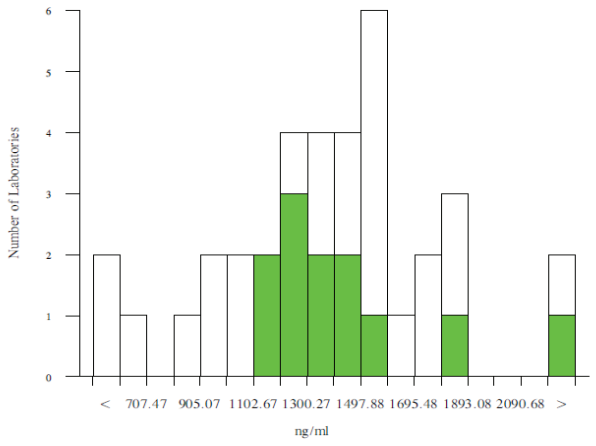
d-Amphetamine	1400	ng/ml
Phenobarbital	400	ng/ml
Secobarbital	400	ng/ml
Ethanol	20	mg/dl
LSD	1.5	ng/ml
Methadone	450	ng/ml
EDDP	375	ng/ml
Phencyclidine	40	ng/ml

	Cut-off	TN	TP	FN	FP	RC	NT	Total
Your Result	**500**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
KIMS	300	0	1	0	0	0	0	1
	500	**0**	**6**	**0**	**0**	**0**	**0**	**6**
	1000	0	7	0	0	0	0	7
	2000	1	0	0	0	0	0	1
	All	1	14	0	0	0	0	15
All Methods	300	0	6	1	0	0	0	7
	500	**0**	**19**	**2**	**0**	**0**	**3**	**24**
	1000	0	54	9	0	0	0	63
	2000	1	0	0	0	0	0	1
	10000	0	0	0	1	0	0	1
	All	1	79	12	1	0	3	96
CEDIA	**500**	**0**	**1**	**2**	**0**	**0**	**0**	**3**
Chemiluminescence	**500**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
DRI-EIA	**500**	**0**	**5**	**0**	**0**	**0**	**0**	**5**
EMIT	**500**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
GC/MS	**500**	**0**	**1**	**0**	**0**	**0**	**1**	**2**
Point of Care	**500**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
Randox Biochip Array Technology	**500**	**0**	**0**	**0**	**0**	**0**	**2**	**2**

	N	Mean	CV%	U_m	SDPA	Exc.
All Methods	31	1399.079	18.8	59.15	263.47	7
KIMS	10	1334.500	10.2	53.92	146.69a	2

Your Result No Result SDI Too Few
RMSDI

Mean for Comparison 1334.500



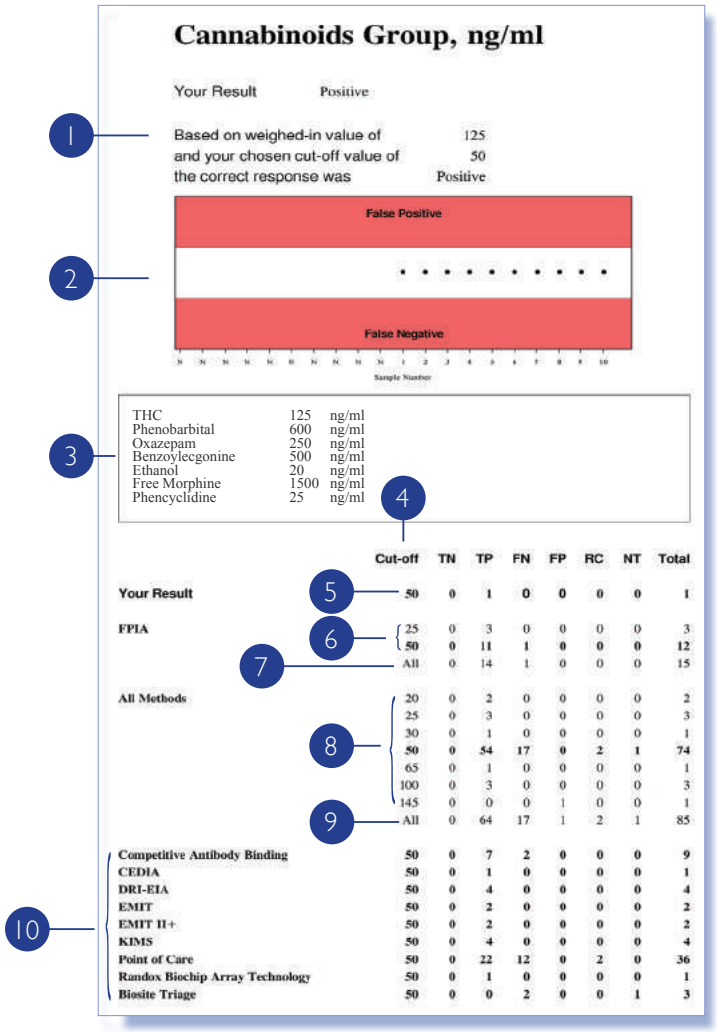
Method	N	Mean	CV%	U_m
KIMS	10	1334.500	10.2	53.92
DRI-EIA	6	1518.155	4.8	37.04
EMIT	7	1052.761	29.4	146.13
Competitive Antibody Binding	4	1611.025	11.0	110.76
CEDIA	2	349.500	34.2	105.62
Chemiluminescence	2	2714.050	44.9	1077.44

Performance History

Your Data (Last 10 Samples)	Your Method (This Sample)	Your Method (Last 10 Samples)	All Methods (This Sample)	All Methods (Last 10 Samples)
20 % False Negatives	0 % False Negatives	2 % False Negatives	13 % False Negatives	20 % False Negatives
0 % False Positives	0 % False Positives	14 % False Positives	1 % False Positives	12 % False Positives
80 % Correct Responses	100 % Correct Responses	84 % Correct Responses	86 % Correct Responses	69 % Correct Responses

URINE TOXICOLOGY REPORT SCREENING SECTION

Qualitative comparison of screening results available for each parameter.



Cannabinoids Group, ng/ml

Your Result Positive

Based on weighed-in value of 125
and your chosen cut-off value of 50
the correct response was Positive

False Positive

False Negative

Sample Number

THC	125	ng/ml
Phenobarbital	600	ng/ml
Oxazepam	250	ng/ml
Benzoylecgonine	500	ng/ml
Ethanol	20	ng/ml
Free Morphine	1500	ng/ml
Phencyclidine	25	ng/ml

	Cut-off	TN	TP	FN	FP	RC	NT	Total
Your Result	50	0	1	0	0	0	0	1
FPIA	25	0	3	0	0	0	0	3
	50	0	11	1	0	0	0	12
	All	0	14	1	0	0	0	15
All Methods	20	0	2	0	0	0	0	2
	25	0	3	0	0	0	0	3
	30	0	1	0	0	0	0	1
	50	0	54	17	0	2	1	74
	65	0	1	0	0	0	0	1
	100	0	3	0	0	0	0	3
	145	0	0	0	1	0	0	1
	All	0	64	17	1	2	1	85
Competitive Antibody Binding	50	0	7	2	0	0	0	9
CEDIA	50	0	1	0	0	0	0	1
DRI-EIA	50	0	4	0	0	0	0	4
EMIT	50	0	2	0	0	0	0	2
EMIT II+	50	0	2	0	0	0	0	2
KIMS	50	0	4	0	0	0	0	4
Point of Care	50	0	22	12	0	2	0	36
Randox Biochip Array Technology	50	0	1	0	0	0	0	1
Biosite Triage	50	0	0	2	0	0	1	3

Performance History

Your Data (Last 10 Samples)
0% False Negatives
0% False Positives
100% Correct Responses

Your Method (This Sample)
7% False Negatives
0% False Positives
93% Correct Responses

Your Method (Last 10 Samples)
8% False Negatives
12% False Positives
81% Correct Responses

All Methods (This Sample)
20% False Negatives
1% False Positives
79% Correct Responses

All Methods (Last 10 Samples)
22% False Negatives
6% False Positives
72% Correct Responses

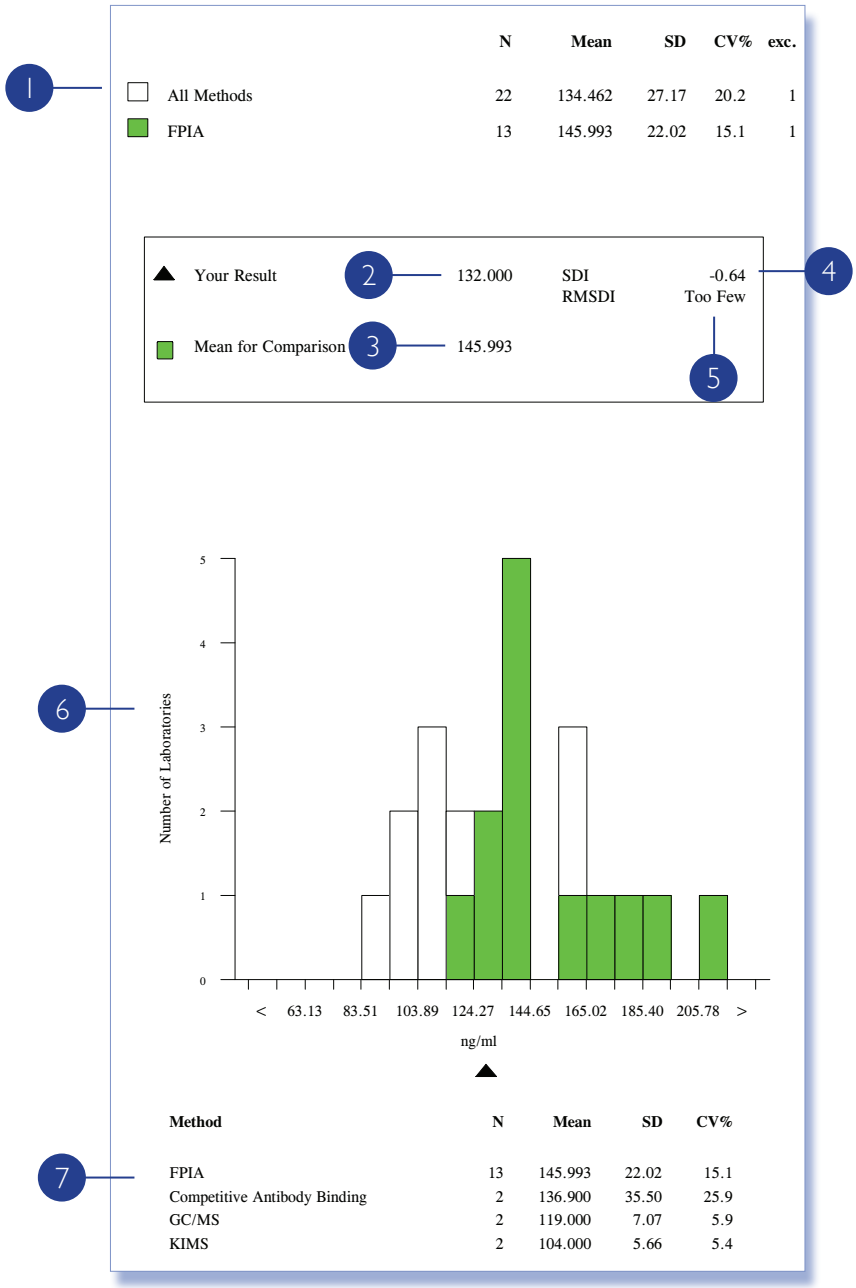
1. Screening Text Section.
2. **Screening Results:** This chart is a quick visualisation of your performance over the last 20 samples. A result in the white section indicates a correct response. A result in the upper red section indicates a False Positive response, and a result in the lower red section indicates a False Negative response.
3. Comment section for RIQAS to provide your laboratory with additional relevant information regarding this sample, such as spiked metabolite concentration.
4. Screening result response categories. All abbreviations indicated at the bottom of the report page.

   Key

   TN - true negative **TP** - true positive **FN** - false negative
   FP - false positive **RC** - sent for confirmation **NT** - not tested
5. **Screening Summary:** Your screening result shown in the appropriate response category and your cut off for this sample.
6. Screening results for all cut-offs returned for this sample within your method group.
7. Total screening results over all your cut-offs for your laboratory's method.
8. Screening results for all cut-offs returned for this sample over all methods.
9. Total screening results over all cut-offs for all methods.
10. Screening results for other methods using same cut-off as your laboratory.
11. Performance history for this parameter, based on previous 10 samples.
12. Performance of your method over all cut-offs for this sample.
13. Performance history of your method over all cut-offs, based on the previous 10 samples.
14. Performance of all methods over all cut-offs for this sample.
15. Performance history of all methods over all cut-offs, based on the previous 10 samples.

URINE TOXICOLOGY REPORT QUANTITATIVE SECTION

Quantitative statistical comparison available for each parameter.



	N	Mean	SD	CV%	exc.
All Methods	22	134.462	27.17	20.2	1
FPIA	13	145.993	22.02	15.1	1

Your Result	132.000	SDI	-0.64
		RMSDI	Too Few
Mean for Comparison	145.993		

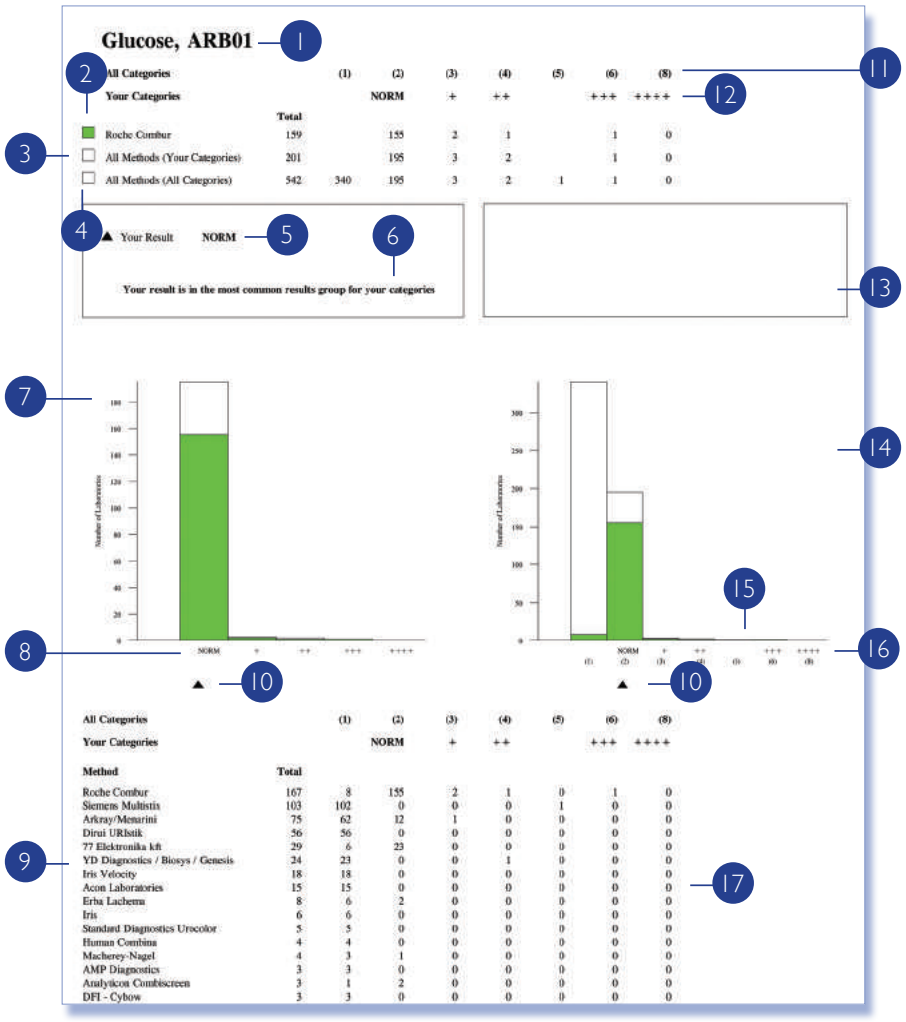
Method	N	Mean	SD	CV%
FPIA	13	145.993	22.02	15.1
Competitive Antibody Binding	2	136.900	35.50	25.9
GC/MS	2	119.000	7.07	5.9
KIMS	2	104.000	5.66	5.4

1. **Quantitative Text Section:** Comparison statistics. Caution is needed when the N value is too small to support statistical significance.
2. Your Result.
3. Your Mean for Comparison.
4. **Standard Deviation Index** = $\frac{\text{(Your Result – Mean for Comparison)}}{\text{SD of Mean for comparison}}$
5. Running mean SDI = average of last 10 SDIs for this parameter (If fewer than 10 results, "Too Few" is printed).
6. **Quantitative Results Histogram:** This graph provides a quick visualisation of how your quantitative result falls into the overall picture for all methods and your method group.
7. All available method statistics for this sample.

URINALYSIS REPORT

Your performance for each parameter is presented in a simple, convenient report.

Screening Results



1. Categories are stated in your unit.
2. Your method group and categories.
3. Results from all methods (dipsticks) returning results in the same categories as your lab.
4. Results from all methods for all available categories.
5. Your Result.
6. Performance Statement.
7. **Your Categories Histogram:** A quick visualisation of how your lab's result falls into the overall picture for your categories.
8. Possible reporting categories for your method.
9. All available methods for this parameter.
10. Your Result.
11. All categories (result options) available for this parameter for any method (dipstick).
12. Your categories (available result options for chosen dipstick and unit).
13. Comments Box.
14. **All Categories Histogram:** a quick visualisation of how your lab's result falls into the overall picture for all categories.
15. Results submitted from a category not applicable to your method.
16. Your categories.
17. **Detailed summary of results:** This table enables you to see how you compare to all other results.

SEROLOGY: SCREENING (QUALITATIVE) REPORT

Your performance for multiple samples is presented in a convenient single report per quarterly distribution.

HBsAg

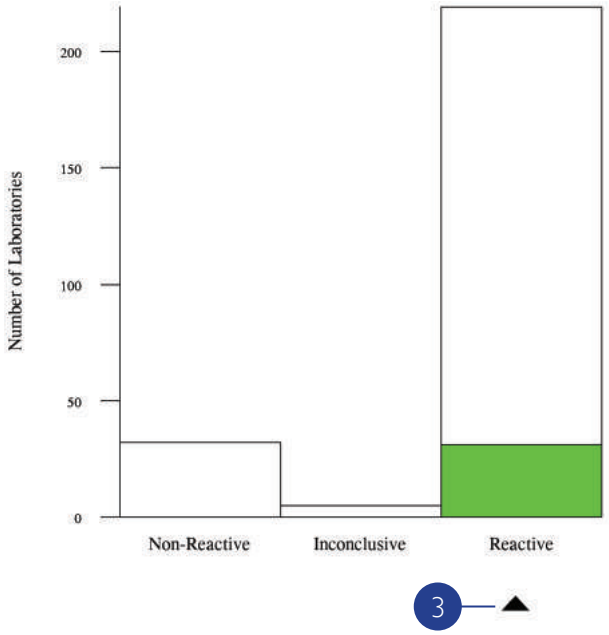
Sample 16

Your method: Roche Cobas 6000 / 8000
Your result: Reactive
Acceptable result (Method): Reactive

Overall results

Non-Reactive: 32
Inconclusive: 5
Reactive: 219

Method	N	Non-Reactive	Inconclusive	Reactive
Abbott Architect	60	0	0	60
Roche Cobas 4000/e411	34	1	0	33
Roche Cobas 6000 / 8000	31	0	0	31
Siemens/Bayer ADVIA Centaur	22	0	0	22
Roche Elecsys	17	1	0	16
Biomerieux VIDAS	15	1	0	14
Abbott Axsym	11	2	0	9
Beckman DxI 600 / 800	11	1	2	8
Ortho Vitros 3600/5600/ECi	11	0	0	11
Turklab/Toyo Labmen Rapidtest	5	3	0	2
Beckman Access/LXi725	4	0	2	2
SD Bioline Rapid Test HBsAg	4	3	0	1
Bio-Rad HBs PLUS	3	1	0	2
Diasorin/Abbott Murex ELISA	3	2	1	0
Siemens/DPC Immulite 2000/2500	3	3	0	0
Koroglu Laboquick HBsAg test	3	3	0	0
Roche Modular E170	3	0	0	3
Biomerieux Hepanostika	2	0	0	2
General Biologicals ELISA	2	2	0	0



1. Your qualitative result and chosen method are presented along with the acceptable result based on an 80% consensus. This consensus will be at the method level if there are >5 labs in the group or if there are <5 labs, will be at the all method level.

2. Overall Summary shows the number of results for this parameter and sample which are non-reactive, inconclusive or reactive.

3. Your Result is shown as a black triangle on the category chart compared to other laboratories in groups:

   All Methods **Your Method**

4. Summary shows performance of all the methods used to analyse the parameter.

SEROLOGY: SCREENING (QUANTITATIVE) REPORT

Your performance for multiple samples is presented in a convenient single report per quarterly distribution.

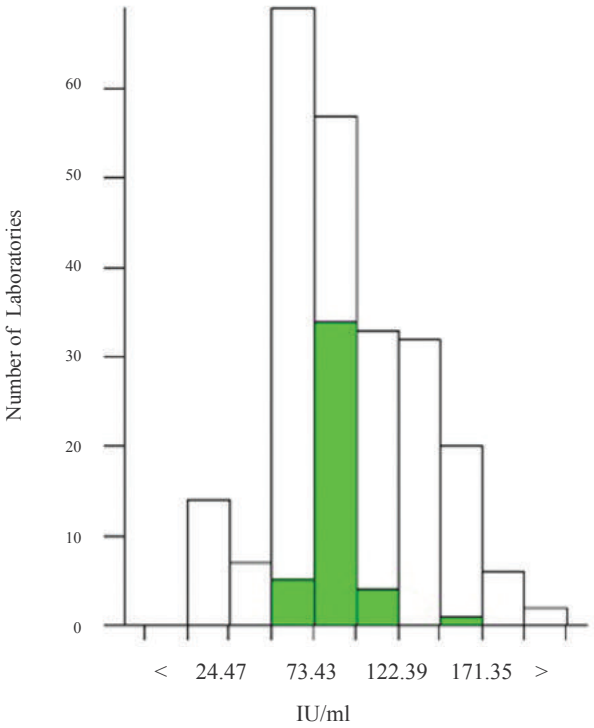
Anti-Rubella IgG, IU/ml

Sample 2

	N	Mean	CV%	U_m	SDPA	Exc.
All methods	210	92.574	37.2	2.97	34.42	31
Abbott Architect	39	83.219	8.7	1.46	7.27	5

1

Your Result	84.800	SDI	0.22
		RMSDI	Too Few
Mean for Comparison	83.219		

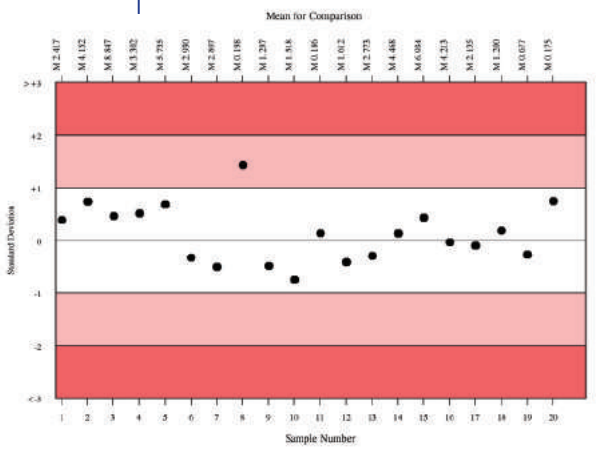


3

Method	N	Mean	CV%	U_m
Biomerieux VIDAS	48	150.979	9.8	2.97
Abbott Architect	44	83.219	8.7	1.46
Roche Cobas 6000/8000	18	58.792	3.6	0.68
Abbott Axsym	17	108.206	18.0	6.09
Siemens/DPC Immulite 2000/2500	17	90.800	6.2	1.94
Roche Cobas 4000/e411	17	59.973	7.0	1.35
Siemens/Bayer ADVIA Centaur	14	120.775	11.0	5.88
Roche Elecsys	11	57.043	3.9	1.05
Diasorin Liaison	9	52.388	18.0	4.16
Roche Modular E170	9	58.949	3.9	1.08
Beckman DxI 600/800	6	125.817	7.4	4.75

2

4



1 Quantitative statistics for All Methods and Your Method are presented in your chosen unit along with your result and your performance scores (SDI and RMSDI).

2 Your result is presented on the bar graph as a black triangle, showing how you compare to:

All Methods **Your Method**

3 Multi Method Statistics section provides an easy way of assessing the performance of the methods used to analyse the parameter.

4 **Levey-Jennings chart** - Your SDIs for previous 20 samples.

QUANTITATIVE END-OF-CYCLE REPORT

The End-of-Cycle Report is sent to all participants at the end of each cycle and provides a complete summary of statistics. Results can also be compared to the previous cycle.

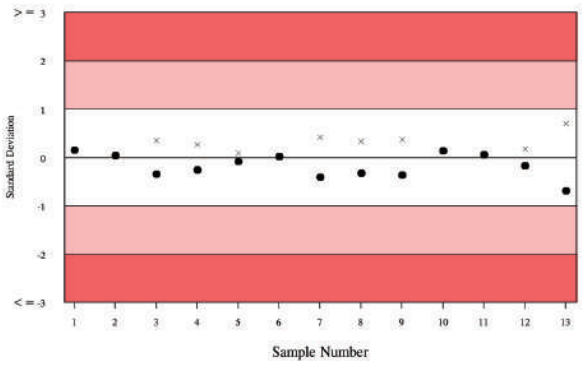
Albumin, g/l

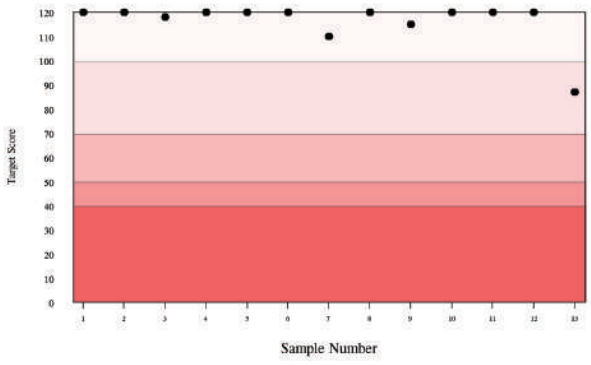
Method: Bromocresol Purple
Instrument: Siemens/Dade Dimension RxL/Max/Xpand
Reagent: Siemens/Dade Behring

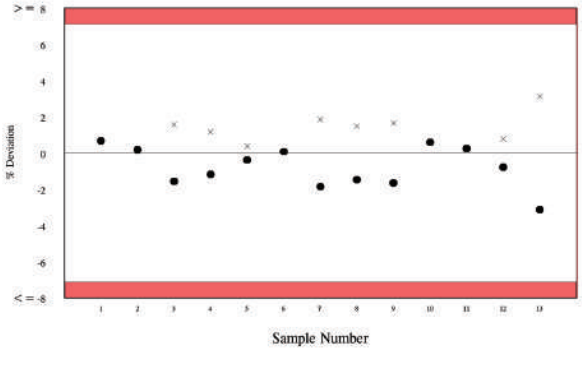
RIQAS TDPA: 7.1% **Biological Variation:** 3.9%

Sample	Result	Unit	N	Mean for Comparison	CV%	Um	SDPA	SDI	TS	%Deviation
1	28.200	g/l	68	I 28.013	2.4	0.10	1.26	0.15	120	0.67
2	26.900	g/l	87	I 26.853	2.7	0.10	1.21	0.04	120	0.17
3	39.900	g/l	71	I 40.531	2.5	0.15	1.82	-0.35	118	-1.56
4	19.200	g/l	81	I 19.429	2.5	0.07	0.87	-0.26	120	-1.18
5	41.700	g/l	67	I 41.859	2.0	0.13	1.88	-0.08	120	-0.38
6	57.300	g/l	87	I 57.257	2.7	0.21	2.58	0.02	120	0.08
7	45.000	g/l	72	I 45.850	2.1	0.14	2.06	-0.41	110	-1.85
8	27.600	g/l	87	I 28.013	2.5	0.09	1.26	-0.33	120	-1.47
9	41.200	g/l	70	I 41.891	2.2	0.14	1.88	-0.37	115	-1.65
10	26.900	g/l	83	I 26.742	3.3	0.12	1.20	0.13	120	0.59
11	40.700	g/l	71	I 40.601	2.2	0.14	1.83	0.05	120	0.24
12	45.100	g/l	80	I 45.456	2.2	0.14	2.04	-0.17	120	-0.78
13	27.300	g/l	63	I 28.179	2.0	0.09	1.27	-0.69	87	-3.12

	Cycle 45	Cycle 46
Cycle Average SDI	-0.23	-0.18
Cycle Average TS	110	116
Cycle Average %DEV	-1.05	-0.79
Cycle Average Absolute SDI	0.36	0.24
Cycle Average Absolute %DEV	1.63	1.06







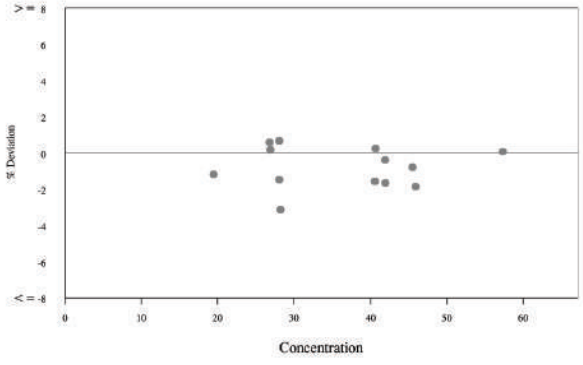
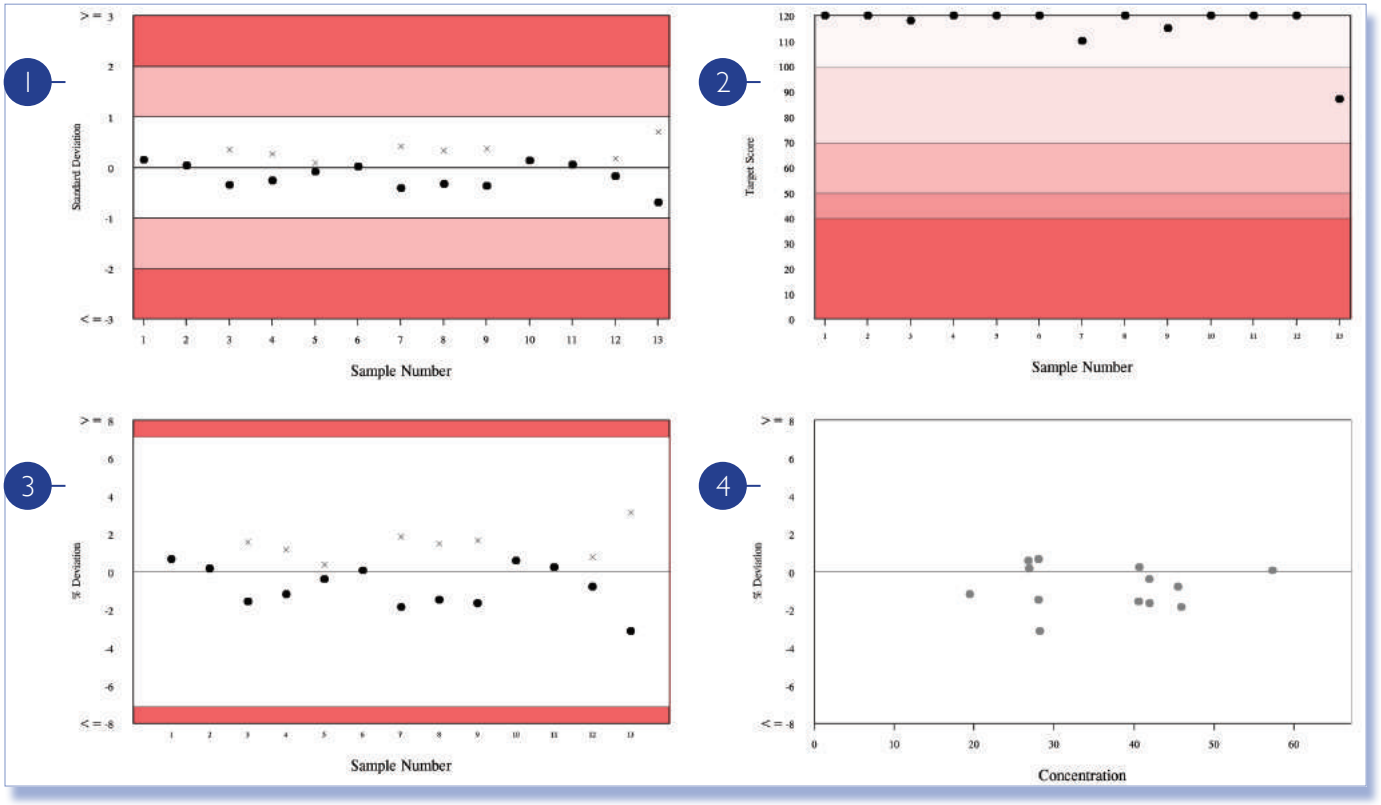


CHART SECTION (END-OF-CYCLE REPORT)

Your results for current cycle shown in various diagrams.



1	**Levey-Jennings chart**	Shows your SDIs for a full cycle. • Shows SDI (positive and negative) x Shows absolute SDI
2	**Target Score chart**	Shows your Target Scores for a full cycle.
3	**%Deviation by sample chart**	Shows your %Deviations for a full cycle. Acceptable limits equal to TDPA unless alternative limits are registered by the lab. • Shows %Deviation (positive and negative) x Shows absolute %Deviation
4	**%Deviation by Concentration chart**	Shows your results for a full cycle.

TEXT SECTION (END-OF-CYCLE REPORT)

The text section summarises the statistical information for all samples.

1 **Albumin, g/l**

2 **Method:** Bromocresol Purple
Instrument: Siemens/Dade Dimension RxL/Max/Xpand
Reagent: Siemens/Dade Behring

3 **RIQAS TDPA:** 7.1% **Biological Variation:** 3.9%

Your assay details at the end of the cycle. The RIQAS TDPA and biological variation for the parameter are shown if available.

4 Sample	5 Result	6 Unit	7 N	8 Mean	9 SDPA	10 Um	11 CV%	12 SDI	13 TS	14 % Deviation
1	28.200	g/l	68	I 28.013	1.26	0.10	2.4	0.15	120	0.7
2	26.900	g/l	87	I 26.853	1.21	0.10	2.7	0.04	120	0.2
3	39.900	g/l	71	M 40.531	1.82	0.15	2.5	-0.36	116	-1.5
4	19.200	g/l	81	I 19.429	0.87	0.07	2.5	-0.27	120	-1.2
5	41.700	g/l	67	I 41.942	1.88	0.13	2.0	-0.09	120	-0.4
6	57.300	g/l	87	I 57.257	2.58	0.21	2.7	0.02	120	0.1
7	45.000	g/l	72	I 45.850	2.06	0.14	2.1	-0.43	108	-1.8
8	27.600	g/l	87	I 28.011	1.26	0.09	2.5	-0.34	118	-1.5
9	41.200	g/l	70	I 41.823	1.88	0.14	2.2	-0.38	113	-1.6
10	26.900	g/l	83	I 26.742	1.20	0.12	3.3	0.14	120	0.6
11	40.700	g/l	71	I 40.601	1.83	0.13	2.2	0.06	120	0.2
12	45.100	g/l	80	I 45.119	2.05	0.14	2.2	-0.18	120	-0.8
13	27.300	g/l	63	I 28.454	1.27	0.09	2.0	-0.72	86	-3.1

Summary of your results and statistics are shown, including Mean for Comparison, SDPA, %CV, U_m, SDI, Target Score, %Deviation

	Cycle 45	Cycle 46
Cycle Average SDI	-0.23	-0.18
Cycle Average TS	110	116
Cycle Average %DEV	-1.05	-0.79
Cycle Average Absolute SDI	0.36	0.24
Cycle Average Absolute %DEV	1.63	1.06

15 16

Table containing a summary of your performance for previous cycle and current cycle, including Average Absolute SDIs and %Deviations.

TEXT SECTION (END-OF-CYCLE REPORT)

1. Report presented in your chosen unit
2. Your assay details as of the last sample
3. RIQAS TDPA and Biological variation
4. Sample number
5. Your results for each sample
6. Unit your result was returned in
7. Number of results used for statistical analysis
8. Mean for Comparison
9. SDPA = Standard Deviation for performance assessment
10. Uncertainty of Mean for Comparison
11. Coefficient of Variation (%)
12. Your Standard Deviation Index
13. Your Target Score
14. Your %Deviation
15. Cycle average of your performance indicators – Standard Deviation Index, Target Score and %Deviation

Cycle Average SDI = $\frac{\text{(Sum of SDIs returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

Cycle Average Target Score = $\frac{\text{(Sum of your Target Scores returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

Cycle Average %Deviation = $\frac{\text{(Sum of your \%Deviations returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

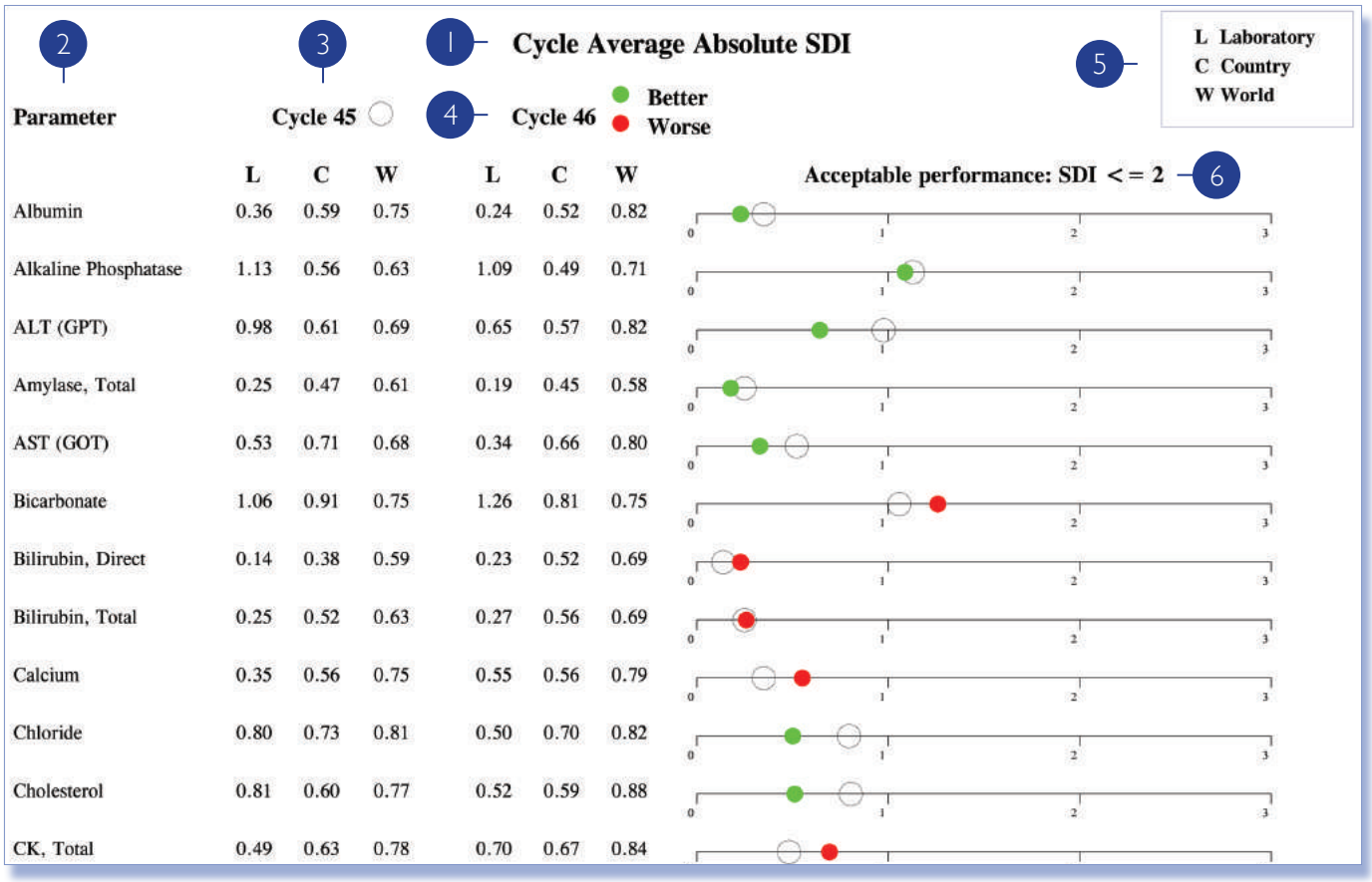
16. Cycle average for Absolute values of your SDI and %Deviation. Absolute values show how far a value is from zero regardless of the sign. This is an indication of the magnitude of accuracy.

Cycle Average Absolute SDI = $\frac{\text{(Sum of your Absolute SDIs returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

Cycle Average Absolute %Deviation = $\frac{\text{(Sum of your Absolute \%Deviations returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

CURRENT & PREVIOUS CYCLE ABSOLUTE SDIS (END-OF-CYCLE REPORT)

Based on the cycle average absolute SDI, this chart provides a visual representation of your laboratory's performance compared to the previous cycle.



Cycle Average Absolute SDI

L Laboratory
C Country
W World

Cycle 45 ○ Better
Cycle 46 ● Worse

Acceptable performance: SDI < = 2

Parameter	L	C	W	L	C	W
Albumin	0.36	0.59	0.75	0.24	0.52	0.82
Alkaline Phosphatase	1.13	0.56	0.63	1.09	0.49	0.71
ALT (GPT)	0.98	0.61	0.69	0.65	0.57	0.82
Amylase, Total	0.25	0.47	0.61	0.19	0.45	0.58
AST (GOT)	0.53	0.71	0.68	0.34	0.66	0.80
Bicarbonate	1.06	0.91	0.75	1.26	0.81	0.75
Bilirubin, Direct	0.14	0.38	0.59	0.23	0.52	0.69
Bilirubin, Total	0.25	0.52	0.63	0.27	0.56	0.69
Calcium	0.35	0.56	0.75	0.55	0.56	0.79
Chloride	0.80	0.73	0.81	0.50	0.70	0.82
Cholesterol	0.81	0.60	0.77	0.52	0.59	0.88
CK, Total	0.49	0.63	0.78	0.70	0.67	0.84

1	**Report title - Cycle Average Absolute SDI**	This shows your performance this cycle compared to the previous cycle.
2	**Parameter list**	List of all parameters registered.
3	**Results for previous cycle**	Indicated by open circle on the chart.
4	**Results for current cycle**	Indicated by a closed circle on the chart.
5	**Legend**	Cycle Average Absolute SDIs are shown for: **L** Your results throughout the cycle **C** All labs within your own country **W** All labs Worldwide
6	**Graphical representation of Absolute SDIs**	Acceptable performance is ≤ 2. If Absolute SDI for current cycle is less than that for the previous cycle, this is indicated by a green circle. If Absolute SDI for current cycle is greater than that for the previous cycle, this is indicated by a red circle. The closer the circle is to zero, the better the performance.

CERTIFICATE OF PERFORMANCE (END-OF-CYCLE REPORT)

An End-of-Cycle report will be issued for all registrations. However, the Certificate of Performance will only be available for parameters where results for at least 50% of samples in the cycle have been returned. Labs joining after the beginning of the cycle will only receive the Certificate of Performance if they meet this criteria. Any parameters not included on the Certificate of Acceptable Performance will be listed on the Notification of Unacceptable Performance.

RIQAS RANDOX INTERNATIONAL QUALITY ASSESSMENT SCHEME

CERTIFICATE OF ACCEPTABLE PERFORMANCE

RIQAS Department
Randox Laboratories
CRUMLIN
COUNTY ANTRIM (1)
BT29 4QY
UNITED KINGDOM

(2) **LABORATORY REF. NO.** XX/X

(3) **CLINICAL CHEMISTRY - CYCLE 47**

(4) **11/03/2013**

This is to certify that the above participant took part in a cycle of external quality assessment and achieved an acceptable level of performance (Cycle Average Absolute SDI < =2) for the following parameters:

(5)	(6) Cycle Average Absolute SDI
Albumin - Bromocresol Purple - Siemens/Dade Dimension RxL/Max/Xpand	0.50
Alkaline Phosphatase - Dade Dimension, AMP buffer - Siemens/Dade Dimension RxL/Max/Xpand	1.22
ALT (GPT) - Tris buffer with P5P - Siemens/Dade Dimension RxL/Max/Xpand	0.53
Amylase, Total - Dade Behring 2-chloro-pNPG3 - Siemens/Dade Dimension RxL/Max/Xpand	0.34
AST (GOT) - Tris buffer with P5P - Siemens/Dade Dimension RxL/Max/Xpand	0.55
Bicarbonate - Enzymatic - Siemens/Dade Dimension RxL/Max/Xpand	1.08
Bilirubin, Direct - Diazo with Sulphanilic Acid - Siemens/Dade Dimension RxL/Max/Xpand	0.19
Bilirubin, Total - Diazo with Sulphanilic Acid - Siemens/Dade Dimension RxL/Max/Xpand	0.26
Calcium - Cresolphthalein complexone - Siemens/Dade Dimension RxL/Max/Xpand	0.49
Chloride - ISE, indirect - Siemens/Dade Dimension RxL/Max/Xpand	0.70
Cholesterol - Dimension-Dade Behring reagents - Siemens/Dade Dimension RxL/Max/Xpand	0.54
CK, Total - CK-NAC (IFCC) - Siemens/Dade Dimension RxL/Max/Xpand	0.26
Creatinine - Alkaline picrate no deprot. - Siemens/Dade Dimension RxL/Max/Xpand	0.44
GGT - Gamma glut'3-carb'4-nitro (IFCC) - Siemens/Dade Dimension RxL/Max/Xpand	0.25
Glucose - Hexokinase - Siemens/Dade Dimension RxL/Max/Xpand	0.70

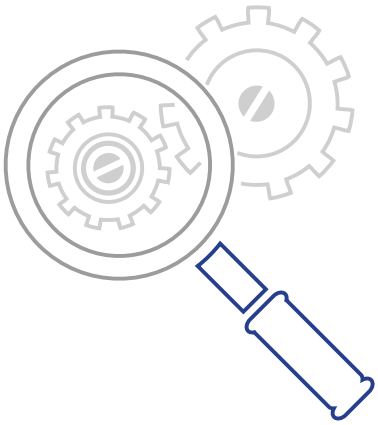
1	**Full registration address**	Your full registration address details.
2	**Your lab reference number**	Used to identify each lab.
3	**Programme / cycle number**	Programme and current, completed cycle number.
4	**Date**	Date End-of-Cycle report is issued.
5	**Parameters**	List of parameters for which cycle absolute SDI is ≤ 2.
6	**Average Absolute SDI**	Your Cycle Average Absolute SDI.

MONITORING EQA PERFORMANCE

Each EQA report should be evaluated and any poor performance investigated. A step by step approach should be adopted consisting of the following three steps:

1. Investigate the source of the problem

In order to identify the source of the problem, it is useful to be aware of the most common causes of poor EQA performance. Errors can occur at any stage of the testing process; however, EQA is most concerned with detecting analytical errors i.e. errors that occur during the analysis of the sample.



Most analytical errors can be easily divided into three main areas; clerical errors, systematic errors and random errors. Systematic errors result in inaccurate results that consistently show a positive or negative bias. Random errors, on the other hand, affect precision and result in fluctuations in either direction.

It may be possible that, after extensive investigations, the root cause of the poor performance cannot be established. Poor performance for a single sample could be attributed to random error. If poor performance has been noted for several samples, a systematic error is the most likely cause and the analytical process should be reviewed.

Clerical errors

- Transcription errors
- Incorrect units used
- Incorrect sample tested
- Incorrect method classification
- Calculation/conversion error

Systematic errors

- Sample/Reagent prep/handling
- Reagent/calibrator/standardisation change
- Instrument/reagent/calibrator fault
- Inexperienced operators
- Reagent deterioration
- Inappropriate method

Random errors

- Bubbles in reagent
- Bubbles in reagent/sample pipette
- Temperature fluctuations
- Poor pipetting technique
- Poor operator technique

The flowchart (page 29) is designed to help you investigate any apparent poor performance.

2. Implement corrective actions

Some errors can be readily recognised as simple clerical errors and easily corrected. If there is evidence of systematic or random error however more detailed corrective actions must be taken.

Systematic Error

In the event of a systematic error, the following suggested actions may help to resolve the problem:

- Perform instrument maintenance
- Recalibrate instrument
- Review reagent/sample storage
- Check pipettes
- Prepare fresh reagents & re-run sample
- Perform staff training

Random Error

If all possible causes have been excluded, a single unacceptable result is most likely due to random error. Re-run the sample; if the result of repeat analysis is acceptable then corrective action is not required. If the issue persists, investigate possible sources of systematic error.

3. Check the effectiveness of corrective actions

The effectiveness or impact of any corrective actions taken can be assessed by continuing to monitor analytical performance over time.

MONITORING EQA PERFORMANCE

A checklist similar to the one below is extremely useful when investigating poor EQA performance and may help you to determine the root cause of the problem and initiate corrective actions.

Laboratory: .....

Cycle Number: ..... **Sample Number:** .....

Analysis Date: ..... **Analyte:** .....

Mean for Comparison: ..... **Lab Result:** ..... **SDI:** ..... **%Dev:** .....

1. Specimen Handling

a. Samples received in good condition (Y) (N)

b. Samples stored/prepared appropriately (Y) (N)

c. Integrity of the sample is acceptable (Y) (N)

2. Clerical

a. Correct result entered (Y) (N)

b. Correct use of decimal point and units (Y) (N)

c. Calculations, if any, performed correctly (even if automated) (Y) (N)

d. Conversion factors applied to results before submission (Y) (N)

3. Registration and Mean for Comparison

a. Registered in the correct method/instrument group (Y) (N)

b. Changed method or instrument without advising RIQAS (Y) (N)

c. Mean for comparison changed due to the number of participants returning results e.g. from method to instrument (Y) (N)

d. An obvious bias between method and instrument means (check histogram and stats sections) (Y) (N)

4. Internal Quality Control

a. %Deviation of IQC (at similar conc to that of EQA) on sample analysis date acceptable (Y) (N)

b. Shift in IQC in the periods just before and after EQA sample analysis (Y) (N)

c. Trends in IQC in the periods before and after EQA sample analysis (Y) (N)

d. Random IQC variation on sample analysis date (Y) (N)

e. Error due to imprecision; check IQC in terms of %Deviation compared to deviation observed in EQA (Y) (N)

f. IQC target correctly assigned (Y) (N)

5. Calibration

a. Date of last calibration .....

b. Calibration frequency acceptable (Y) (N)

c. Last calibration acceptable (Y) (N)

6. Instrument

a. Daily maintenance performed on date of sample analysis (Y) (N)

b. Special maintenance performed prior to sample analysis (Y) (N)

c. Instrument operated correctly (Y) (N)

d. Operator fully trained (Y) (N)

7. Reagents

a. Reagents prepared and stored correctly (Y) (N)

b. Reagents within open vial stability (Y) (N)

8. EQA sample

a. Initial value .....

b. Re-run value .....

c. Issue observed in previous EQA samples at a similar concentration (check %Deviation by concentration and Levey Jennings charts) (Y) (N)

d. All parameters affected (to the same extent) - possible reconstitution error (check %Deviation on summary pages) (Y) (N)

Conclusion: .....

.....

.....

.....

Remedial Action: .....

.....

.....

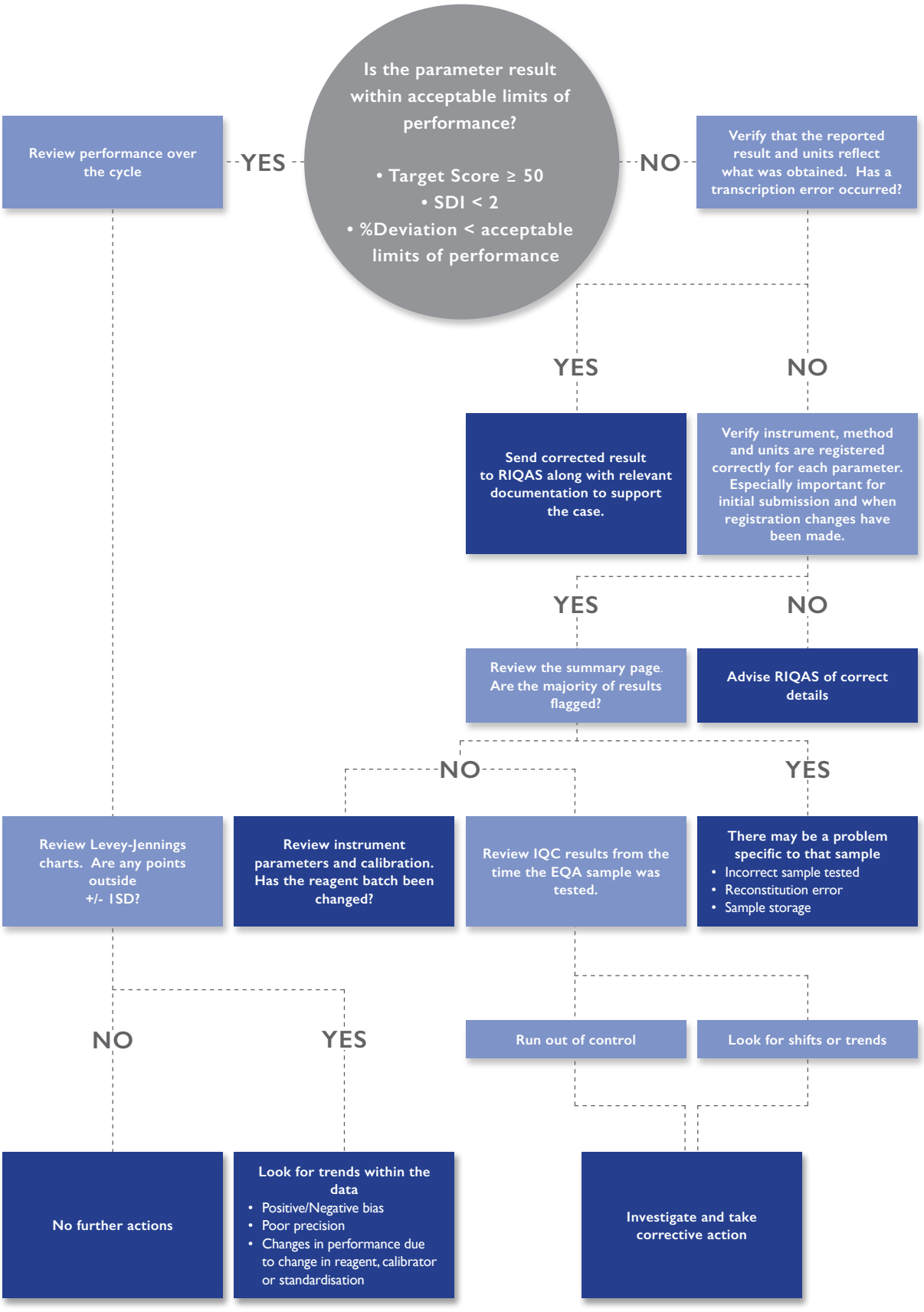
.....

Lab Manager: ..... **Date:** .....

Lab Director: ..... **Date:** .....

MONITORING EQA PERFORMANCE

The flow chart below can be used to help identify a possible root cause for poor EQA performance.



Ammonia/Ethanol Programme+

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

Ammonia
Ethanol

Anti-TSH Receptor Programme+

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
RQ9134/A (1.8 ml)
Subsequent instruments
10 Parameters
Samples every month, 1 x 12 month cycle, 12 month subscription

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

BNP Programme+

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

BNP

Cardiac Programme *With target scoring*

RQ9127/a (1 ml)
2 Parameters only (choose from 7)
RQ9127/b (1 ml)
Full 7 Parameters
Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription

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

Cerebrospinal Fluid Programme+

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

Albumin
Albumin (electrophoresis)
α-1-globulin (electrophoresis)
α-2-globulin (electrophoresis)
β-globulin (electrophoresis)
Chloride
γ-globulin (electrophoresis)
Glucose
IgG
Lactate
Protein (Total)
Sodium

Coagulation Programme *With target scoring*

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

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

= Liquid ready-to-use samples
= Lyophilised samples
PURPLE = The only parameters available on RQ9135/a
+ = Not accredited
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RIQAS PROGRAMMES

CYFRA 21-1 Programme+

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

CYFRA 21-1 (Cytokeratin 19)

ESR Programme+

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

ESR (Erythrocyte Sedimentation Rate)

General Clinical Chemistry Programme *With target scoring*

RQ9112 (5 ml) **10 Parameters only**
RQ9112/S (5 ml) **17 Parameters only**
RQ9113 (5 ml) **Full 52 Parameters**
Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription, reference method values

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

Glycated Haemoglobin Programme (HbA1c) *With target scoring*

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

HbA1c
Total Haemoglobin

Haematology Programme *With target scoring*

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

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

Human Urine Programme *With target scoring*

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

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

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= Lyophilised samples
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RIQAS PROGRAMMES

Immunoassay Programme *With target scoring*

RQ9125/a (5 ml)	RQ9125/b (5 ml)	RQ9125/c (5 ml)	RQ9130 (5 ml)
4 Parameters only (choose from 55)	13 Parameters only (choose from 55)	Full 55 Parameters	Full 55 Parameters
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)			

ACTH	DHEA Unconjugated	17-OH-Progesterone	T_4 (Free)
AFP	Digoxin	Paracetamol	T_4 (Total)
Aldosterone	Estriol Total*	Phenobarbital	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-$(OH)_2$-Vitamin D*
C-Peptide	LH	T_3 (Free)	25-OH-Vitamin D
DHEA-Sulphate	Oestradiol	T_3 (Total)	

Immunoassay Speciality 1 Programme+ *With target scoring*

RQ9141 (2 ml)
10 Parameters
Samples every month, 1 x 12 month cycle, 12 month subscription

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

Immunoassay Speciality 2 Programme+

RQ9142 (2 ml)
5 Parameters
Samples every month, 1 x 12 month cycle, 12 month subscription

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

Cyclosporine	Everolimus	Sirolimus	Tacrolimus

Lipid Programme *With target scoring*

RQ9126/a (3 ml)	RQ9126/b (3 ml)
3 Parameters only (choose from 7)	Full 7 Parameters
Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription	

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

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			

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RIQAS PROGRAMMES

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

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-1&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) **RQ9160 (2 ml)** **RQ9161 (1 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_3	IgG	Retinol Binding Protein
α-1-Antitrypsin	Complement C_4	IgM	Rheumatoid Factor
α-2-Macroglobulin	C-Reactive Protein	Kappa Light Chain (Free)	Transferrin
Anti Streptolysin O	Ferritin	Kappa Light Chain (Total)	
Antithrombin III	Haptoglobin	Lambda Light Chain (Free)	

Sweat Testing Programme+

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

Chloride	Conductivity	Sodium

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Therapeutic Drugs Programme *With target scoring*

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

Amikacin	Ethosuximide	Phenobarbital	Tobramycin
Caffeine	Gentamicin	Phenytoin	Valproic Acid
Carbamazepine	Lithium	Primidone	Vancomycin
Cyclosporine	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+

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

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

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

PARAMETER INDEX

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
#	1-25-$(OH)_2$-Vitamin D* $^{\Delta}$														X	X	
	17-OH-Progesterone														X		
	25-OH-Vitamin D														X	X	
	5-HIAA													X			
A	α-1-Acid Glycoprotein																
	α-1-Antitryspin																
	α-1-Globulin (Electrophoresis)						X										
	α-2-Globulin (Electrophoresis)						X										
	α-2-Macroglobulin																
	ACE (Angiotensin Converting Enzyme)										X						
	Acid Phosphatase (Prostatic)										X						
	Acid Phosphatase (Total)										X						
	ACR													X			
	ACTH														X		
	AFP														X		
	Albumin						X				X			X			
	Albumin (Electrophoresis)						X										
	Aldosterone														X		
	Alkaline Phosphatase										X						
	ALT (ALAT)										X						
	Aluminium																
	Amikacin														X		
	Ammonia	X															
	Amylase (Pancreatic)										X						
	Amylase (Total)										X			X			
	Androstenedione														X		
	Anti Streptolysin O (ASO)																
	Anti-CMV																
	Anti-CMV IgG																
	Anti-CMV IgM																
	Anti-EBNA IgG																
	Anti-EBV VCA IgG																
	Anti-EBV VCA IgM																
	Anti-HBc																
	Anti-HCV																
	Anti-HIV-1																
	Anti-HIV-1 & 2 Combined																
	Anti-HIV-2																
	Anti-HSV- 1 & 2 IgG Combined																
	Anti-HSV- 1 & 2 IgM Combined																

$^{\Delta}$ *Only Pilot studies in certain programmes. Please check pages 32 - 36 for more information.*

PARAMETER INDEX

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
																1-25-$(OH)_2$-Vitamin D* [Δ]	#
																17-OH-Progesterone	
																25-OH-Vitamin D	
																5-HIAA	
								X								α-1-Acid Glycoprotein	A
								X								α-1-Antitryspin	
																α-1-Globulin (Electrophoresis)	
																α-2-Globulin (Electrophoresis)	
								X								α-2-Macroglobulin	
																ACE (Angiotensin Converting Enzyme)	
																Acid Phosphatase (Prostatic)	
																Acid Phosphatase (Total)	
																ACR	
																ACTH	
			X					X								AFP	
								X						X		Albumin	
																Albumin (Electrophoresis)	
																Aldosterone	
																Alkaline Phosphatase	
																ALT (ALAT)	
												X				Aluminium	
										X						Amikacin	
																Ammonia	
																Amylase (Pancreatic)	
																Amylase (Total)	
																Androstenedione	
								X								Anti Streptolysin O (ASO)	
					X											Anti-CMV	
							X									Anti-CMV IgG	
							X									Anti-CMV IgM	
				X												Anti-EBNA IgG	
				X												Anti-EBV VCA IgG	
				X												Anti-EBV VCA IgM	
					X											Anti-HBc	
					X											Anti-HCV	
					X											Anti-HIV-1	
					X											Anti-HIV-1 & 2 Combined	
					X											Anti-HIV-2	
							X									Anti-HSV- 1 & 2 IgG Combined	
							X									Anti-HSV- 1 & 2 IgM Combined	

[Δ] *Only Pilot studies in certain programmes. Please check pages 32 - 36 for more information.*

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
A	Anti-HSV1 IgG																
	Anti-HSV1 IgM																
	Anti-HSV2 IgG																
	Anti-HSV2 IgM																
	Anti-HTLV-1 & 2 Combined																
	Anti-HTLV-I																
	Anti-HTLV-II																
	Anti-Rubella IgG																
	Anti-Rubella IgM																
	Anti-TG															X	
	Antithrombin III							X									
	Anti-Toxoplasma IgG																
	Anti-Toxoplasma IgM																
	Anti-TPO															X	
	Anti-TSH Receptor (TRAb)		X														
	Apolipoprotein AI																
	Apolipoprotein B																
	aPTT							X									
	AST (ASAT)										X						
B	β-2-Microglobulin														X		
	β-Globulin (Electrophoresis)						X										
	Benzoylecgonine																
	Bicarbonate			X							X						
	Bile Acids										X						
	Bilirubin (Direct)										X						
	Bilirubin (Total)										X						
	Blood																
	BNP				X												
	Buprenorphine																
C	CA15-3														X		
	CA19-9														X		
	CA125														X		
	Cadmium																
	Caffeine																
	Calcitonin																X
	Calcium										X			X			
	Calcium (Ionised)			X							X						
	Cannabinoids (THC)																
	Carbamazepine														X		
	CEA														X		

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
							X									Anti-HSV1 IgG	A
							X									Anti-HSV1 IgM	
							X									Anti-HSV2 IgG	
							X									Anti-HSV2 IgM	
					X											Anti-HTLV-1 & 2 Combined	
					X											Anti-HTLV-I	
					X											Anti-HTLV-II	
							X									Anti-Rubella IgG	
							X									Anti-Rubella IgM	
																Anti-TG	
								X								Antithrombin III	
							X									Anti-Toxoplasma IgG	
							X									Anti-Toxoplasma IgM	
																Anti-TPO	
																Anti-TSH Receptor (TRAb)	
	X															Apolipoprotein AI	
	X															Apolipoprotein B	
																aPTT	
																AST (ASAT)	
								X								β-2-Microglobulin	B
																β-Globulin (Electrophoresis)	
															X	Benzoylecgonine	
																Bicarbonate	
																Bile Acids	
																Bilirubin (Direct)	
														X		Bilirubin (Total)	
														X		Blood	
																BNP	
															X	Buprenorphine	
																CA15-3	C
																CA19-9	
																CA125	
													X			Cadmium	
										X						Caffeine	
																Calcitonin	
																Calcium	
																Calcium (Ionised)	
															X	Cannabinoids (THC)	
										X						Carbamazepine	
																CEA	

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
C	Ceruloplasmin																
	Chloride			X			X				X			X			
	Cholesterol (Total)										X						
	Cholinesterase										X						
	Chromium																
	CK, Total					X					X						
	CK-MB (Activity)					X											
	CK-MB (Mass)					X											
	Cobalt																
	Complement C_3																
	Complement C_4																
	Conductivity																
	Copper										X			X			
	Cortisol													X	X		
	Cotinine*																
	C-Peptide														X	X	
	C-Reactive Protein (CRP)																
	Creatinine										X			X			
	Cyclosporine																
	CYFRA 21-1 (Cytokeratin 19)								X								
D	D-3-Hydroxybutyrate										X						
	d-Amphetamine																
	D-Dimer* [Δ]							X									
	DHEA Unconjugated														X		
	DHEA-Sulphate														X		
	Digoxin														X		
	d-Methamphetamine																
	Dopamine													X			
E	EDDP																
	Epinephrine													X			
	ESR									X							
	Estriol Total*														X		
	Ethanol	X															
	Ethosuximide* [Δ]														X		
	Everolimus																
F	Factor II							X									
	Factor IX							X									
	Factor V							X									
	Factor VII							X									
	Factor VIII							X									

[Δ] Only Pilot studies in certain programmes. Please check pages 32 - 36 for more information.

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
								X								Ceruloplasmin	C
									X							Chloride	
	X															Cholesterol (Total)	
																Cholinesterase	
												X	X			Chromium	
																CK, Total	
																CK-MB (Activity)	
		X														CK-MB (Mass)	
												X	X			Cobalt	
								X								Complement C_3	
								X								Complement C_4	
									X							Conductivity	
											X	X	X			Copper	
																Cortisol	
															X	Cotinine*	
																C-Peptide	
								X								C-Reactive Protein (CRP)	
														X	X	Creatinine	
X										X						Cyclosporine	
																CYFRA 21-1 (Cytokeratin 19)	
																D-3-Hydroxybutyrate	D
															X	d-Amphetamine	
		X														D-Dimer* $^{\Delta}$	
																DHEA Unconjugated	
																DHEA-Sulphate	
		X								X						Digoxin	
															X	d-Methamphetamine	
																Dopamine	
															X	EDDP	E
																Epinephrine	
																ESR	
																Estriol Total*	
															X	Ethanol	
										X						Ethosuximide* $^{\Delta}$	
X																Everolimus	
																Factor II	F
																Factor IX	
																Factor V	
																Factor VII	
																Factor VIII	

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
F	Factor X							X									
	Factor XI							X									
	Factor XII							X									
	Ferritin														X		
	Fibrinogen							X									
	Folate														X		
	Free Morphine																
	free β-hCG																
	Fructosamine										X						
	FSH														X		
G	γ-GT										X						
	γ-Globulin (Electrophoresis)						X										
	Galactose																
	Gastrin																X
	Gentamicin														X		
	Growth Hormone (GH)														X		
	GLDH										X						
	Glucose			X			X				X			X			
H	Haematocrit (HCT)												X				
	Haemoglobin (Hb)											X	X				
	Haptoglobin																
	HbA1c											X					
	HBsAG																
	HBDH										X						
	hCG														X		
	HDL-Cholesterol										X						
	Homocysteine					X											
	hsCRP																
I	IgA																
	IgE														X		
	IGF-1															X	
	IgG						X										
	IgM																
	Inhibin A																
	Insulin														X	X	
	Iodine																
	Iron										X						
K	Kappa Light Chain (Free)																
	Kappa Light Chain (Total)																
	Ketones																

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
																Factor X	F
																Factor XI	
																Factor XII	
								X								Ferritin	
																Fibrinogen	
																Folate	
															X	Free Morphine	
			X													free β-hCG	
																Fructosamine	
																FSH	
																γ-GT	G
																γ-Globulin (Electrophoresis)	
														X		Galactose	
																Gastrin	
										X						Gentamicin	
																Growth Hormone (GH)	
																GLDH	
														X		Glucose	
																Haematocrit (HCT)	H
																Haemoglobin (Hb)	
								X								Haptoglobin	
																HbA1c	
					X											HBsAG	
																HBDH	
														X		hCG	
	X															HDL-Cholesterol	
		X														Homocysteine	
		X														hsCRP	
								X								IgA	I
								X								IgE	
																IGF-1	
								X								IgG	
								X								IgM	
			X													Inhibin A	
																Insulin	
											X	X	X			Iodine	
																Iron	
								X								Kappa Light Chain (Free)	K
								X								Kappa Light Chain (Total)	
														X		Ketones	

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
L	Lactate			X			X				X						
	Lambda Light Chain (Free)																
	Lambda Light Chain (Total)																
	LD (LDH)										X						
	LDL-Cholesterol																
	Lead																
	Leukocytes																
	Leutinising Hormone (LH)														X		
	Lipase										X						
	Lipoprotein (a)																
	Lithium										X						
	Lorazepam																
	LSD																
M	Magnesium										X						
	Manganese																
	MDMA																
	Mean Cell Haemoglobin (MCH)												X				
	Mean Cell Haemoglobin Concentration (MCHC)												X				
	Mean Cell Volume (MCV)												X				
	Mean Platelet Volume (MPV)												X				
	Metanephrine													X			
	Methadone																
	Methotrexate																
	Molybdenum																
	Myoglobin					X											
N	NEFA										X						
	Nickel																
	Nitrite																
	Norepinephrine													X			
	Normetanephrine													X			
	Norpropoxyphene																
	Nortriptyline																
	NT proBNP																
O	Oestradiol														X		
	Osmolality										X			X			
	Osteocalcin															X	
	Oxalate													X			
	Oxazepam																
P	PAPP-A																

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
																Lactate	L
								X								Lambda Light Chain (Free)	
								X								Lambda Light Chain (Total)	
																LD (LDH)	
	X															LDL-Cholesterol	
											X	X	X			Lead	
														X		Leukocytes	
																Leutinising Hormone (LH)	
																Lipase	
	X															Lipoprotein (a)	
										X						Lithium	
															X	Lorazepam	
															X	LSD	
											X		X			Magnesium	M
											X	X	X			Manganese	
															X	MDMA	
																Mean Cell Haemoglobin (MCH)	
																Mean Cell Haemoglobin Concentration (MCHC)	
																Mean Cell Volume (MCV)	
																Mean Platelet Volume (MPV)	
																Metanephrine	
															X	Methadone	
										X						Methotrexate	
													X			Molybdenum	
		X														Myoglobin	
																NEFA	N
												X	X			Nickel	
														X		Nitrite	
																Norepinephrine	
																Normetanephrine	
															X	Norpropoxyphene	
															X	Nortriptyline	
		X														NT proBNP	
																Oestradiol	O
																Osmolality	
																Osteocalcin	
																Oxalate	
															X	Oxazepam	
			X													PAPP-A	P

PARAMETER INDEX

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		Ammonia / Ethanol +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cerebrospinal Fluid +	Coagulation	CYFRA 21-1 +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay	Immunoassay Speciality 1 +	Immunoassay Speciality 2 +
P	PAPP-A																
	Paracetamol (Acetaminophen)														X		
	pCO_2			X													
	pH			X													
	Phencyclidine																
	Phenobarbital														X		
	Phenytoin														X		
	Phosphate (Inorganic)										X			X			
	Plasma Renin Activity																X
	Plasminogen							X									
	Plateletcrit (PCT)												X				
	Platelets (PLT)												X				
	pO_2			X													
	Potassium			X							X			X			
	Prealbumin (Transthyretin)																
	Primidone*														X		
	Procalcitonin															X	X
	Progesterone														X		
	Prolactin														X		
	Protein (Total)						X				X			X			
	Protein C							X									
	Protein S							X									
	PSA (Free)														X		
	PSA (Total)										X				X		
	PT (Including INR)							X									
	PTH														X	X	
R	Red Blood Bell Count (RBC)												X				
	Red Cell Distribution Width (RDW)												X				
	Renin (Direct Concentration)																X
	Retinol Binding Protein																
	Rheumatoid Factor																
S	Salicylic Acid														X		
	Secobarbital																
	Selenium																
	SHBG														X		
	Sirolimus																
	Sodium			X			X				X			X			
	Specific Gravity																
	Syphilis																
T	T_3 (Free)										X				X		

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Immunosuppressant +	Lipid	Liquid Cardiac	Maternal Screening	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Trace Elements in Blood +	Trace Elements in Serum +	Trace Elements in Urine +	Urinalysis +	Urine Toxicology +		
			X													PAPP-A	P
										X						Paracetamol (Acetaminophen)	
																pCO_2	
														X		pH	
															X	Phencyclidine	
										X					X	Phenobarbital	
										X						Phenytoin	
																Phosphate (Inorganic)	
																Plasma Renin Activity	
																Plasminogen	
																Plateletcrit (PCT)	
																Platelets (PLT)	
																pO_2	
																Potassium	
								X								Prealbumin (Transthyretin)	
										X						Primidone*	
																Procalcitonin	
																Progesterone	
																Prolactin	
														X		Protein (Total)	
																Protein C	
																Protein S	
																PSA (Free)	
																PSA (Total)	
																PT (Including INR)	
																PTH	
																Red Blood Bell Count (RBC)	R
																Red Cell Distribution Width (RDW)	
																Renin (Direct Concentration)	
								X								Retinol Binding Protein	
								X								Rheumatoid Factor	
										X						Salicylic Acid	S
															X	Secobarbital	
											X	X				Selenium	
																SHBG	
X																Sirolimus	
									X							Sodium	
														X		Specific Gravity	
						X										Syphilis	
																T_3 (Free)	T

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T	T_3 (Total)										X				X		
	T_4 (Free)										X				X		
	T_4 (Total)										X				X		
	Tacrolimus																
	Testosterone (Free)*														X		
	Testosterone (Total)														X		
	Thallium																
	Theophylline														X		
	Thyroglobulin														X		
	TIBC										X						
	Tobramycin*														X		
	Total hCG																
	Total White Blood Cell Count (WBC)												X				
	Transferrin																
	Triglycerides										X						
	Troponin I					X											
	Troponin T					X											
	TSH														X		
	TT							X									
U	UIBC										X						
	Unconjugated Oestriol																
	Urea										X			X			
	Uric Acid										X			X			
	Urobilinogen																
V	Valproic Acid														X		
	Vancomycin														X		
	Vitamin B12														X		
	VMA													X			
Z	Zinc										X						

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																T_3 (Total)	T
																T_4 (Free)	
																T_4 (Total)	
X																Tacrolimus	
																Testosterone (Free)*	
																Testosterone (Total)	
													X			Thallium	
										X						Theophylline	
																Thyroglobulin	
																TIBC	
										X						Tobramycin*	
			X													Total hCG	
																Total White Blood Cell Count (WBC)	
								X								Transferrin	
	X															Triglycerides	
		X														Troponin I	
		X														Troponin T	
																TSH	
																TT	
																UIBC	U
			X													Unconjugated Oestriol	
																Urea	
																Uric Acid	
														X		Urobilinogen	
										X						Valproic Acid	V
										X						Vancomycin	
																Vitamin B12	
																VMA	
											X	X				Zinc	Z

RELATED PRODUCTS

ACUSERA True third party quality controls

As a world leading manufacturer of multi-analyte true third party controls, thousands of laboratories rely on Randox to accurately assess test system performance and ultimately empower them with the confidence required to release patient test results. With more than 390 analytes available, the number of individual controls required to cover your test menu is significantly reduced while simultaneously reducing costs, time and storage space. A choice of formats is available, including liquid or lyophilised, which ensures flexibility and suitability for laboratories of all sizes and budgets. Many features of the Acusera range can help you to meet ISO 15189:2012 requirements:

- Designed to react to the test system in the same manner as a patient sample, helping to reduce inconvenient shifts in QC results when reagent batch is changed and ultimately providing a true indication of laboratory performance.
- The presence of analytes at key decision levels ensures accurate instrument performance and eliminates the need for additional low/high controls at extra expense.
- Manufactured independently from any instrument, the Acusera range delivers unbiased performance assessment with any instrument or method, while eliminating the need for multiple instrument specific controls.

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Uniquely combining more than 100 analytes conveniently in a single control, laboratories can significantly reduce costs and consolidate without compromising on quality. As true third party controls, unbiased performance assessment with any instrument or method is guaranteed.

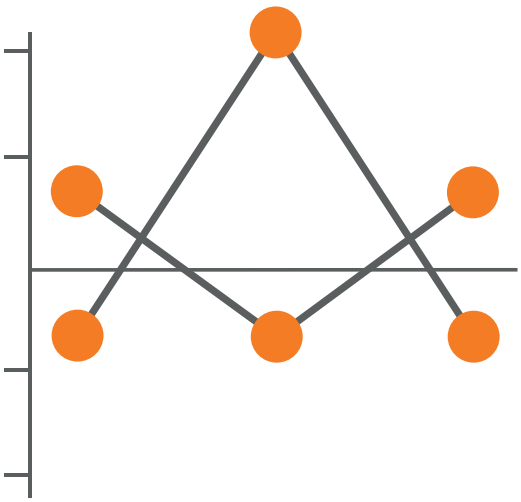
ACUSERA 24•7 Interlaboratory Data Management

Designed for use with the Acusera range of third party controls, the Acusera 24•7 software helps laboratories monitor and interpret their QC data. Access to an impressive range of features, including interactive charts, the automatic calculation of Measurement Uncertainty & Sigma Metrics and live peer group data generated from our extensive database of laboratory participants, ensures Acusera 24•7 is the most comprehensive package available.

- Advanced statistical analysis with automatic calculation of performance metrics including; Sigma, UM, TE & %Bias.
- Instantly discover how you compare to your peers with peer group statistics updated live in real-time reducing time and money spent troubleshooting.
- Interactive charts allowing you to add events and multiple data sets for quick and easy performance monitoring.
- Automated data import with bi-directional connection to LIMS (eliminating manual data entry).

Software Features

Dashboard | Result History | Interactive Levey-Jennings Charts | Interactive Histogram Charts Performance Summary Charts | Statistical Analysis Report | Statistical Metrics Report Uncertainty of Measurement Report | Exception Report | Peer Group Statistics | Acusera Advisor Audit Trail Report



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

ISO 15189:2012

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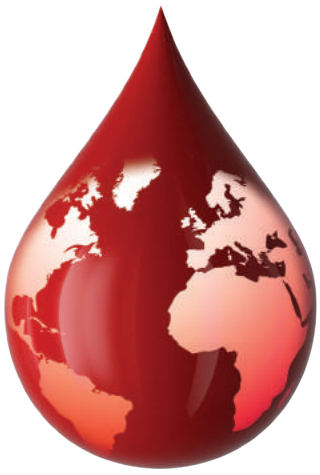
Biochemistry Reagents

Randox offers an extensive range of diagnostic reagents, giving biochemistry laboratories the opportunity to advance their routine and niche testing. The Randox reagents range goes beyond routine chemistries. At Randox we re-invest significantly in research and development to ensure we meet the ever changing needs of the laboratory. As a result, the esoteric reagents range from Randox is extensive and includes sLDL, Lipoprotein(a), H-FABP, Cystatin C, TxBCardio, Adiponectin, Bile Acids, Copper, D-3- Hydroxybutyrate, G-6-PDH, Non-Esterified Fatty Acids, Total Antioxidant Status and Zinc. Randox Reagents provide a number of benefits for the laboratory: Cost savings through excellent stability, automated methods and standards supplied with some kits; confidence in results with high performance methods, minimal interferences and wide measuring ranges; convenience and choice with over applications for over 100 biochemistry analysers; liquid ready-to-use reagents, a wide range of kit sizes and complementary controls and calibrators.

Biochip Array Technology

Biochip Array Technology (BAT) is an innovative assay technology for multi-analyte screening of biological samples in a rapid, accurate and easy to use format. BAT offers highly specific tests, coupled to highly sensitive chemiluminescent detection, providing quantitative results in easy to interpret reports. Randox BAT assays offer diagnostic, prognostic and predictive solutions across a variety of disease areas including sexually transmitted infection, cardiovascular disease (CVD), familial hypercholesterolemia (FH), colorectal cancer and respiratory infection.



Randox has been supplying laboratories worldwide with revolutionary diagnostic solutions for over 30 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.

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