RANDOX

RANDOX INTERNATIONAL QUALITY ASSESSMENT SCHEME

RIQAS

RANDOX
QUALITY CONTROL

RIQAS

THE LARGEST INTERNATIONAL EQA SCHEME WITH OVER 55,000 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, allows 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 (volume permitting) 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, while for the Immunosuppressant programme they are provided for all 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 55,000 laboratory participants in 134 countries. 36 programmes are currently available.

RIQAS Programmes

- Ammonia/Ethanol
- Anti-Müllerian Hormone (AMH)
- Anti-TSH Receptor
- Blood Gas
- BNP
- Cardiac
- Cardiac Plus
- Cerebrospinal Fluid (CSF)
- Clinical Chemistry
- Coagulation
- CO-Oximetry
- CYFRA 21-1
- Cytokines
- ESR
- Glycated Haemoglobin (HbA1c)
- Haematology
- Human Urine
- Immunoassay
- Immunoassay Speciality 1
- Immunoassay Speciality 2
- Immunosuppressant Drugs
- Lipids
- Maternal Screening
- Microbiology (Bacterial Identification)
- Neonatal Bilirubin
- Serology (Anti-SARS-CoV-2)
- Serology Epstein Barr Virus (EBV)
- Serology (HIV/Hepatitis)
- Serology (Syphilis)
- Serology (ToRCH)
- Serum Indices
- Specific Proteins
- Sweat Testing
- Therapeutic Drugs
- 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 Quality Assurance in Pathology Committee (QAPC).
- 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 uniquely 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 ***(available for quantitative reports only)***.

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 if volume supplied is insufficient for the registered instruments.

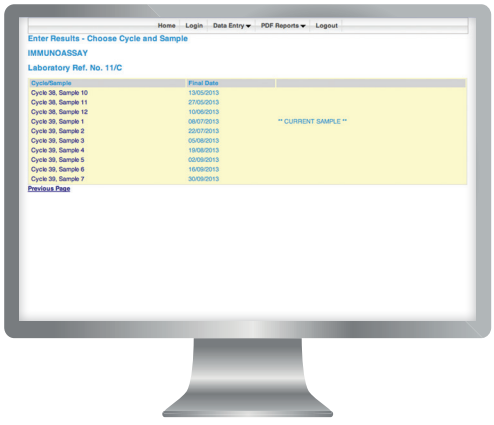
Laboratory Group Reports

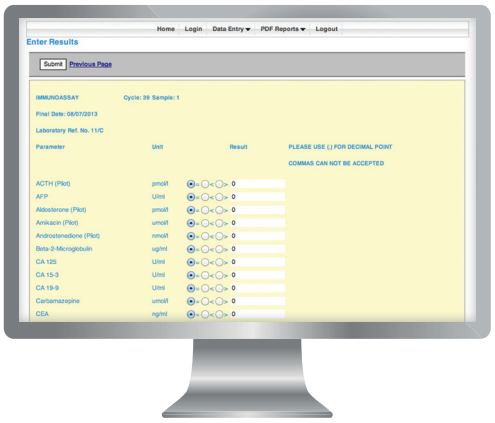
The group reporting facility enables laboratory groups or chains to monitor the performance of satellite sites. Each affiliated laboratory will receive their individual reports with the group supervisor also receiving a summary report comparing each laboratory in the network.

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.

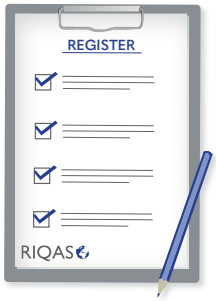




PARTICIPATION IN RIQAS

Participation in RIQAS follows these simple steps:

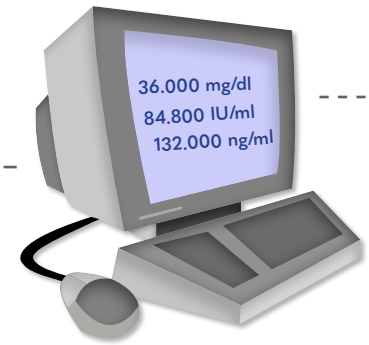
1 Order your RIQAS programmes through your local Randox Office or Distributor. Register the instruments and methods used in your lab on RIQAS.net or by completing the enrolment document. Enrolment documents are available from riqas.com and should be submitted 3 weeks before the cycle starts. Check RIQAS 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 and submit before the final deadline.



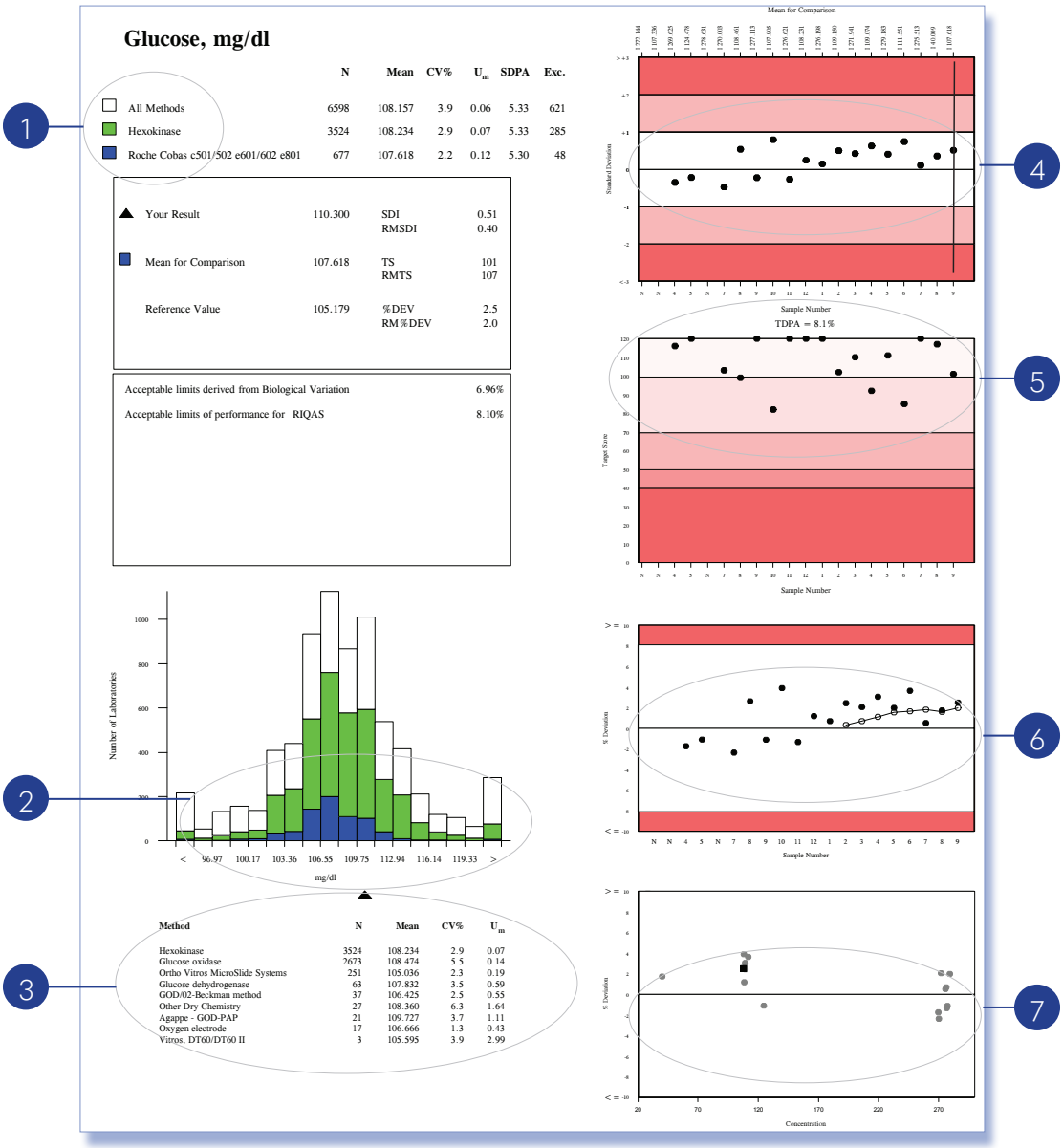
5 Receive report by email and review to assess performance.

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

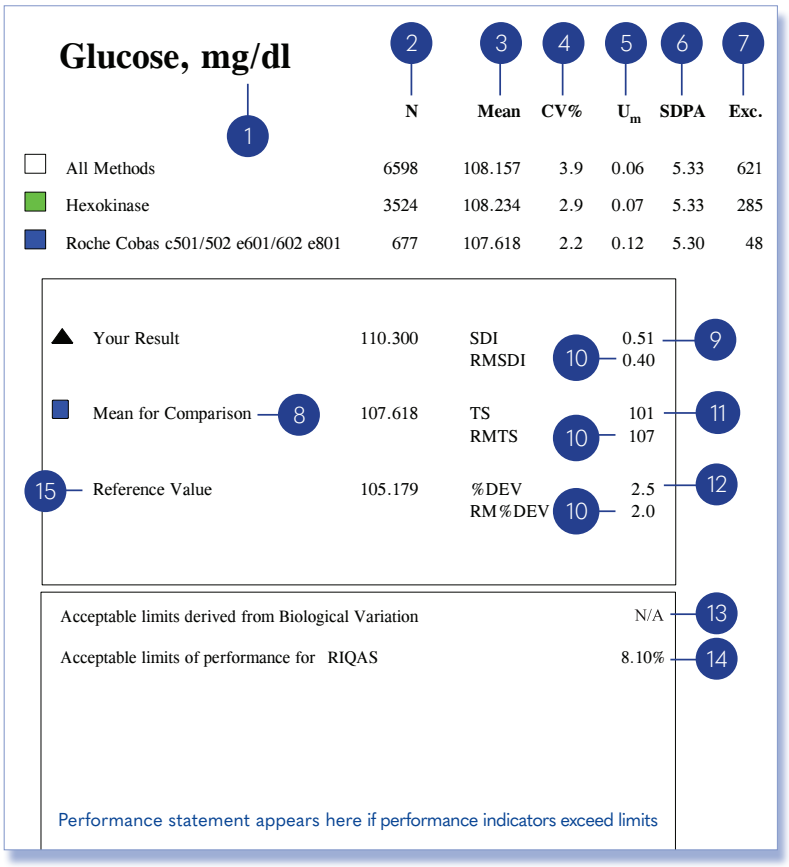
Performance data is presented in a one page format with up to seven sub-reports.



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

7. After statistical reduction, some results are excluded from the mean for comparison.
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.

$$TS = \log_{10}\left(\frac{3.16 \times TDPA}{|\%Dev|}\right) \times 100$$

12. %Deviation from the Mean for Comparison -

$$\%Dev = \frac{\text{Your Result - Mean for Comparison}}{\text{Mean for Comparison}} \times 100$$

The closer the value is to zero, the better the performance.

13. Biological Variation - Not currently available - please review online.
14. Performance limit set for this parameter.
15. Reference values quoted for information purposes, where applicable.

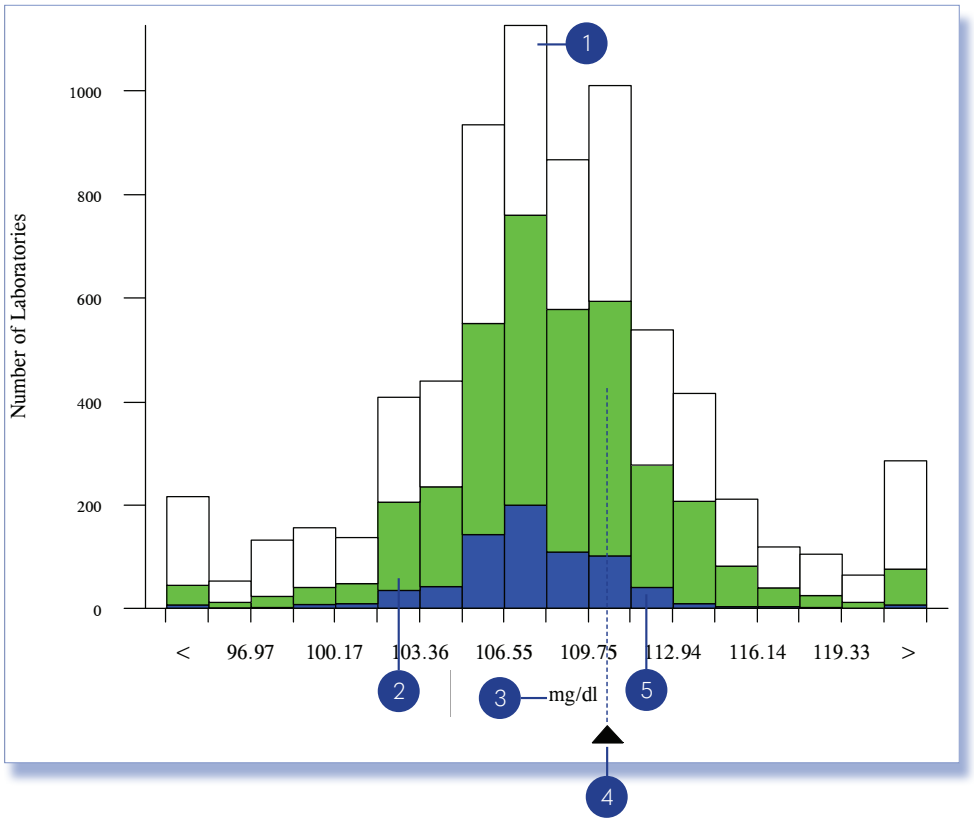
HISTOGRAM

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 1126 laboratories reported values between 106.55 & 108.15.
2. 200 laboratories reported values between 101.77 & 103.36 in your method group.
3. RIQAS reports show your unit of measurement.
4. Your result is indicated by the black triangle.
5. 41 laboratories reported values between 111.35 & 112.94 in your instrument group.

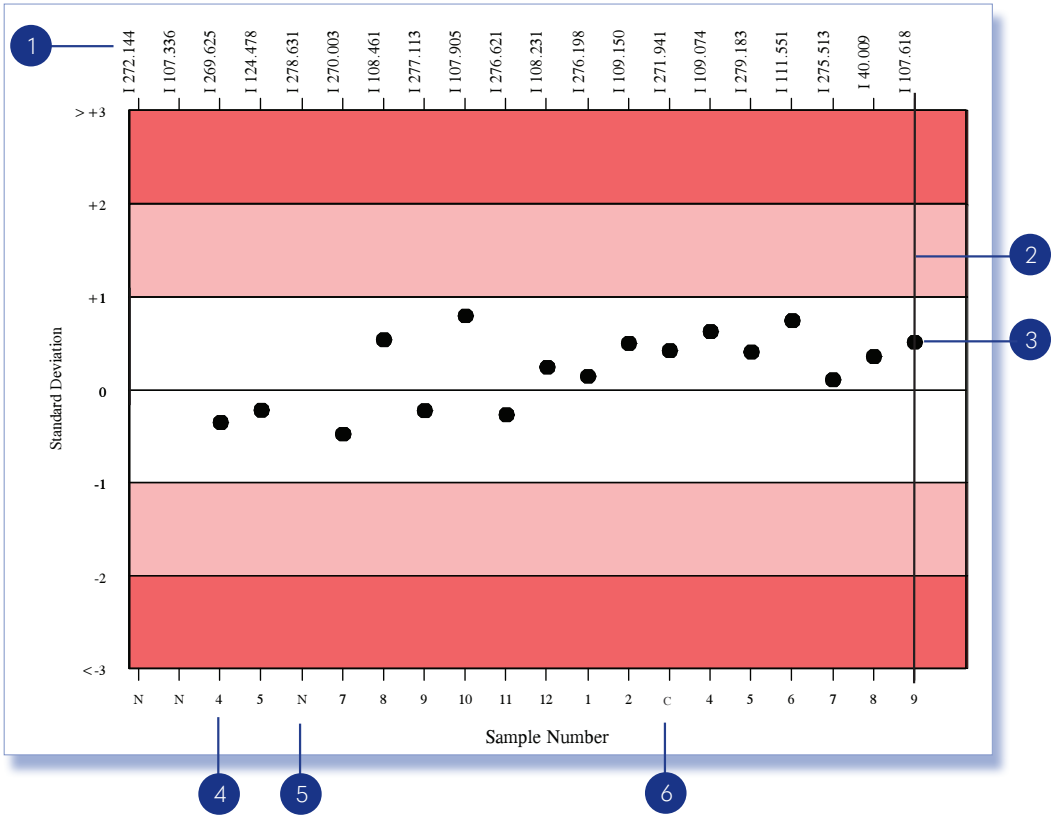
MULTI-METHOD STAT SECTION

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	3524	108.234	2.9	0.07
Glucose oxidase	2673	108.474	5.5	0.14
Ortho Vitros MicroSlide Systems	251	105.036	2.3	0.19
Glucose dehydrogenase	63	107.832	3.5	0.59
GOD/02-Beckman method	37	106.425	2.5	0.55
Other Dry Chemistry	27	108.360	6.3	1.64
Agappe - GOD-PAP	21	109.727	3.7	1.11
Oxygen electrode	17	106.666	1.3	0.43
Vitros, DT60/DT60 II	3	105.595	3.9	2.99

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.

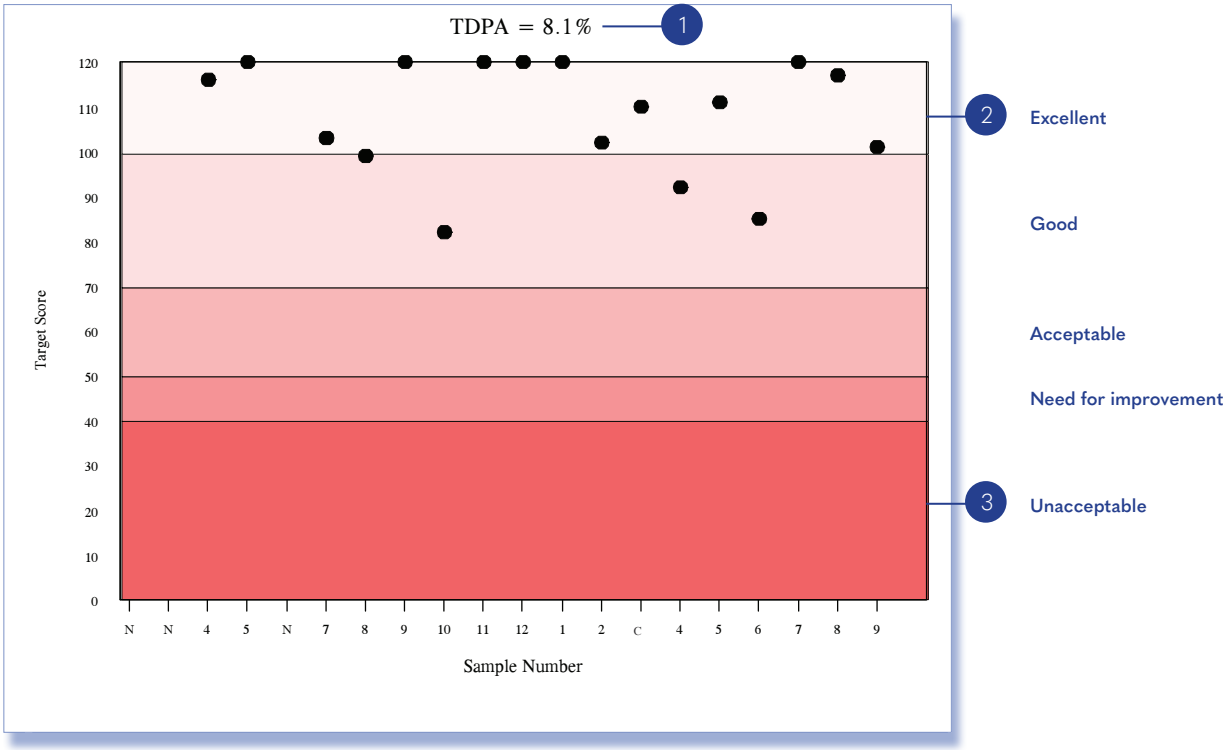


1. The Mean for Comparison for each sample is indicated at the top of the chart. This allows easy assessment of concentration related bias:
   - I: Instrument mean
   - M: Method mean
   - A: All method mean
2. This line indicates a change in registration details for this parameter.
3. Your SDI (Standard Deviation Index).
4. Sample number.
5. N = No result returned in time for this registration\sample.
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 you to assess your 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.

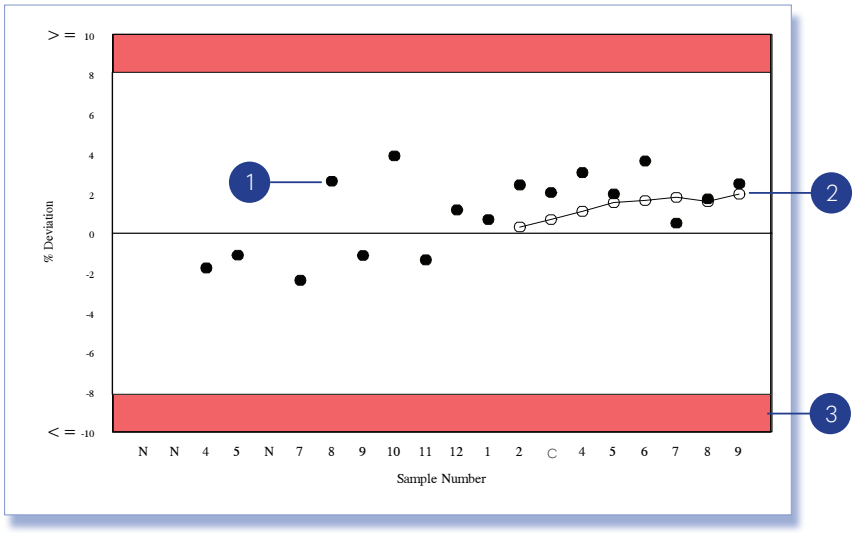
2 High scores ≥50 in the lighter shaded area represent acceptable, good or excellent performance.

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

%DEVIATION CHARTS

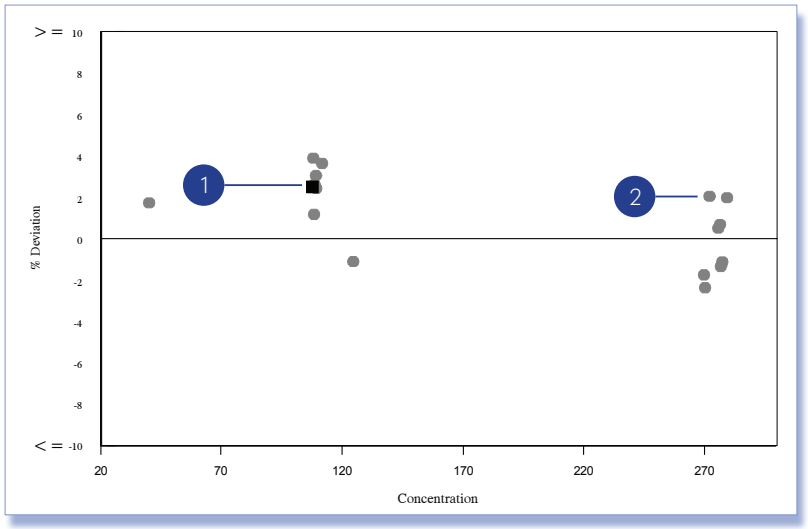
The %Deviation by sample chart helps to identify trends and shifts in performance.

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



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.

The %Deviation by concentration 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.

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		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. 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
2. RMSDI - is the Running Mean of the 10 previous SDIs (if fewer than 10 results on file, "Too Few" is printed).
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. All poor performance is highlighted in bold and underlined.
6. Overall RMSDI = average RMSDI for this sample distribution.
7. Overall RM%DEV = average RM%DEV for this sample distribution.
8. Overall RMTS = average RMTS for this sample distribution.

END-OF-CYCLE QUANTITATIVE REPORT

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

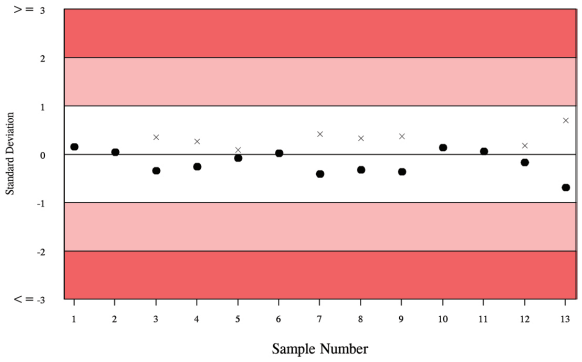
Albumin, g/l

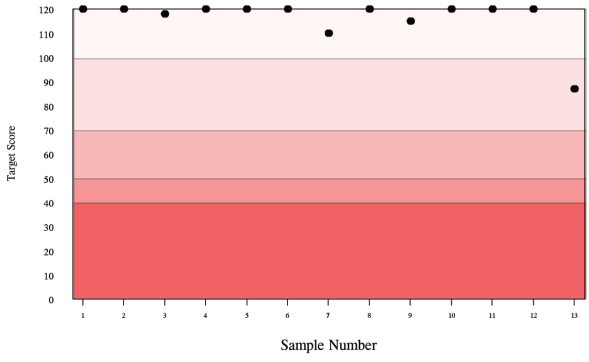
Method: Bromocresol Purple
Instrument: Siemens/Dade Dimension RxL/Max/Xpand
Reagent: Siemens/Dade Behring

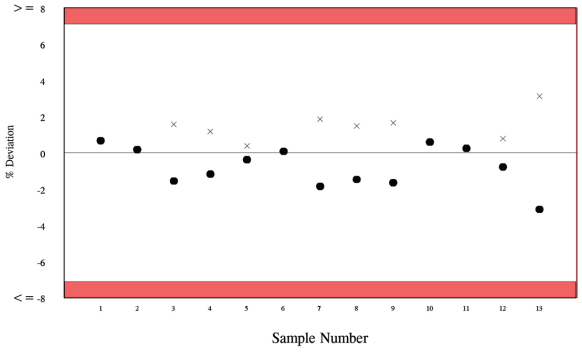
RIQAS TDPA: 7.1% **Biological Variation:** 3.9%

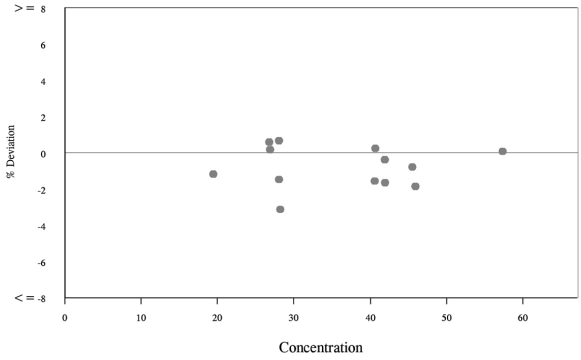
Sample	Result	Unit	N	Mean for Comparison	CV%	Um	SDPA	SDI	TS	%Deviation
1	28.200	g/l	68	I 28.013	2.4	0.10	1.26	0.15	120	0.67
2	26.900	g/l	87	I 26.853	2.7	0.10	1.21	0.04	120	0.17
3	39.900	g/l	71	I 40.531	2.5	0.15	1.82	-0.35	118	-1.56
4	19.200	g/l	81	I 19.429	2.5	0.07	0.87	-0.26	120	-1.18
5	41.700	g/l	67	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









END-OF-CYCLE REPORT TEXT SECTION

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 5 6 7 8 9 10 11 12 13 14

Sample	Result	Unit	N	Mean	SDPA	Um	CV%	SDI	TS	% 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
15 **Cycle Average SDI**	-0.23	-0.18
Cycle Average TS	110	116
Cycle Average %DEV	-1.05	-0.79
16 **Cycle Average Absolute SDI**	0.36	0.24
Cycle Average Absolute %DEV	1.63	1.06

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

END-OF-CYCLE REPORT TEXT SECTION

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 (including comparison level)
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 = $\frac{\text{(Sum of your \%Deviations returned for the completed cycle)}}{\text{(Number of samples returned in cycle)}}$

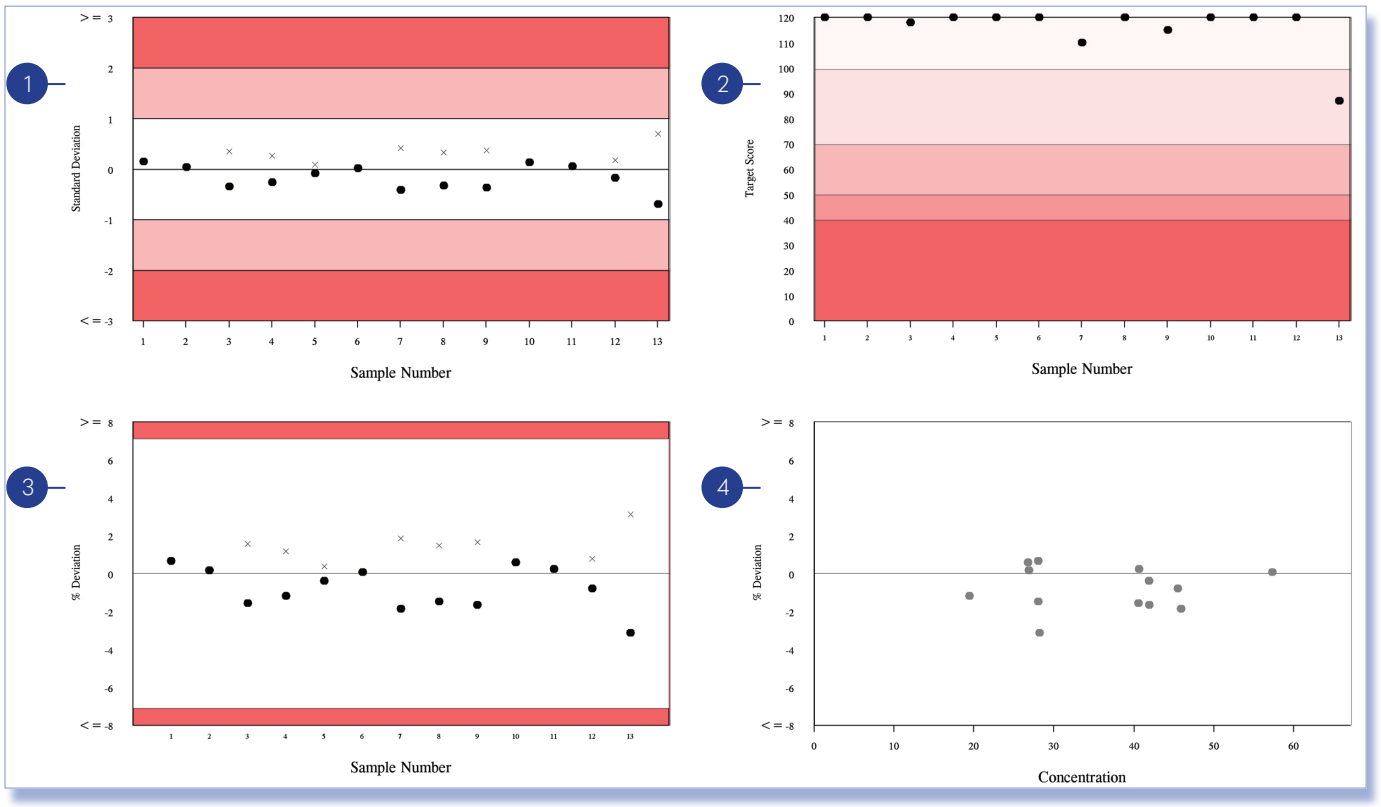
16. Cycle average for Absolute values of your SDI and %Deviation. Absolute values show how far a value is from zero regardless of the sign. This is an indication of the magnitude of accuracy.

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

END-OF-CYCLE CHART SECTION REPORT

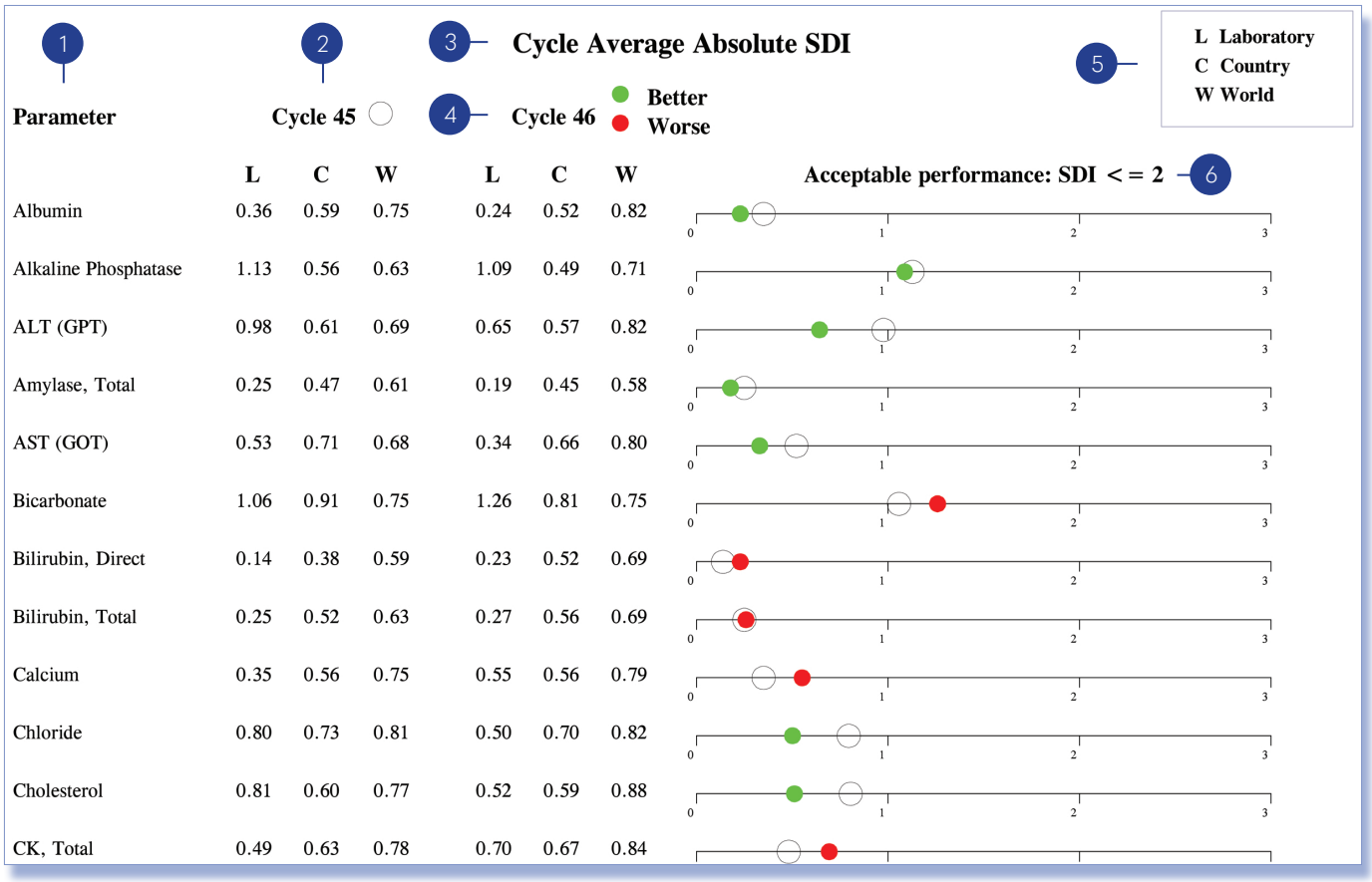
Your results for current cycle shown in various diagrams.



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.

END-OF-CYCLE CURRENT & PREVIOUS CYCLE ABSOLUTE SDIs 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 ○ Cycle 46 ● Better ● 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	**Parameter list**	List of all parameters registered.
2	**Results for previous cycle**	Indicated by open circle on the chart.
3	**Report title - Cycle Average Absolute SDI**	This shows your performance this cycle compared to the previous cycle.
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.

END-OF-CYCLE CERTIFICATE OF PERFORMANCE 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 criterion. 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

Laboratory Name (1)
Laboratory Address
Country

(2) **LABORATORY REF. NO. 111/A**

(3) **CLINICAL CHEMISTRY - CYCLE 66**

(4) **05/09/2022**

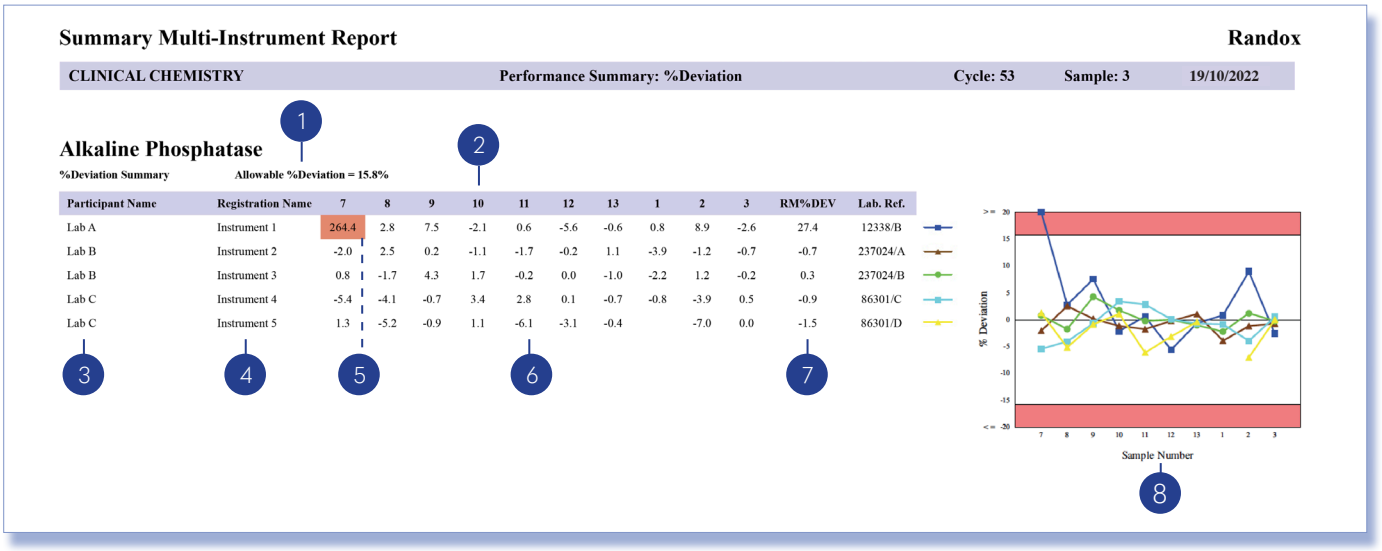
This is to certify that the above participant took part in a cycle of external quality assessment and achieved an acceptable level of performance (Cycle Average Absolute SDI < 2) for the following parameters:

(5)	(6) Cycle Average Absolute SDI
Albumin - Bromocresol Green - Abbott Alinity i	1.61
Alkaline Phosphatase - AMP optimised to IFCC - Abbott Alinity c	0.80
ALT (GPT) - Tris buffer without P5P - Abbott Alinity c	1.20
Amylase, Total - Other 2-chloro-pNPG3 - Abbott Alinity c	0.99
AST (GOT) - Tris buffer without P5P - Abbott Alinity c	0.50
Bile Acids - Enzymatic Colorimetric - Abbott Alinity c	0.49
Bilirubin, Direct - Diazo with Dichloroanaline - Abbott Alinity c	0.36
Bilirubin, Total - Diazo with Dichloroaniline - Abbott Alinity c	0.72
Calcium - Arsenazo - Abbott Alinity c	0.69
Chloride - ISE, direct - Abbott Alinity c	1.08
Cholesterol - Cholesterol Oxidase - Abell Kendall - Abbott Alinity c	0.63
CK, Total - Abbott CK-NAC (IFCC) - Abbott Alinity c	0.47
Creatinine - Alkaline picrate no deproteinisation - Abbott Alinity c	1.42
GGT - Gamma glut.-3-carb.-4-nitro. - Abbott Alinity c	0.83
Glucose - Hexokinase - Abbott Alinity c	0.75

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 including the assay details for which cycle absolute SDI is < 2.
6	**Average Absolute SDI**	Your Cycle Average Absolute SDI.

MULTI-INSTRUMENT REPORT

Register up to five instruments per programme at no extra cost. In addition to a standard report for each instrument, a multi-instrument report is also provided allowing comparitive performance assessment.



Summary Multi-Instrument Report **Randox**

CLINICAL CHEMISTRY | Performance Summary: %Deviation | Cycle: 53 | Sample: 3 | 19/10/2022

Alkaline Phosphatase

%Deviation Summary — Allowable %Deviation = 15.8%

Participant Name	Registration Name	7	8	9	10	11	12	13	1	2	3	RM%DEV	Lab. Ref.
Lab A	Instrument 1	264.4	2.8	7.5	-2.1	0.6	-5.6	-0.6	0.8	8.9	-2.6	27.4	12338/B
Lab B	Instrument 2	-2.0	2.5	0.2	-1.1	-1.7	-0.2	1.1	-3.9	-1.2	-0.7	-0.7	237024/A
Lab B	Instrument 3	0.8	-1.7	4.3	1.7	-0.2	0.0	-1.0	-2.2	1.2	-0.2	0.3	237024/B
Lab C	Instrument 4	-5.4	-4.1	-0.7	3.4	2.8	0.1	-0.7	-0.8	-3.9	0.5	-0.9	86301/C
Lab C	Instrument 5	1.3	-5.2	-0.9	1.1	-6.1	-3.1	-0.4		-7.0	0.0	-1.5	86301/D

1. Allowable %deviation for the parameter in question, based on the RIQAS TDPA.
2. Sample number.
3. Lab name.
4. Unique instrument ID.
5. Poor performance.
6. %Deviation for each individual sample.
7. RM %Dev - Average of the last 10 %Dev for this parameter.
8. %Deviation chart comparing the performance of each instrument.

URINE TOXICOLOGY REPORT

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

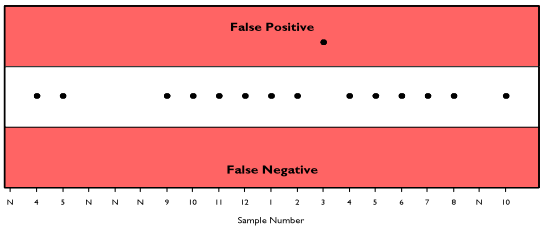
Screening Section

Quantitative Section

Amphetamines Group, ng/ml

Your Result Positive

Based on comparison value of 750
and your chosen cut-off value of 500
the correct response was Positive

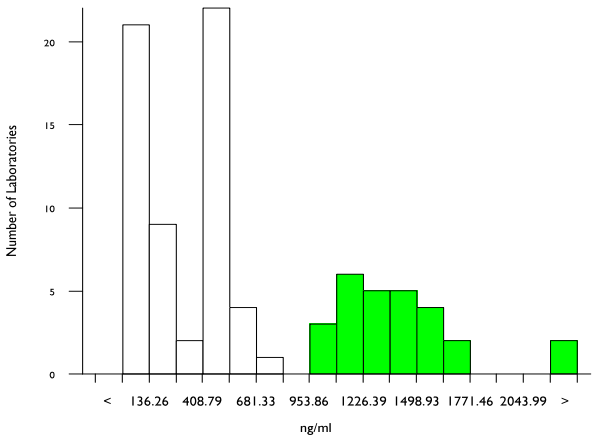


MDMA	750	ng/ml
Ethanol	62.5	mg/dl
EDDP	75	ng/ml
Free Morphine	1500	ng/ml
Nortriptyline	375	ng/ml

	Cut-off	TN	TP	FN	FP	RC	NT	Total
Your Result	**500**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
KIMS	**500**	**0**	**21**	**0**	**0**	**0**	**0**	**21**
	1000	0	0	0	9	0	0	9
	All	0	21	0	9	0	0	30
All Methods	150	0	1	0	0	0	0	1
	300	0	5	9	0	0	0	14
	500	**0**	**32**	**49**	**0**	**0**	**0**	**81**
	1000	65	0	0	10	0	3	78
	All	65	38	58	10	0	3	174
Competitive Antibody Binding	**500**	**0**	**3**	**0**	**0**	**0**	**0**	**3**
CEDIA	**500**	**0**	**2**	**4**	**0**	**0**	**0**	**6**
DRI-EIA	**500**	**0**	**3**	**3**	**0**	**0**	**0**	**6**
ELISA	**500**	**0**	**0**	**1**	**0**	**0**	**0**	**1**
EMIT	**500**	**0**	**1**	**27**	**0**	**0**	**0**	**28**
EMIT II+	**500**	**0**	**0**	**8**	**0**	**0**	**0**	**8**
Point of Care	**500**	**0**	**0**	**5**	**0**	**0**	**0**	**5**
Quidel Triage	**500**	**0**	**2**	**1**	**0**	**0**	**0**	**3**

	N	Mean	CV%	U_m	SDPA	Exc.
All Methods	74	656.297	77.4	73.82	507.99	23
KIMS	25	1344.540	15.1	50.82	203.30	2

Your Result	1405.000	SDI	0.30
		RMSDI	-0.12
Mean for Comparison	1344.540		



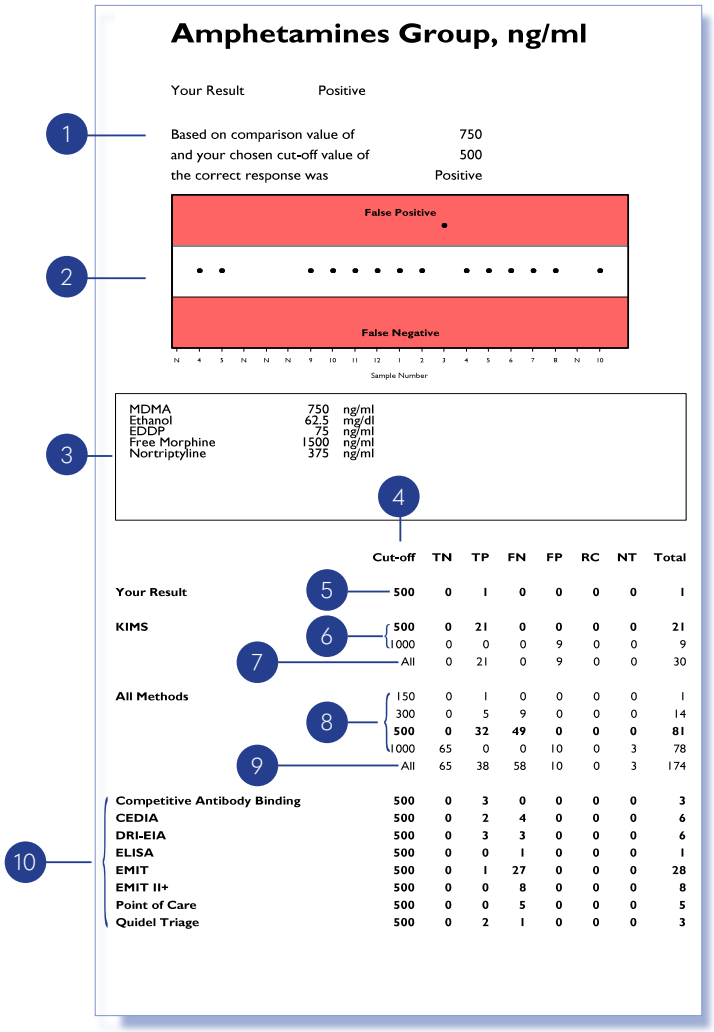
Method	N	Mean	CV%	U_m
EMIT	15	135.267	19.2	8.37
KIMS	25	1344.540	15.1	50.82
DRI-EIA	10	511.420	5.6	11.22
EMIT II+	5	119.540	22.4	14.98
CEDIA	5	298.942	89.9	150.22
Competitive Antibody Binding	4	540.725	2.7	9.19
ELISA	3	501.033	4.9	17.73

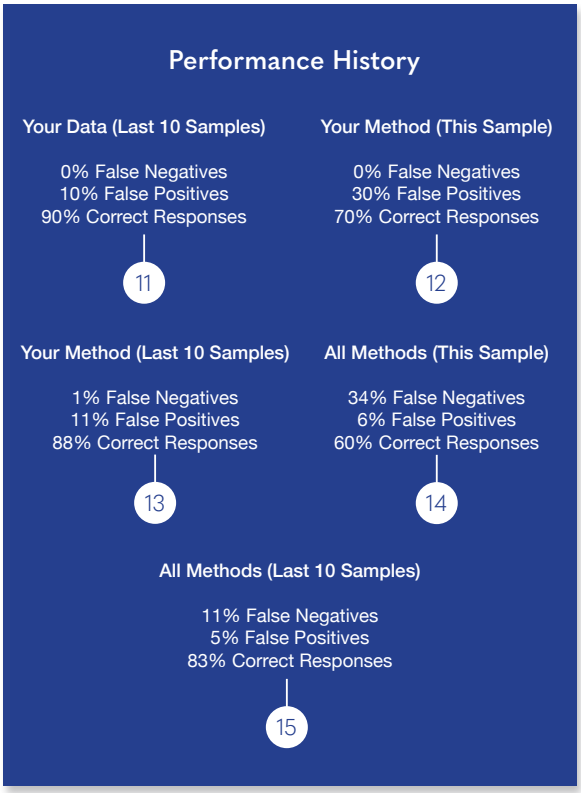
Performance History

Your Data (Last 10 Samples)	Your Method (This Sample)	Your Method (Last 10 Samples)	All Methods (This Sample)	All Methods (Last 10 Samples)
0 % False Negatives	0 % False Negatives	1 % False Negatives	34 % False Negatives	11 % False Negatives
10 % False Positives	30 % False Positives	11 % False Positives	6 % False Positives	5 % False Positives
90 % Correct Responses	70 % Correct Responses	88 % Correct Responses	60 % Correct Responses	83 % Correct Responses

URINE TOXICOLOGY REPORT SCREENING SECTION

Qualitative comparison of screening results available for each parameter.

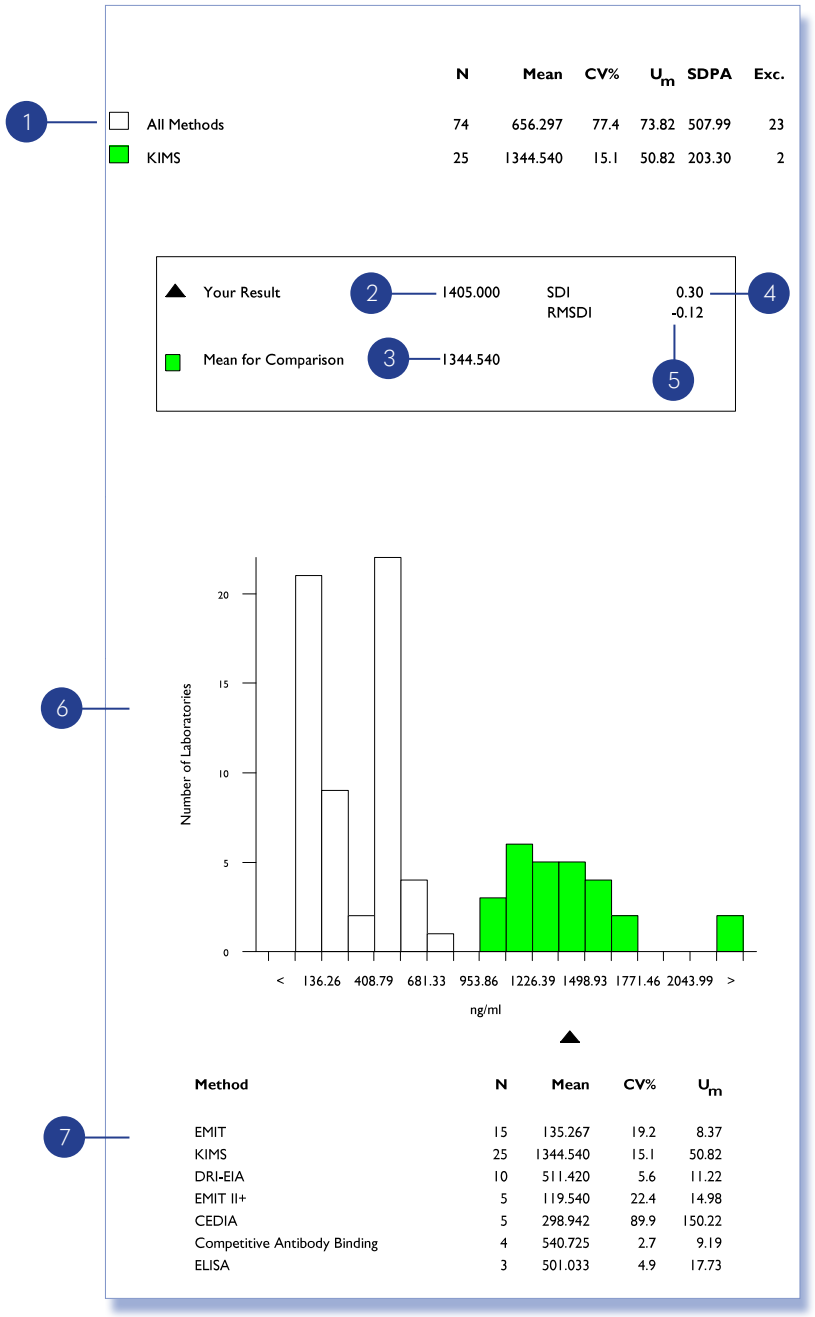




1. Text section shows the correct response for the lab based on a comparison between the comparison value and the lab's cut off value.
2. **Screening Results:** This chart is a quick visualisation of your performance over the last 20 samples. A result in the white section indicates a correct response. 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 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

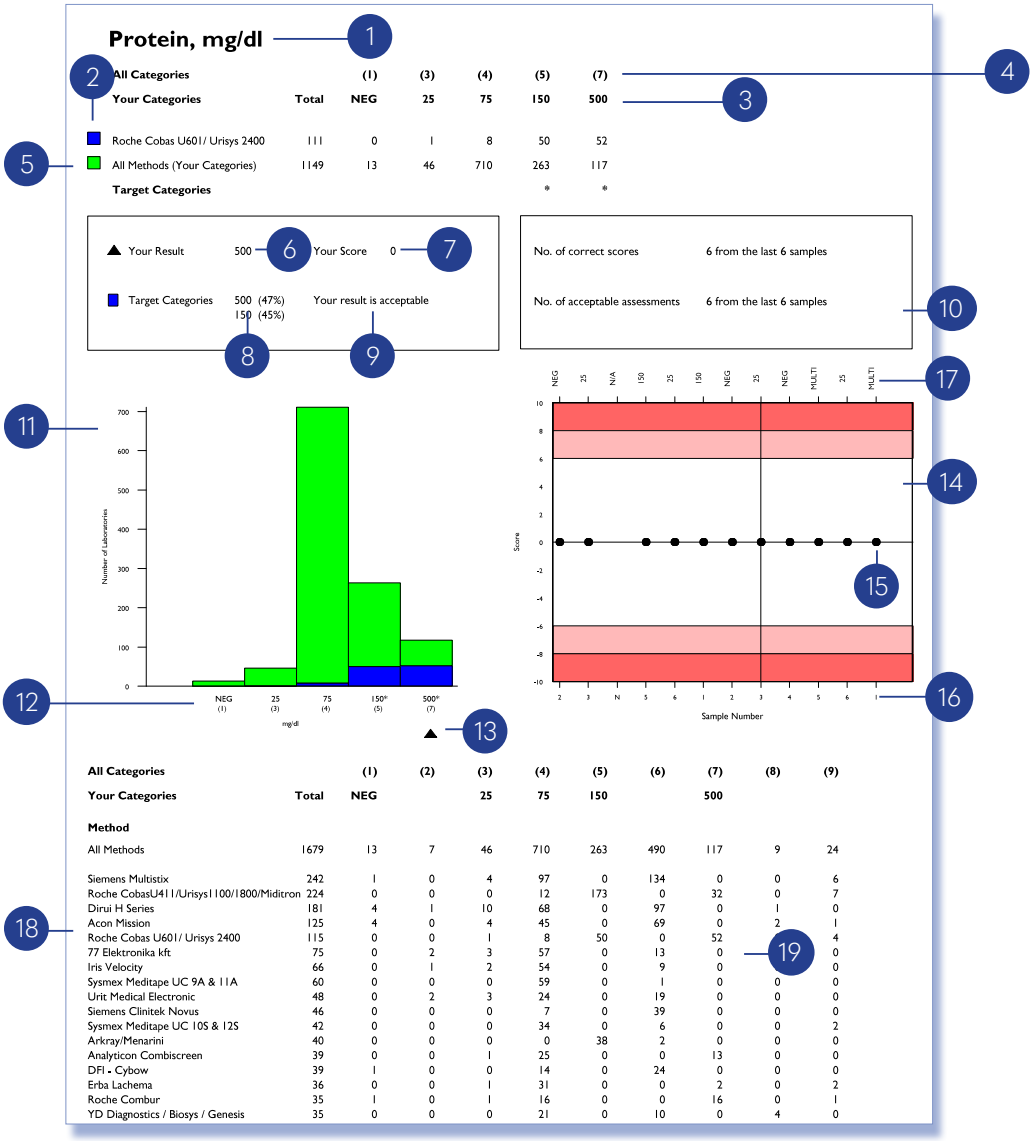
Quantitative statistical comparison available for each parameter.



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.



1. Categories are stated in your unit.
2. Your method group.
3. Your categories (available result options for chosen test strip and unit).
4. All categories (result options) available for this parameter for any method (test strip).
5. Results from all methods (test strips) returning results in the same categories as your lab.
6. Your Result.
7. **Your Score:** Scores between 0-6 are acceptable, 7 borderline and 8 -10 unacceptable.
8. Target categories and percentages of submitted results in that categories. Target categories are based on 80% consensus in the results in your categories. Multiple categories may be used to make up the 80% consensus. Target categories are highlighted by * in text section.
9. Performance Statement.
10. **Historical Performance:** Provides number of correct scores and acceptable assessments for the last 6 samples.
11. **Categories Histogram:** A quick visualisation of how your lab's result falls into the overall picture for your categories.
12. Possible reporting categories for your method. Target categories are highlighted by *.
13. Your result is indicated by the black triangle.
14. **Levey-Jennings type chart:** Acceptable scores (0-6) have no shading, borderline scores (7) have light red shading, unacceptable scores (8-10) have dark red shading.
15. Score for each sample number.
16. Sample Number.
17. **Target Categories:** If there was more than 1 target category assigned for a sample Multi is stated.
18. All methods reported for this parameter.
19. **Detailed summary of results:** This table enables you to see how you compare to all other results.

SEROLOGY REPORT

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

Anti-Rubella IgG, IU/ml

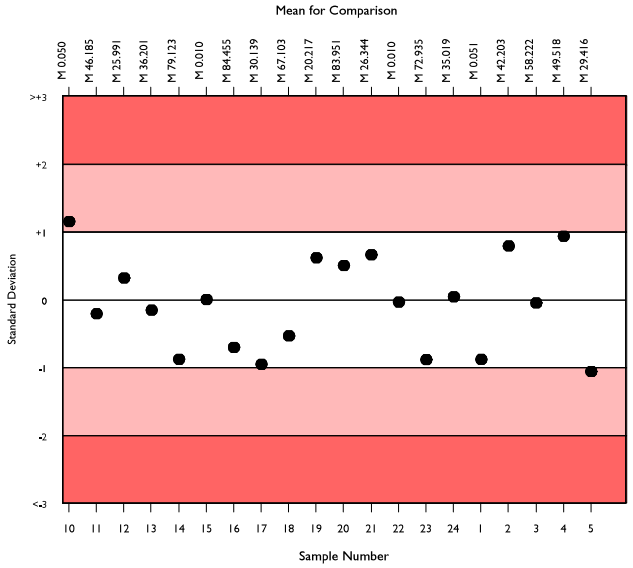
	N	Mean	CV%	U_m	SDPA	Exc.
All Methods	268	49.505	50.3	1.90	24.90	19
Abbott Architect/ Alinity	86	29.416	5.2	0.21	1.53	10

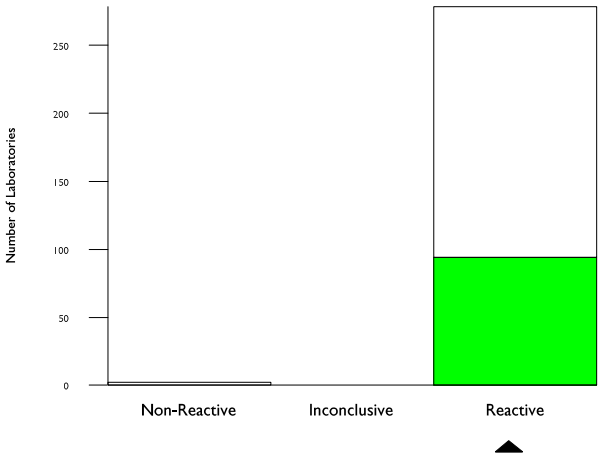
Your Result	27.800	SDI	-1.06
Your Qualitative Result	Reactive	RMSDI	0.00
Mean for Comparison	29.416		

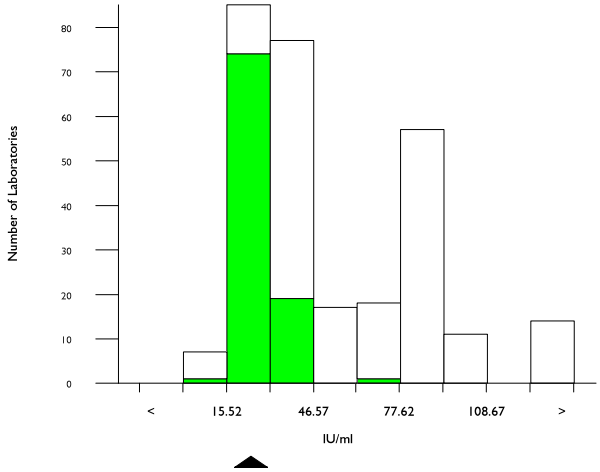
Your method:	Abbott Architect/ Alinity
Your result:	Reactive
Acceptable result (Method):	Reactive

Overall results

Non-Reactive:	2
Inconclusive:	0
Reactive:	278





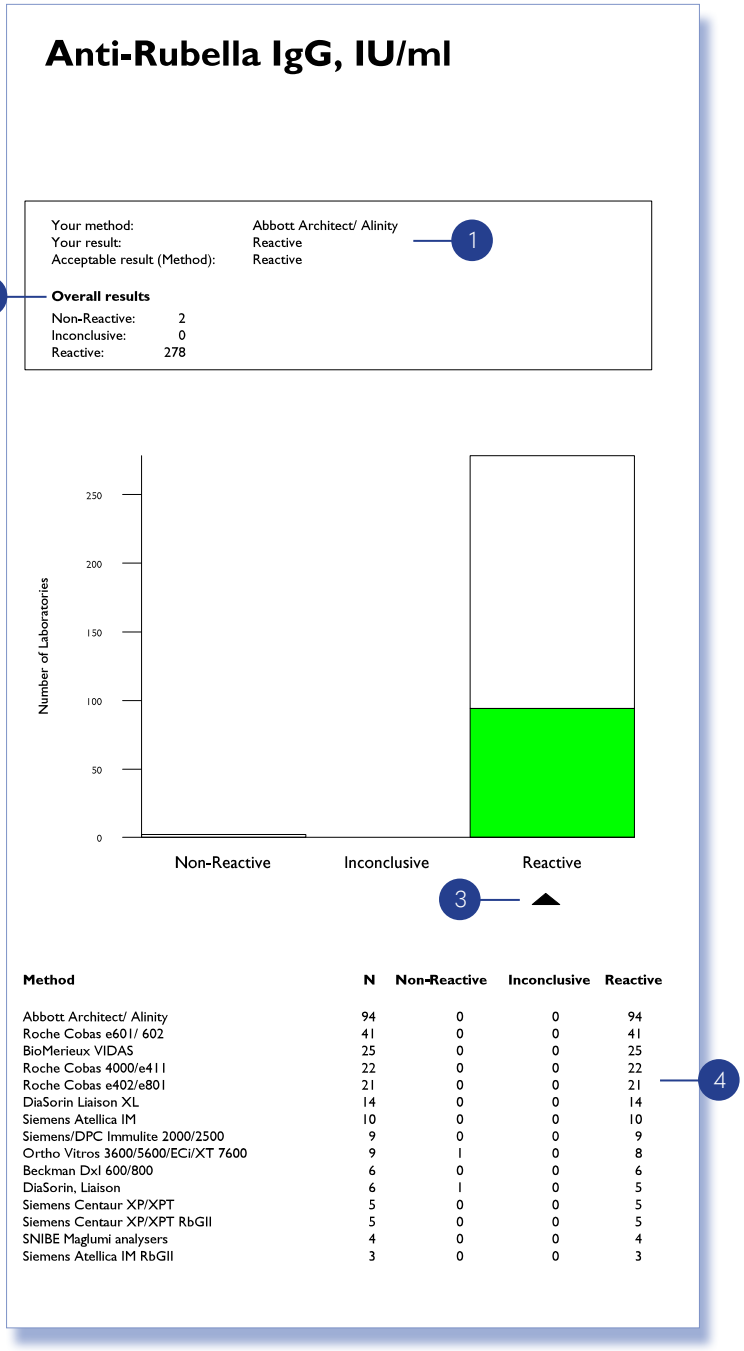


Method	N	Non-Reactive	Inconclusive	Reactive
Abbott Architect/ Alinity	94	0	0	94
Roche Cobas e601/ 602	41	0	0	41
BioMerieux VIDAS	25	0	0	25
Roche Cobas 4000/e411	22	0	0	22
Roche Cobas e402/e801	21	0	0	21
DiaSorin Liaison XL	14	0	0	14
Siemens Atellica IM	10	0	0	10
Siemens/DPC Immulite 2000/2500	9	0	0	9
Ortho Vitros 3600/5600/ECi/XT 7600	9	1	0	8
Beckman Dxl 600/800	6	0	0	6
DiaSorin, Liaison	6	1	0	5
Siemens Centaur XP/XPT	5	0	0	5
Siemens Centaur XP/XPT RbGII	5	0	0	5
SNIBE Maglumi analysers	4	0	0	4
Siemens Atellica IM RbGII	3	0	0	3

Method	N	Mean	CV%	U_m
Abbott Architect/ Alinity	86	29.416	5.2	0.21
Roche Cobas e601/ 602	38	82.481	5.8	0.97
BioMerieux VIDAS	25	46.540	7.7	0.89
Roche Cobas 4000/e411	22	81.417	7.1	1.54
Roche Cobas e402/e801	21	92.786	5.0	1.26
DiaSorin Liaison XL	15	33.353	8.4	0.90
Siemens Atellica IM	9	225.947	10.8	10.19
Siemens/DPC Immulite 2000/2500	9	35.522	9.8	1.45
Ortho Vitros 3600/5600/ECi/XT 7600	8	49.850	14.4	3.18
Beckman Dxl 600/800	7	37.774	14.0	2.49
DiaSorin, Liaison	5	35.180	5.9	1.17
Siemens Centaur XP/XPT	3	283.233	12.0	24.50
Siemens Centaur XP/XPT RbGII	5	33.846	8.0	1.50
SNIBE Maglumi analysers	4	10.088	4.2	0.27
Siemens Atellica IM RbGII	3	34.117	3.5	0.87

SEROLOGY: QUALITATIVE REPORT

Your performance for each sample is presented in a convenient single page per parameter report format.



Anti-Rubella IgG, IU/ml

Your method: Abbott Architect/ Alinity
Your result: Reactive
Acceptable result (Method): Reactive

Overall results

Non-Reactive: 2
Inconclusive: 0
Reactive: 278

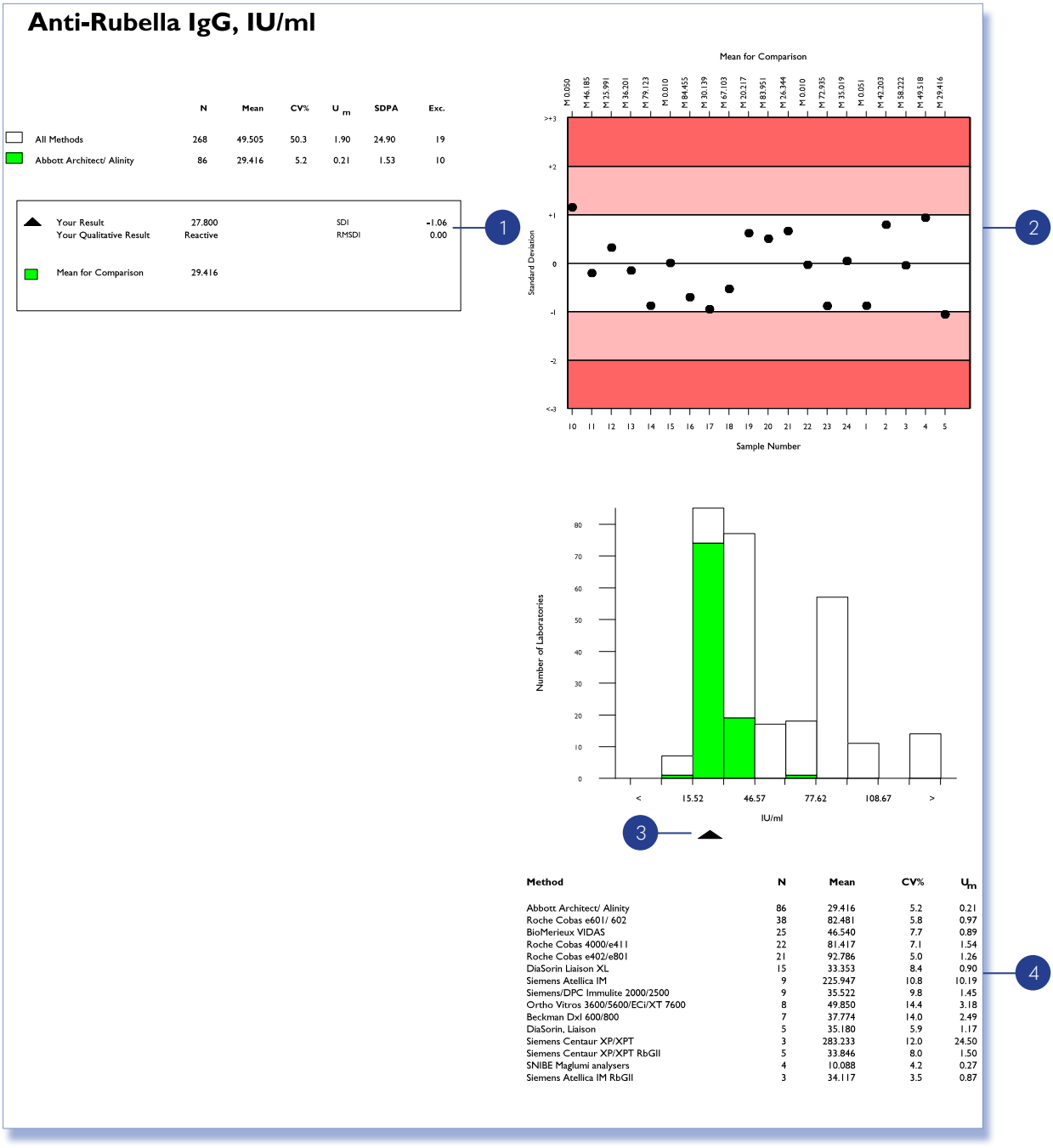
Method	N	Non-Reactive	Inconclusive	Reactive
Abbott Architect/ Alinity	94	0	0	94
Roche Cobas e601/ 602	41	0	0	41
BioMerieux VIDAS	25	0	0	25
Roche Cobas 4000/e411	22	0	0	22
Roche Cobas e402/e801	21	0	0	21
DiaSorin Liaison XL	14	0	0	14
Siemens Atellica IM	10	0	0	10
Siemens/DPC Immulite 2000/2500	9	0	0	9
Ortho Vitros 3600/5600/ECi/XT 7600	9	1	0	8
Beckman Dxl 600/800	6	0	0	6
DiaSorin, Liaison	6	1	0	5
Siemens Centaur XP/XPT	5	0	0	5
Siemens Centaur XP/XPT RbGII	5	0	0	5
SNIBE Maglumi analysers	4	0	0	4
Siemens Atellica IM RbGII	3	0	0	3

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 each sample is presented in a convenient single page per parameter report format.



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

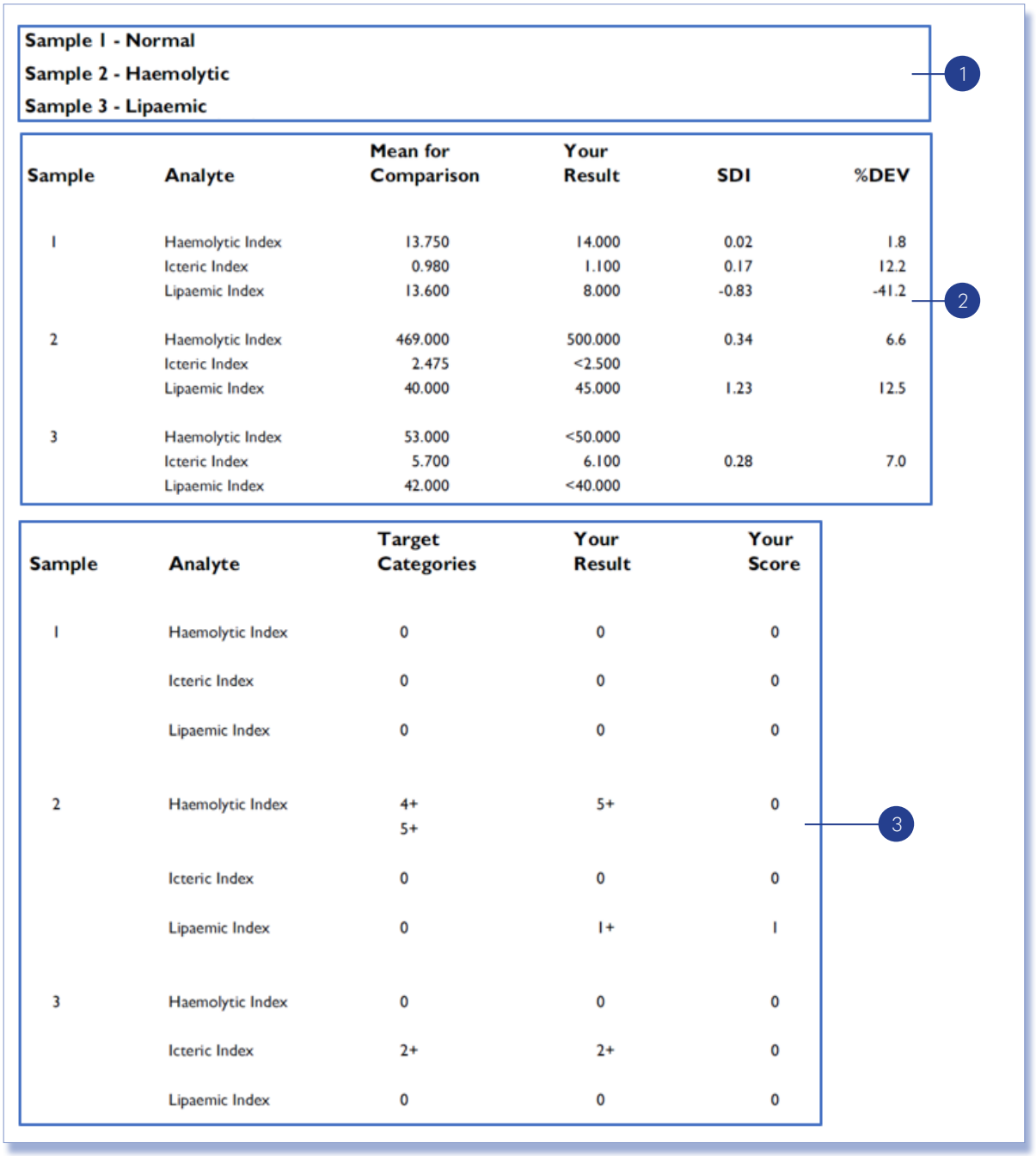
3 Your result is presented on the bar graph as a black triangle, showing how you compare to:

All Methods **Your Method**

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

SERUM INDICES: SUMMARY PAGE

The RIQAS Serum Indices EQA programme is designed for the pre-analytical assessment of Haemolytic, Icteric and Lipemic (HIL) interferences. HIL parameters include the option of quantitative or semi-quantitative reporting. Interpretation of chemistry parameter results is also included for a number of parameters. The summary page collates the key information on both the quantitative and qualitative results for the HIL parameters.



Sample 1 - Normal
Sample 2 - Haemolytic
Sample 3 - Lipaemic

Sample	Analyte	Mean for Comparison	Your Result	SDI	%DEV
1	Haemolytic Index	13.750	14.000	0.02	1.8
	Icteric Index	0.980	1.100	0.17	12.2
	Lipaemic Index	13.600	8.000	-0.83	-41.2
2	Haemolytic Index	469.000	500.000	0.34	6.6
	Icteric Index	2.475	<2.500		
	Lipaemic Index	40.000	45.000	1.23	12.5
3	Haemolytic Index	53.000	<50.000		
	Icteric Index	5.700	6.100	0.28	7.0
	Lipaemic Index	42.000	<40.000		

Sample	Analyte	Target Categories	Your Result	Your Score
1	Haemolytic Index	0	0	0
	Icteric Index	0	0	0
	Lipaemic Index	0	0	0
2	Haemolytic Index	4+ 5+	5+	0
	Icteric Index	0	0	0
	Lipaemic Index	0	1+	1
3	Haemolytic Index	0	0	0
	Icteric Index	2+	2+	0
	Lipaemic Index	0	0	0

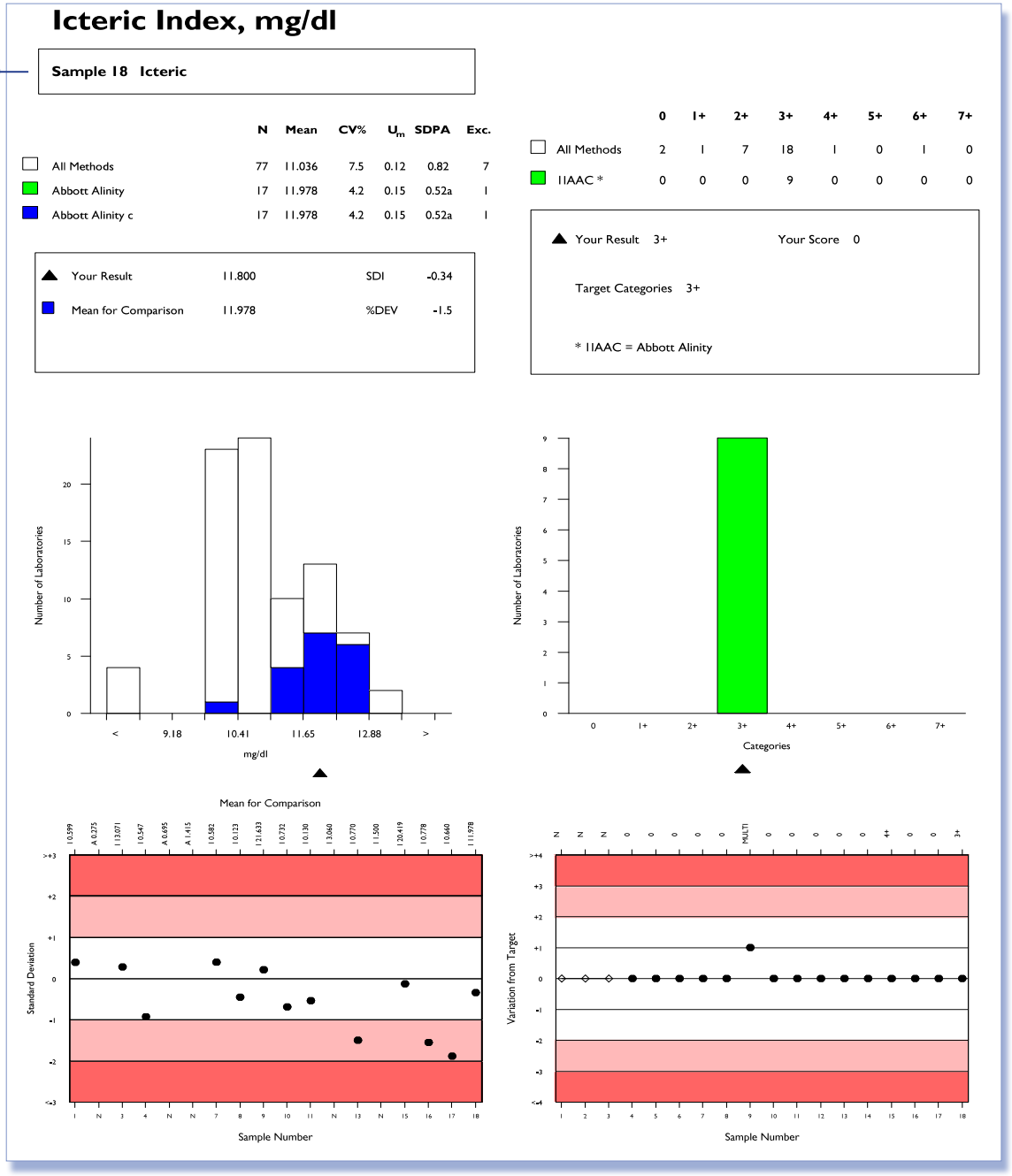
1. The first section shows the status of each of the samples i.e. if the sample is a normal sample or if it is haemolytic, icteric or lipaemic.
2. The next section shows the summary of the quantitative results for the Serum Indices and your performance (SDI and %DEV) for each sample.
3. The final section shows the summary of the semi-quantitative results for the Serum Indices. This includes the target categories based off an 80% consensus in the results, your result and your score for each of the samples.

SERUM INDICES REPORT

The summary section is followed by report pages for the 3 serum indices parameters. There will be 3 pages for each index – one for each sample.

Quantitative Section

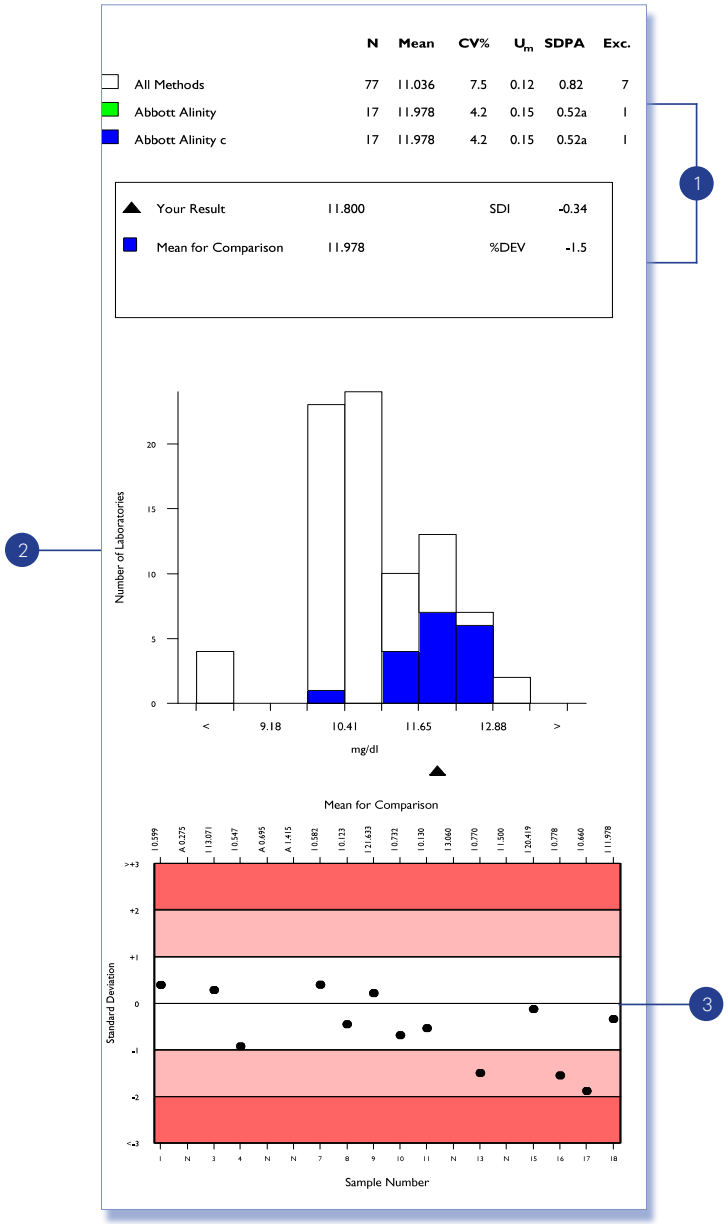
Semi-quantitative Section



1 Under the Serum Index parameter name the report will display the sample status e.g. if the sample should be flagging as haemolytic, icteric or lipaemic. As with all reports, the results contained within the report pages will be in the unit selected by the lab during the registration process.

SERUM INDICES REPORT: QUANTITATIVE SECTION

Quantitative comparison of results available for each index.



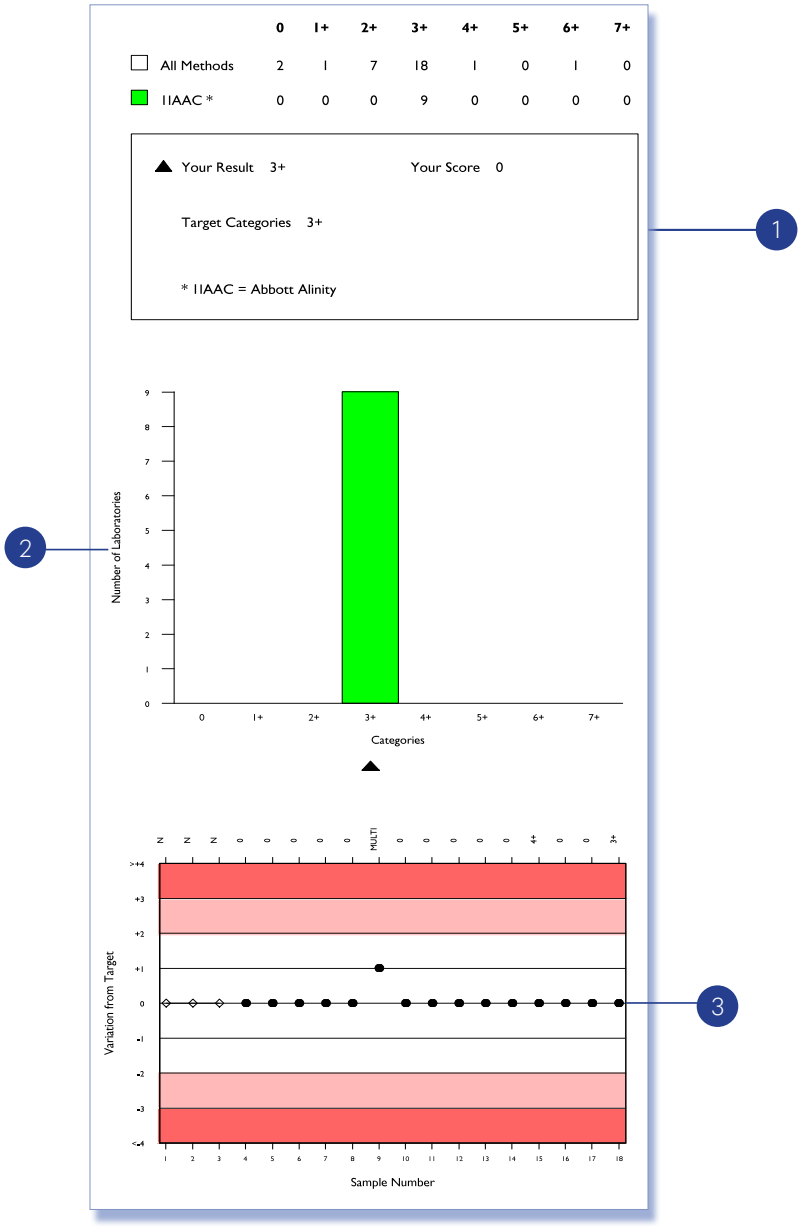
1 **Text Section:** In the text section you will see the All method, method and instrument means for comparison in addition to the respective statistics. Below this you will see your result, your Mean for comparison and your performance (SDI and %DEV) for this specific sample. For samples which do not hit specific flags for the indices, a large proportion of analysers will have a less than (<) setting. On a RIQAS report these will be counted in the excluded column. As one sample in each distribution will be a normal sample, it is likely there will be a large number of (<) results returned for these samples so we are indicating in this section the percentage of results that have been returned as a < or > result to allow labs to see if the number of excluded results is high that there is an explanation for this.

2 **Histogram:** As with other RIQAS reports, this histogram shows an overview of the spread of the results that have been returned for each level of comparison (all method (white), method (green) and instrument (blue)). The lab's result is indicated by the black triangle at the bottom of the chart.

3 **Levey Jennings style chart:** The Levey Jennings chart will display the lab's SDIs. These reflect laboratory performance in relation to SDPAs and are useful to monitor performance over time. Acceptable performance is SDI < 2. The sample numbers will be displayed along the bottom of the chart and the Means for Comparison including the level will be displayed along the top of the report.

SERUM INDICES REPORT: SEMI-QUANTITATIVE SECTION

Semi-quantitative comparison of the results available for each parameter.



1 **Text Section:** This shows the breakdown of the semi-quantitative results returned – broken down by all methods and the labs chosen method. The method is displayed as a code, the description for which is found in the box just below containing the lab's result.

The lab's result, target categories (based on an 80% consensus), and the lab's score based on how many categories away from the target category the result is, are displayed below the breakdown of each category.

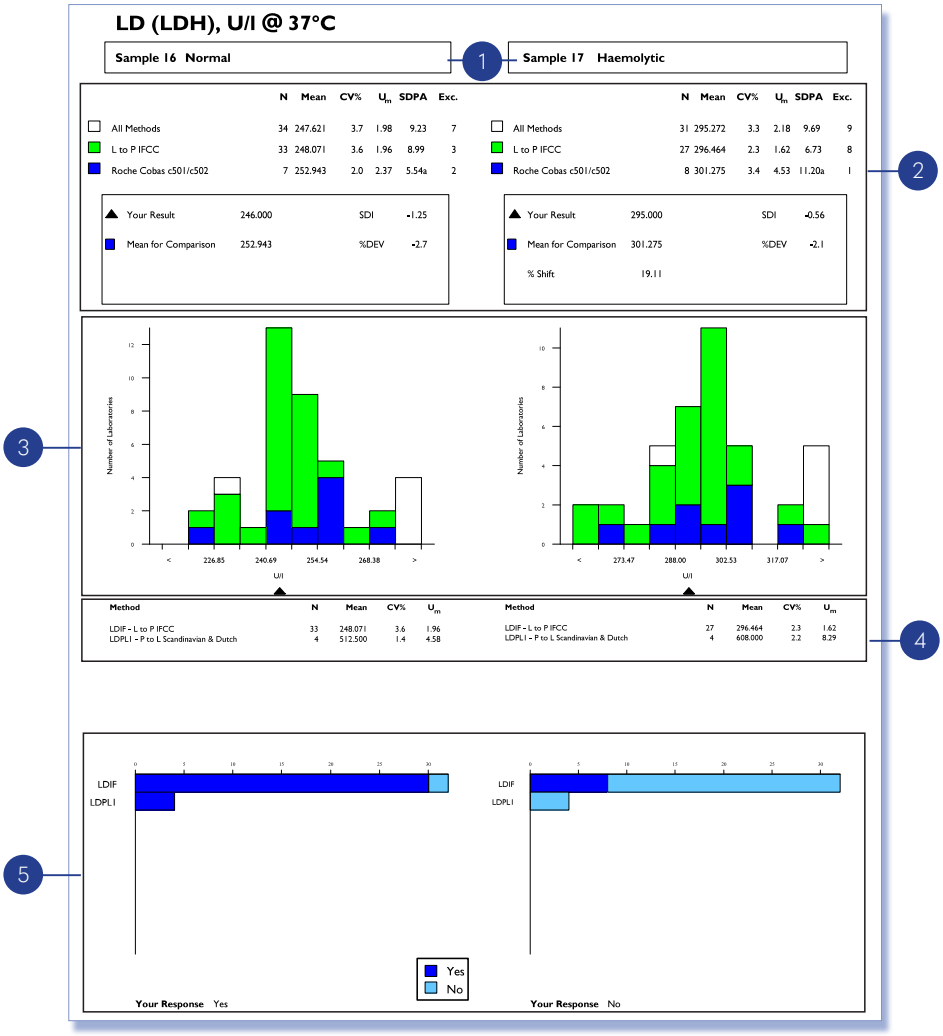
2 **Histogram:** The histogram shows a pictorial breakdown of the results returned for each category. The lab's result is indicated by the black triangle at the bottom of the chart.

3 **Levey Jennings chart:** This chart will display the lab's score or variation from the target category.

The sample numbers will be displayed along the bottom of the chart and the target categories along the top. If there is more than one target category, the chart will display the word 'Multi'.

SERUM INDICES REPORT: CHEMISTRY PARAMETER PAGE

Following the report pages for the 3 Serum Indices, there are the report pages for any chemistry parameters labs have registered for. There are 2 pages for each parameter, one showing the comparison between the first sample (the normal sample) and the second sample and the second page showing the comparison between the first and third sample respectively.



1 **Sample Status:** Under the chemistry parameter name the report will display the sample status e.g. if the sample should be flagging as haemolytic, icteric or lipaemic for the 2 samples being compared. As with all reports, the results contained within the report pages will be in the unit selected by the lab during the registration process.

The rest of the report page shows the same information for each of the 2 samples being compared.

The first sample of the 3 in each distribution will be the normal sample, the other 2 may or may not flag for one or more of the Indices.

2 **Text Section:** In the text section you will see the all method, method and instrument means for comparison and the respective statistics. Below this you will see you result, your Mean for comparison and your performance (SDI and %DEV) for this specific sample.

The % shift in the Means for Comparison between the normal and the affected sample is displayed in the results box for the second and third sample.

3 **Histogram:** As with other RIQAS reports, this histogram shows an overview of the spread of the results that have been returned for each level of comparison (all method (white), method (green) and instrument (blue)). The lab's result is indicated by the black triangle at the bottom of the chart.

4 **Method Summary Section:** As with other RIQAS reports, this section provides an easy way of assessing the performance of other methods used to analyse the parameter in question. The code at the beginning of the description is the key to the following section - Reporting of the Result based on Serum Indices flag.

5 **Reporting of the Result based on Serum Indices flag:** Depending on the Index that has been flagged, the lab may choose to not report the result to the clinician. In this section the lab can report on whether they would report the result for this parameter based on the result from the Serum Indices analysis.

BACTERIAL IDENTIFICATION REPORT

Presented in a convenient single report, all results for the current sample will be displayed within 6 sections.

Number of expected organisms in this sample: 1

Expected Organism: Pseudomonas aeruginosa

Your Result for this Organism: Pseudomonas aeruginosa

Result sent for referral (as per laboratory protocol)? No

Case study - A 41 year old fireman was badly burned during a house fire. This organism was cultured from his subsequently infected wound.

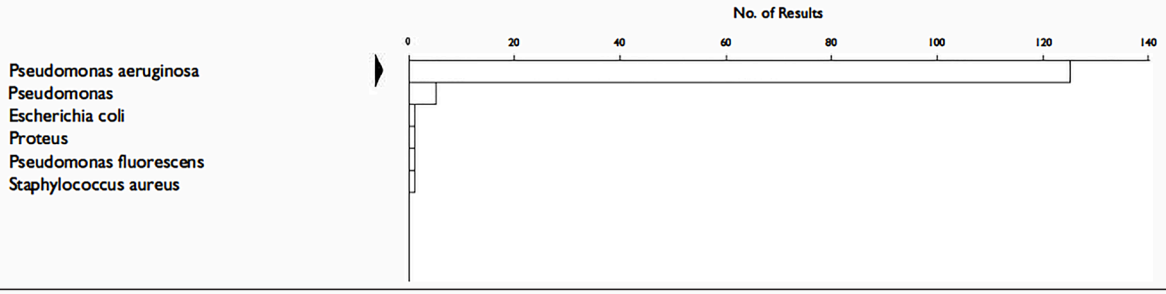
Current Performance

Your Score for this Organism: 3

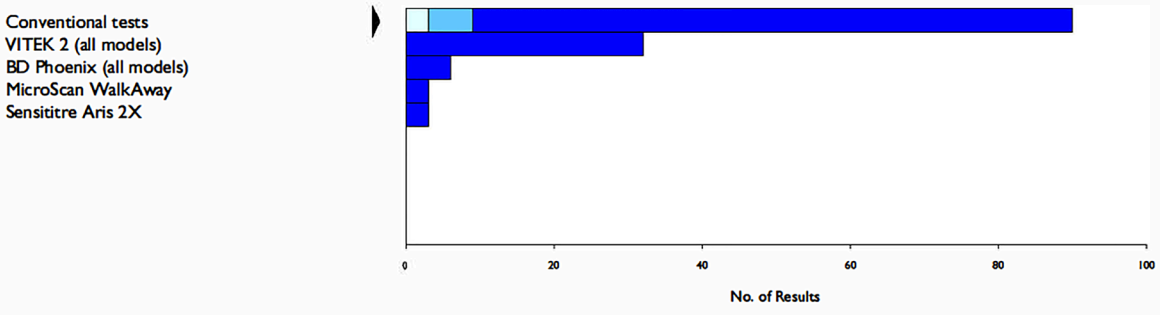
	Correct Assessment (N)	Score Averages	
		Overall	Your Method
Global	125	2.84	2.76
Country	22	2.95	2.92

Organisms Reported

Expected Organism: Pseudomonas aeruginosa



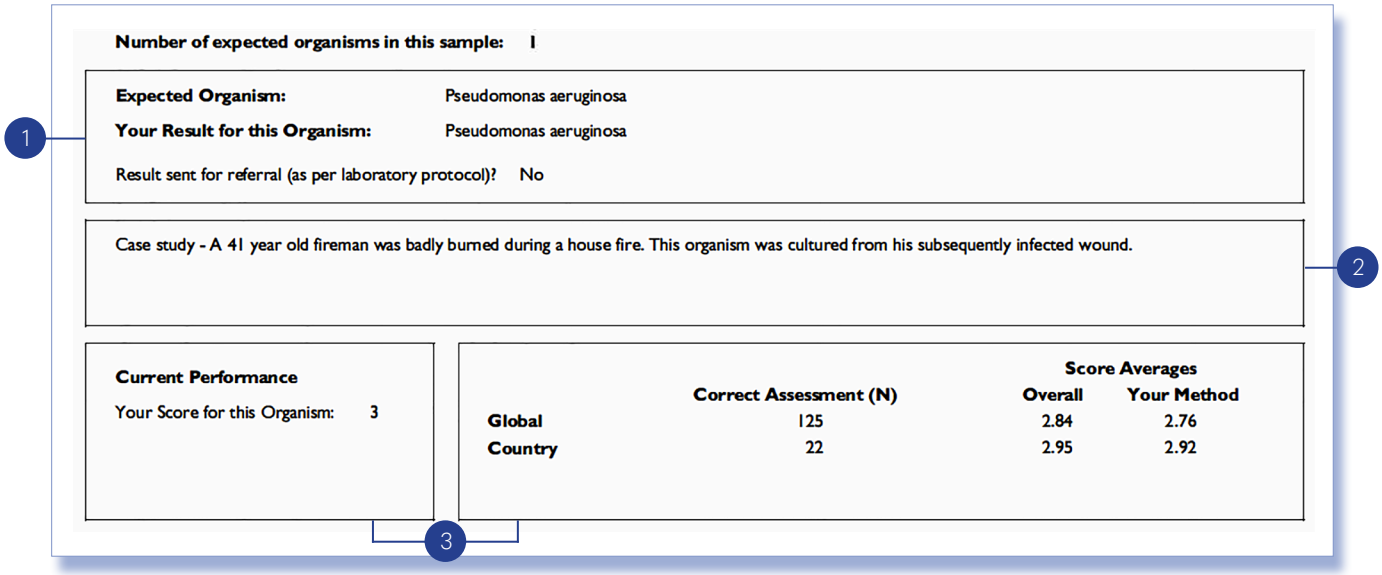
Methods in Use



Method	Incorrect	Partial	Correct
All Methods	3	6	125
Conventional tests	3 (3.3)	6 (6.7)	81 (90.0)
VITEK 2 (all models)	0 (0.0)	0 (0.0)	32 (100.0)
BD Phoenix (all models)	0 (0.0)	0 (0.0)	6 (100.0)
MicroScan WalkAway	0 (0.0)	0 (0.0)	3 (100.0)
Sensititre Aris 2X	0 (0.0)	0 (0.0)	3 (100.0)

BACTERIAL IDENTIFICATION REPORT

Participants can quickly and easily identify their performance for the current sample against their peers across geographic locations and those utilising same methodologies. Each section is explained in further detail below.



Number of expected organisms in this sample: 1

Expected Organism: Pseudomonas aeruginosa

Your Result for this Organism: Pseudomonas aeruginosa

Result sent for referral (as per laboratory protocol)? No

Case study - A 41 year old fireman was badly burned during a house fire. This organism was cultured from his subsequently infected wound.

Current Performance

Your Score for this Organism: 3

	Correct Assessment (N)	Score Averages Overall	Your Method
Global	125	2.84	2.76
Country	22	2.95	2.92

1 **Sample Results:** This shows the expected organism, the labs selected organism and information on the laboratory protocol being followed. Information on the lab's protocol will have an effect on the scoring for this sample.

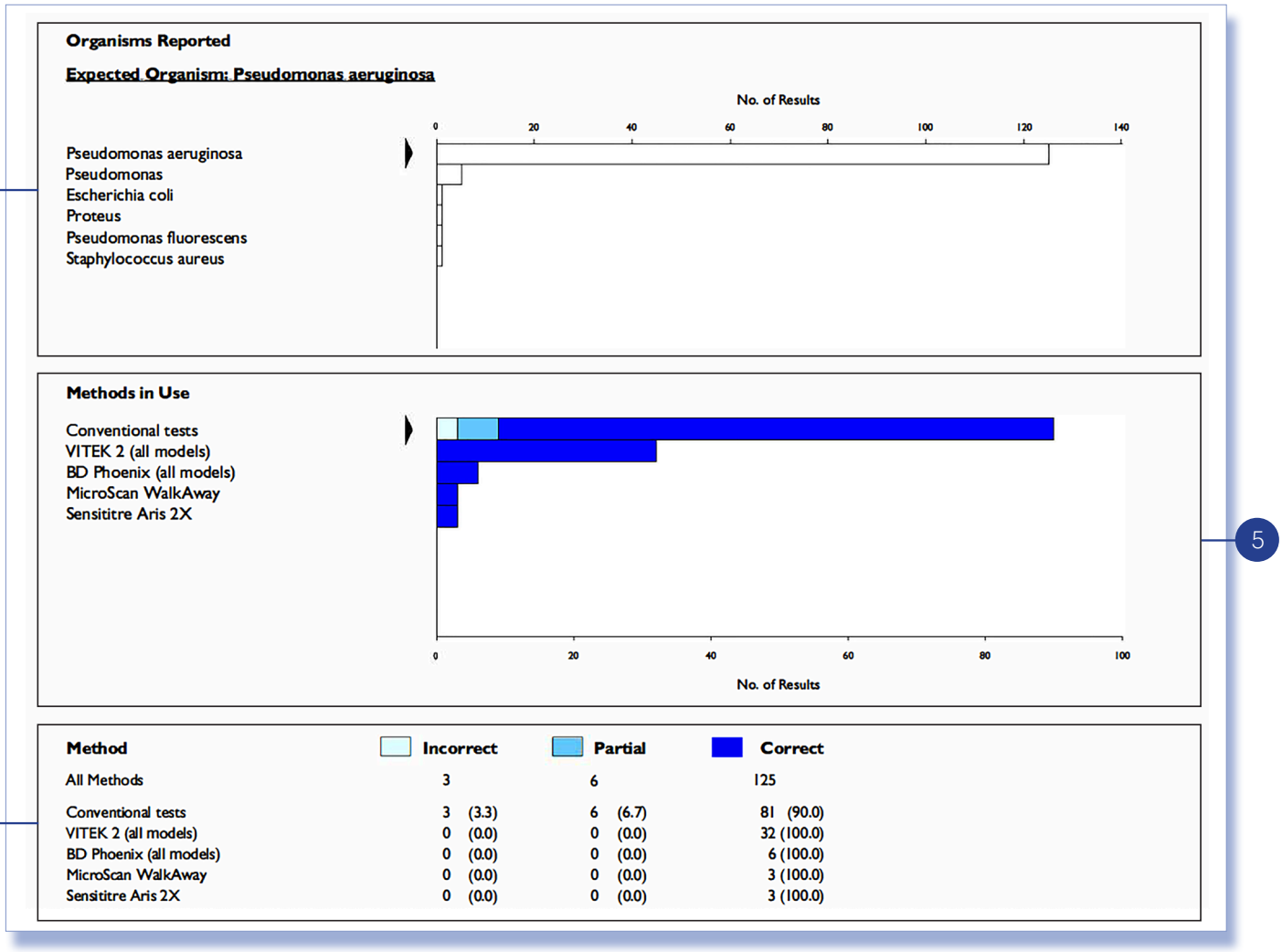
2 **Case Study:** Clinical details are provided for each sample.

3 **Performance Scoring:** This will contain the lab's specific score for this sample. It will also show the correct assessments and overall scoring with the lab's country and globally.

If sample is NOT sent for referral, scoring is marked out of 3
- Correct Genus + species = 3
- Correct Genus + species is blank, if this is lab protocol = 3
- Correct Genus + species is blank = 1
- Correct Genus + incorrect species = 1
- Incorrect Genus and species but correct Gram stain = 0
- Incorrect Genus, species and Gram stain = -1

If sample is sent for referral, scoring is marked out of 2
- Correct Genus + species = 2
- Correct Genus + species is blank, if this is lab protocol = 2
- Correct Genus + species is blank = 1
- Correct Genus + incorrect species = 1
- Incorrect Genus and species but correct Gram stain = 0
- Incorrect Genus, species and Gram stain = 0

BACTERIAL IDENTIFICATION REPORT



4

Bar Chart of Organisms Reported: This will list all organisms reported by each lab ordered in descending frequency. The black triangle indicates the lab's result.

5

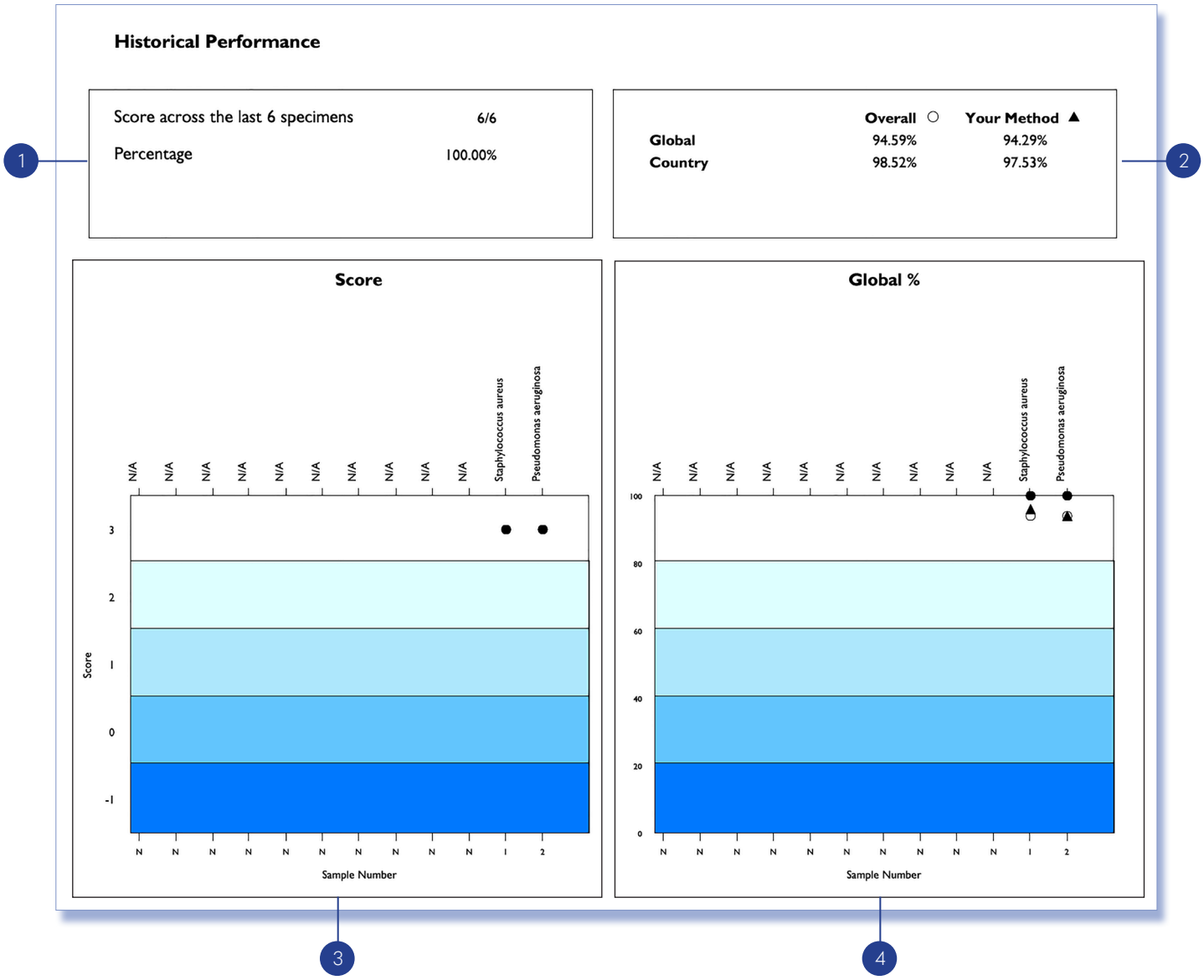
Bar Chart Detailing Methods Used: This will list all methods used by each lab ordered in descending frequency. The bars are colour coded to highlight correct, partial and incorrect responses for each method. The black triangle indicates the lab's result.

6

Method Summary Section: This is a table providing the number of responses by method. The figures in brackets indicate the percentage of responses for each method.

BACTERIAL IDENTIFICATION - HISTORICAL PERFORMANCE

Track your performance across the previous 12 specimens using this one-page report.



1. This shows the lab's score across the last 6 samples. This score is also shown as a percentage.
2. This shows the percentages for the lab's country and globally for the last 6 samples. This is broken down by the lab's method and all methods.
3. A chart showing the lab's historical performance score. The expected organism for each sample is displayed along the top of the chart.
4. A chart showing the percentages for the lab, their country and globally. Each plot is the percentage score for 6 rolling samples.

ANTIMICROBIAL SUSCEPTIBILITY TESTING

Antimicrobial susceptability testing table details all reported antibiotics for current sample and AST response.

Antimicrobial Susceptibility Testing

Organism: Pseudomonas aeruginosa

Antibiotic	Resistant	Intermediate	Sensitive	Your Result (Score)	Target
Amikacin	2	2	107	Sensitive (2/2)	**Sensitive (Y)**
Amoxicillin	2	0	0		Too Few
Amoxicillin/Clavulinic Acid	2	0	0		Too Few
Ampicillin	6	0	1		**Resistant (A)**
Ampicillin/Sulbactam	1	0	1		Too Few
Azithromycin	0	1	0		Too Few
Aztreonam	1	9	15	Intermediate (N/A)	N/A
Cefazolin	3	1	0		Too Few
Cefepime	2	25	68	Intermediate (2/2)	**Intermediate (Y)**
Cefixime	2	0	0		Too Few
Cefodime	0	2	3		Too Few
Cefoperazone	0	0	1		Too Few
Cefoperazone/Sulbactam	0	0	1		Too Few
Cefotaxime	8	0	0		**Resistant (A)**
Cefoxitin	1	0	1		Too Few
Cefpodoxime	1	0	1		Too Few
Ceftazidime	1	29	80	Intermediate (1/2)	**Sensitive (A)**
Ceftazidime/Avibactam	0	0	5		**Sensitive (A)**
Ceftolozane/Tazobactam	0	1	6		**Sensitive (A)**
Ceftriaxone	2	0	0		Too Few
Cefuroxime	3	0	0		Too Few
Ciprofloxacin	0	33	85	Intermediate (2/2)	**Intermediate (Y)**
Clindamycin	0	0	1		Too Few
Colistin	1	6	17		**Sensitive (Y)**
Cotrimoxazole	1	0	0		Too Few
Doripenem	0	0	6		**Sensitive (A)**
Doxycycline	1	0	0		Too Few
Ertapenem	2	0	0		Too Few
Erythromycin	0	0	1		Too Few
Fosfomycin	4	0	0		Too Few
Gentamicin	6	5	80	Sensitive (2/2)	**Sensitive (Y)**
Imipenem	13	27	57	Intermediate (2/2)	**Intermediate (Y)**
Levofloxacin	3	15	25	Intermediate (N/A)	N/A

- Target based on 80% agreement or at least 30% more than next common response
- Target requires at least 5 responses or else 'Too Few' is recorded
- Target is based initially on lab's guideline (Y) followed by all guidelines (A) if lab's guideline does not fulfil criteria. If neither of these are met then target recorded as N/A
- Participant responses are recorded for each antibiotic
- Participant responses from an incorrectly or partially identified organism are not included in totals

Scoring

- **If target is Sensitive**
  Response of sensitive = 2
  Response of intermediate = 1
  Response of resistant = 0
- **If target is Resistant**
  Response of sensitive = -1
  Response of intermediate = 1
  Response of resistant = 2
- **If target is Intermediate**
  Response of sensitive = 1
  Response of intermediate = 2
  Response of resistant = 1
- **No scoring possible if target is N/A or Too Few**

ANTIMICROBIAL SUSCEPTIBILITY TESTING

Antimicrobial susceptability testing table details all reported antibiotics for current sample and AST response.

Ticarcillin/Clauvulanic Acid	0	7	1	Intermediate (2/2)	**Intermediate (A)**
Tigecyclin	11	0	0		**Resistant (A)**
Tobramycin	1	0	53	Sensitive (2/2)	**Sensitive (Y)**
Trimethoprim/Sulfamethoxazole	6	2	1		N/A
Vancomycin	0	0	1		Too Few

Your Score	19 out of 20	95.0%
Your Guideline: EUCAST	350 out of 456	76.8%
All Guidelines	1755 out of 2048	85.7%

3 of your antibiotics have no target and are not scored

1 **Scoring Summary**

- A total score for the participants responses that had targets is provided for the participant

  Your Score

- A total score for all antibiotics that had targets is provided for

  Your Guideline
  All Guidelines

Cefepime

Guideline	Resistant	Intermediate	Sensitive	% Agreement
CLSI	0	0	31	100.0%
EUCAST	1	16	7	66.7%
Unspecified	1	9	30	75.0%

2 **Guideline Analsyis**

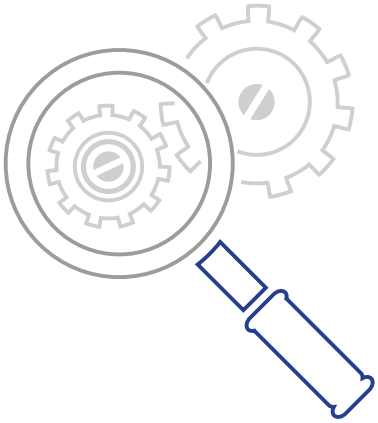
- For each antibiotic that has a target assigned, a breakdown of the responses per guideline is provided

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. Peer Group 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: .....

.....

.....

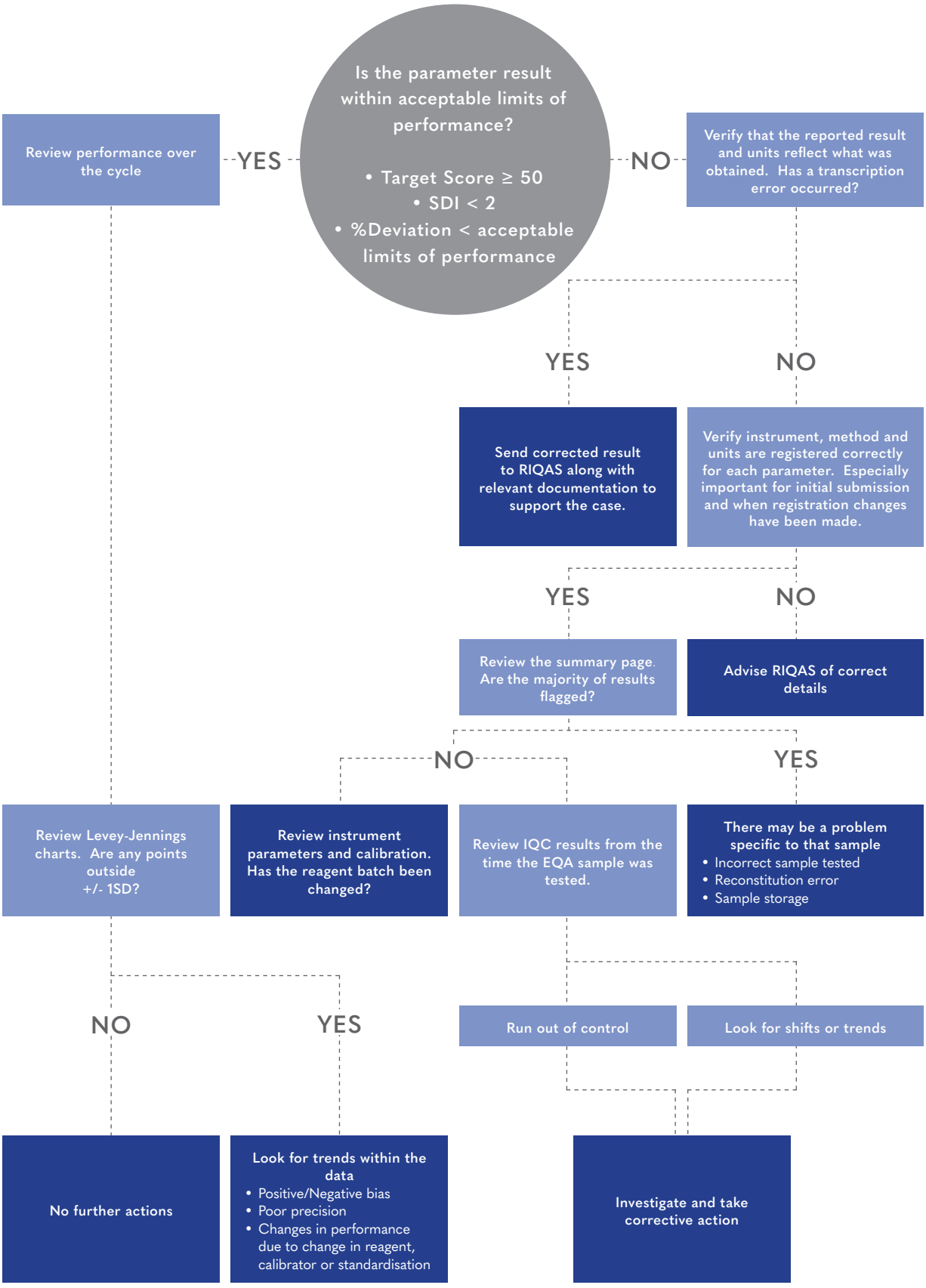
.....

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.



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-Müllerian Hormone (AMH) Programme+

RQ9198 (1 ml)
1 Parameter
Samples every month, 1 x 12 month cycle, 12 month subscription

Anti-Müllerian Hormone (AMH)

Anti-TSH Receptor Programme+ *With target scoring*

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

Anti-TSH Receptor (TRAb)

Blood Gas Programme *With target scoring*

RQ9134 (1.8 ml)
First registered instrument
11 Parameters
RQ9134/A (1.8 ml)
Subsequent instruments
11 Parameters
Samples every month, 1 x 12 month cycle, 12 month subscription

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

BNP Programme+ *With target scoring*

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

BNP

Cardiac Programme *With target scoring*

RQ9127/a (1 ml)
2 Parameters only (choose from 7)
RQ9127/b (1 ml)
Full 7 Parameters
RQ9186 (1 ml)
Full 7 Parameters
Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription
Samples every month, 1 x 12 monthly cycle, 12 month subscription

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

Cardiac Plus Programme *With target scoring*

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

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

Cerebrospinal Fluid Programme+ *With target scoring*

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

Albumin
Chloride
Glucose
IgG
Lactate
Protein (Total)
Sodium

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RIQAS PROGRAMMES

Coagulation Programme *With target scoring*

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

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

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

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

CO-Oximetry Programme+

RQ9177 (1.2 ml)
First registered instrument
7 Parameters

RQ9177/A (1.2 ml)
Subsequent instruments
7 Parameters

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

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

CYFRA 21-1 Programme+

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

CYFRA 21-1 (Cytokeratin 19)

Cytokines Programme+

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

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

ESR Programme+

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

ESR (Erythrocyte Sedimentation Rate)

General Clinical Chemistry Programme *With target scoring*

RQ9112/a (5 ml)
10 Parameters

RQ9112/b (5 ml)
17 Parameters

RQ9112/c (5 ml)
Full 56 Parameters

RQ9128 (5ml)
Full 56 Parameters

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

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

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

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

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RIQAS PROGRAMMES

Haematology Programme *With target scoring*

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

RQ9140 (2ml)
11 Parameters
Samples every month, 1 x 12 monthly cycle, 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 (2 x 10 ml)
25 Parameters
Samples every 2 weeks, 2 x 6 monthly cycles, 12 month subscription

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

Immunoassay Programme *With target scoring*

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

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

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

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

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

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

Immunoassay Speciality 1 Programme *With target scoring*

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

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

Immunoassay Speciality 2 Programme *With target scoring*

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

Calcitonin
Gastrin
Procalcitonin
Plasma Renin Activity
Renin (Direct Concentration)

Immunosuppressant Programme+

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

Ciclosporin
Everolimus
Sirolimus
Tacrolimus

Lipid Programme *With target scoring*

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

RQ9126/b (3 ml)
Full 7 Parameters

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

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

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

Microbiology (Bacterial Identification) Programme+

RQ9197
1 strain (complete with case study)
Samples every 2 months, 1 x 12 month cycles, 12 month subscription

1 strain complete with case study. Identification of the micro-organisms can be made at Gram positive / negative, Genus and Species level. Antimicrobial Susceptibility Testing on identified strain

Antimicrobial Susceptibility Testing
Strain Identification

Neonatal Bilirubin Programme+

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

Direct Bilirubin
Total Bilirubin

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

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

IgG
IgM
Total Antibodies

Serology (EBV) Programme+

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

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

Serology (HIV-Hepatitis) Programme+

RQ9151 (1.8 ml)
10 Parameters + 6 pilots
Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

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

Serology (Syphilis) Programme+

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

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

Serology (ToRCH) Programme+

RQ9152 (1 ml)
12 Parameters + 3 pilots
Samples every month, 1 x 12 month cycle, 12 month subscription, Quantitative and Qualitative results

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

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RIQAS PROGRAMMES

Serum Indices Programme+

RQ9194 (1 ml)
3 Indices Assessments
25 Chemistry Parameters
Samples Bi-Monthly, 2 x 9 samples, 12 month subscription

RQ9194/A (1 ml)

Indices Assessment (Quantitative and Semi-Quantitative)

Haemolysis
Icteric
Lipaemic

Parameter Assessment (Quantitative)

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

Specific Proteins Programme *With target scoring*

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

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

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

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

Urinalysis Programme *With scoring*

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

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

Urine Toxicology Programme+

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

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

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.

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PARAMETER INDEX

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		Ammonia / Ethanol	Anti-Mullerian Hormone (AMH) +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cardiac Plus	Cerebrospinal Fluid +	Coagulation	CO-Oximetry +	CYFRA 21-1 +	Cytokines +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay
#	1-25-$(OH)_2$-Vitamin D*																		X
	17-OH-Progesterone																		X
	25-OH-Vitamin D																		X
	5-HIAA																	X	
A	α-1-Acid Glycoprotein																		
	α-1-Antitryspin																		
	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	
	Aldosterone																		X
	Alkaline Phosphatase														X				
	ALT																		
	ALT (ALAT)														X				
	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-HAV IgM*																		
	Anti-HAV (Total)*																		
	Anti-HBc																		
	Anti-HBc IgM*																		
	Anti-HBe (Total)*																		
	Anti-HBs (Total)*																		
	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																		
	Anti-HSV1 IgG																		
	Anti-HSV1 IgM																		
	Anti-HSV2 IgG																		
	Anti-HSV2 IgM																		
	Anti-HTLV-1 & 2 Combined																		
	Anti-HTLV-I																		
	Anti-HTLV-II																		
	Anti-Measles IgG*																		
	Antimicrobial Susceptibility Testing																		

Δ Pilot status only in certain programmes. Please check pages 42-46 for more information.

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Immunoassay Speciality 1	Immunoassay Speciality 2	Immunosuppressant +	Lipid	Maternal Screening	Microbiology (Bacterial Identification) +	Neonatal Bilirubin +	Serology (Anti-SARS-CoV-2) +	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Serum Indices +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Urinalysis	Urine Toxicology +		
X																		1-25-$(OH)_2$-Vitamin D*	#
																		17-OH-Progesterone	
X																		25-OH-Vitamin D	
																		5-HIAA	
													X					α-1-Acid Glycoprotein	A
													X					α-1-Antitryspin	
													X					α-2-Macroglobulin	
																		ACE (Angiotensin Converting Enzyme)	
																		Acid Phosphatase (Prostatic)	
																		Acid Phosphatase (Total)	
																		ACR	
																		ACTH	
				X									X					AFP	
													X			X		Albumin	
																		Aldosterone	
												X						Alkaline Phosphatase	
												X						ALT	
																		ALT (ALAT)	
															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-HAV IgM*	
									X									Anti-HAV (Total)*	
									X									Anti-HBc	
									X									Anti-HBc IgM*	
									X									Anti-HBe (Total)*	
									X									Anti-HBs (Total)*	
									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	
											X							Anti-HSV1 IgG	
											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-Measles IgG*	
					X													Antimicrobial Susceptibility Testing	

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		Ammonia / Ethanol	Anti-Mullerian Hormone (AMH) +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cardiac Plus	Cerebrospinal Fluid +	Coagulation	CO-Oximetry +	CYFRA 21-1 +	Cytokines +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay
A	Anti-Müllerian Hormone (AMH)		X																
	Anti-Mumps IgG*																		
	Anti-Rubella IgG																		
	Anti-Rubella IgM																		
	Anti-SARS-COV2 IgG																		
	Anti-SARS-COV2 IgM																		
	Anti-SARS-COV2 Total																		
	Anti-TG																		
	Antithrombin III									X									
	Anti-Toxoplasma IgG																		
	Anti-Toxoplasma IgM																		
	Anti-TPO																		
	Anti-TSH Receptor (TRAb)			X															
	Anti-VZV IgG*																		
	Apolipoprotein AI																		
	Apolipoprotein B																		
	aPTT									X									
	AST																		
	AST (ASAT)														X				
B	β-2-Microglobulin																		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
	Caffeine																		
	Calcitonin																		
	Calcium														X			X	
	Calcium, Adjusted														X				
	Calcium (Ionised)				X										X				
	Cannabinoids (THC)																		
	Carbamazepine																		X
	Carboxyhaemoglobin (COHb / HbCO)										X								
	CEA																		X
	Ceruloplasmin																		
	Chloride				X				X						X			X	
	Cholesterol (Total)														X				
	Cholinesterase														X				
	Ciclosporin																		
	CK, Total						X	X							X				
	CK-MB (Activity)						X	X											
	CK-MB (Mass)						X	X											
	CK NAC																		
	CO2, Total				X														
	Complement C_3																		

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Immunoassay Speciality 1	Immunoassay Speciality 2	Immunosuppressant +	Lipid	Maternal Screening	Microbiology (Bacterial Identification) +	Neonatal Bilirubin +	Serology (Anti-SARS-CoV-2) +	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Serum Indices +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Urinalysis	Urine Toxicology +		
																		Anti-Müllerian Hormone (AMH)	A
											X							Anti-Mumps IgG*	
											X							Anti-Rubella IgG	
											X							Anti-Rubella IgM	
							X											Anti-SARS-COV2 IgG	
							X											Anti-SARS-COV2 IgM	
							X											Anti-SARS-COV2 Total	
X																		Anti-TG	
													X					Antithrombin III	
											X							Anti-Toxoplasma IgG	
											X							Anti-Toxoplasma IgM	
X																		Anti-TPO	
																		Anti-TSH Receptor (TRAb)	
											X							Anti-VZV IgG*	
			X															Apolipoprotein AI	
			X															Apolipoprotein B	
																		aPTT	
												X						AST	
																		AST (ASAT)	
													X					β-2-Microglobulin	B
																	X	Benzoylecgonine	
																		Bicarbonate	
																		Bile Acids	
						X						X						Bilirubin (Direct)	
						X						X				X		Bilirubin (Total)	
																X		Blood	
																		BNP	
																	X	Buprenorphine	
																		CA15-3	C
																		CA19-9	
																		CA125	
															X			Caffeine	
	X																	Calcitonin	
												X						Calcium	
																		Calcium, Adjusted	
																		Calcium (Ionised)	
																	X	Cannabinoids (THC)	
															X			Carbamazepine	
																		Carboxyhaemoglobin (COHb / HbCO)	
																		CEA	
													X					Ceruloplasmin	
												X		X				Chloride	
			X									X						Cholesterol (Total)	
																		Cholinesterase	
		X													X			Ciclosporin	
																		CK, Total	
																		CK-MB (Activity)	
																		CK-MB (Mass)	
												X						CK NAC	
																		CO2, Total	
													X					Complement C_3	

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		Ammonia / Ethanol	Anti-Mullerian Hormone (AMH) +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cardiac Plus	Cerebrospinal Fluid +	Coagulation	CO-Oximetry +	CYFRA 21-1 +	Cytokines +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay
C	Complement C_4																		
	Conductivity																		
	Copper														X			X	
	Cortisol																	X	X
	Cotinine																		
	C-Peptide																		X
	C-Reactive Protein (CRP)																		
	Creatinine														X			X	
	CYFRA 21-1 (Cytokeratin 19)											X							
D	D-3-Hydroxybutyrate														X				
	d-Amphetamine																		
	D-Dimer* Δ							X		X									
	Deoxyhaemoglobin (HHb)										X								
	DHEA Unconjugated																		X
	DHEA-Sulphate																		X
	Digoxin							X											X
	d-Methamphetamine																		
	Dopamine																	X	
E	EDDP																		
	eGFR (estimated glomerular filtration rate)														X				
	Epidermal Growth Factor (EGF)*												X						
	Epinephrine																	X	
	ESR													X					
	Ethanol	X																	
	Ethosuximide																		
	Everolimus																		
F	Factor II									X									
	Factor IX									X									
	Factor V									X									
	Factor VII									X									
	Factor VIII									X									
	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				
	Galactose																		
	Gastrin																		
	Gentamicin																		X
	Growth Hormone (GH)																		X
	GLDH														X				
	Glucose				X				X						X			X	
H	Haematocrit (HCT)																X		
	Haemoglobin (Hb)																X		
	Total Haemoglobin (tHb)										X					X			

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Immunoassay Speciality 1	Immunoassay Speciality 2	Immunosuppressant +	Lipid	Maternal Screening	Microbiology (Bacterial Identification) +	Neonatal Bilirubin +	Serology (Anti-SARS-CoV-2) +	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Serum Indices +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Urinalysis	Urine Toxicology +		
													X					Complement C_4	C
														X				Conductivity	
																		Copper	
																		Cortisol	
																	X	Cotinine	
X																		C-Peptide	
													X					C-Reactive Protein (CRP)	
												X				X	X	Creatinine	
																		CYFRA 21-1 (Cytokeratin 19)	
																		D-3-Hydroxybutyrate	D
																	X	d-Amphetamine	
																		D-Dimer* $^{\Delta}$	
																		Deoxyhaemoglobin (HHb)	
																		DHEA Unconjugated	
																		DHEA-Sulphate	
															X			Digoxin	
																	X	d-Methamphetamine	
																		Dopamine	
																	X	EDDP	E
																		eGFR (estimated glomerular filtration rate)	
																		Epidermal Growth Factor (EGF)*	
																		Epinephrine	
																		ESR	
																	X	Ethanol	
															X			Ethosuximide	
		X																Everolimus	
																		Factor II	F
																		Factor IX	
																		Factor V	
																		Factor VII	
																		Factor VIII	
																		Factor X	
																		Factor XI	
																		Factor XII	
													X					Ferritin	
																		Fibrinogen	
																		Folate	
																	X	Free Morphine	
				X														free β-hCG	
																		Fructosamine	
																		FSH	
												X						γ-GT	G
																X		Galactose	
	X																	Gastrin	
															X			Gentamicin	
																		Growth Hormone (GH)	
																		GLDH	
												X				X		Glucose	
																		Haematocrit (HCT)	H
																		Haemoglobin (Hb)	
																		Total Haemoglobin (tHb)	

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		Ammonia / Ethanol	Anti-Mullerian Hormone (AMH) +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cardiac Plus	Cerebrospinal Fluid +	Coagulation	CO-Oximetry +	CYFRA 21-1 +	Cytokines +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay
H	Haemolysis																		
	Haptoglobin																		
	HbA1c															X			
	HBsAg																		
	HBDH														X				
	hCG																		X
	HDL-Cholesterol														X				
	Homocysteine						X	X											
	hsCRP							X											
I	Icteric																		
	IgA																		
	IgE																		X
	IGF-1																		
	IgG								X										
	IgM																		
	Inhibin A																		
	Insulin																		X
	Interferon gamma (INF-Y)*												X						
	Interleukin – 1 alpha (IL-1α)*												X						
	Interleukin – 1 beta (IL-1β)*												X						
	Interleukin – 10 (IL-10)*												X						
	Interleukin – 2 (IL-2)*												X						
	Interleukin – 4 (IL-4)*												X						
	Interleukin – 6 (IL-6)												X						
	Interleukin – 8 (IL-8)*												X						
	Iron														X				
K	Kappa Light Chain (Free)																		
	Kappa Light Chain (Total)																		
	Ketones																		
L	Lactate				X				X						X				
	Lambda Light Chain (Free)																		
	Lambda Light Chain (Total)																		
	LD (LDH)														X				
	LDL-Cholesterol														X				
	Leucocytes																		
	Lipase														X				
	Lipoprotein (a)																		
	Lithium														X				
	Lorazepam																		
	LSD																		
	Luteinising Hormone (LH)																		X
M	Magnesium														X			X	
	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																		
	Methaemoglobin (MetHb)										X								
	Methotrexate																		

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Immunoassay Speciality 1	Immunoassay Speciality 2	Immunosuppressant +	Lipid	Maternal Screening	Microbiology (Bacterial Idenitification) +	Neonatal Bilirubin +	Serology (Anti-SARS-CoV-2) +	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Serum Indices +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Urinalysis	Urine Toxicology +		
												X						Haemolysis	H
													X					Haptoglobin	
																		HbA1c	
									X									HBsAg	
																		HBDH	
																X		hCG	
			X									X						HDL-Cholesterol	
																		Homocysteine	
																		hsCRP	
												X						Icteric	I
													X					IgA	
													X					IgE	
X																		IGF-1	
													X					IgG	
													X					IgM	
				X														Inhibin A	
X																		Insulin	
																		Interferon gamma (INF-Y)*	
																		Interleukin – 1 alpha (IL-1α)*	
																		Interleukin – 1 beta (IL-1β)*	
																		Interleukin – 10 (IL-10)*	
																		Interleukin – 2 (IL-2)*	
																		Interleukin – 4 (IL-4)*	
																		Interleukin – 6 (IL-6)	
																		Interleukin – 8 (IL-8)*	
												X						Iron	
													X					Kappa Light Chain (Free)	K
													X					Kappa Light Chain (Total)	
																X		Ketones	
												X						Lactate	L
													X					Lambda Light Chain (Free)	
													X					Lambda Light Chain (Total)	
												X						LD (LDH)	
			X															LDL-Cholesterol	
																X		Leucocytes	
												X						Lipase	
			X															Lipoprotein (a)	
															X			Lithium	
																	X	Lorazepam	
																	X	LSD	
																		Luteinising Hormone (LH)	
												X						Magnesium	M
																	X	MDMA	
																		Mean Cell Haemoglobin (MCH)	
																		Mean Cell Haemoglobin Concentration (MCHC)	
																		Mean Cell Volume (MCV)	
																		Mean Platelet Volume (MPV)	
																		Metanephrine	
																	X	Methadone	
																		Methaemoglobin (MetHb)	
															X			Methotrexate	

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		Ammonia / Ethanol	Anti-Mullerian Hormone (AMH) +	Anti-TSH Receptor +	Blood Gas	BNP +	Cardiac	Cardiac Plus	Cerebrospinal Fluid +	Coagulation	CO-Oximetry +	CYFRA 21-1 +	Cytokines +	ESR +	General Clinical Chemistry	HbA1c	Haematology	Human Urine	Immunoassay
M	Monocyte Chemoattractant Protein -1 (MCP-1)*												X						
	Myoglobin						X	X											
N	NEFA														X				
	Nitrite																		
	Non-HDL Cholesterol														X				
	Norepinephrine																	X	
	Normetanephrine																	X	
	Norpropoxyphene																		
	Nortriptyline																		
	NTproBNP							X											
O	Oestradiol																		X
	Osmolality														X			X	
	Osteocalcin																		
	Oxalate																	X	
	Oxazepam																		
	Oxygen Content (O2CT)										X								
	Oxygen Saturation (sO2 / Vol O2)										X								
	Oxyhaemoglobin (O2Hb / HbO2)										X								
P	P24*																		
	PAPP-A																		
	Paracetamol (Acetaminophen)																		X
	pCO_2				X														
	pH				X														
	Phencyclidine																		
	Phenobarbital																		X
	Phenytoin																		X
	Phosphate (Inorganic)														X			X	
	Plasma Renin Activity																		
	Plasminogen									X									
	Plateletcrit (PCT)																X		
	Platelets (PLT)																X		
	pO_2				X														
	Potassium				X										X			X	
	Prealbumin (Transthyretin)																		
	Primidone																		
	Procalcitonin																		
	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
R	Red Blood Bell Count (RBC)																X		
	Red Cell Distribution Width (RDW)																X		
	Renin (Direct Concentration)																		
	Retinol Binding Protein																		
	Rheumatoid Factor																		
S	Salicylic Acid																		X

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Immunoassay Speciality 1	Immunoassay Speciality 2	Immunosuppressant +	Lipid	Maternal Screening	Microbiology (Bacterial Identification) +	Neonatal Bilirubin +	Serology (Anti-SARS-CoV-2) +	Serology (EBV) +	Serology (HIV / Hepatitis) +	Serology (Syphilis) +	Serology (ToRCH) +	Serum Indices +	Specific Proteins	Sweat Testing +	Therapeutic Drug	Urinalysis	Urine Toxicology +		
																		Monocyte Chemoattractant Protein -1 (MCP-1)*	M
																		Myoglobin	
																		NEFA	N
																X		Nitrite	
																		Non-HDL Cholesterol	
																		Norepinephrine	
																		Normetanephrine	
																	X	Norpropoxyphene	
																	X	Nortriptyline	
																		NTproBNP	
																		Oestradiol	O
																		Osmolality	
X																		Osteocalcin	
																		Oxalate	
																	X	Oxazepam	
																		Oxygen Content (O2CT)	
																		Oxygen Saturation (sO2 / Vol O2)	
																		Oxyhaemoglobin (O2Hb / HbO2)	
									X									P24*	P
				X														PAPP-A	
															X			Paracetamol (Acetaminophen)	
																		pCO_2	
																X		pH	
																	X	Phencyclidine	
															X		X	Phenobarbital	
															X			Phenytoin	
												X						Phosphate (Inorganic)	
	X																	Plasma Renin Activity	
																		Plasminogen	
																		Plateletcrit (PCT)	
																		Platelets (PLT)	
																		pO_2	
																		Potassium	
													X					Prealbumin (Transthyretin)	
															X			Primidone	
X	X																	Procalcitonin	
																		Progesterone	
																		Prolactin	
												X				X		Protein (Total)	
																		Protein C	
																		Protein S	
																		PSA (Free)	
																		PSA (Total)	
																		PT (Including INR)	
X																		PTH	
																		Red Blood Bell Count (RBC)	R
																		Red Cell Distribution Width (RDW)	
	X																	Renin (Direct Concentration)	
													X					Retinol Binding Protein	
													X					Rheumatoid Factor	
															X			Salicylic Acid	S

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S	Secobarbital																		
	SHBG																		X
	Sirolimus																		
	Sodium				X				X						X			X	
	Specific Gravity																		
	Strain Identification																		
	Syphilis																		
T	T_3 (Free)														X				X
	T_3 (Total)														X				X
	T_4 (Free)														X				X
	T_4 (Total)														X				X
	Tacrolimus																		
	Testosterone (Free)*																		X
	Testosterone (Total)																		X
	Theophylline																		X
	Thyroglobulin																		X
	TIBC														X				
	Tobramycin																		
	Total hCG																		
	Transferrin																		
	Triglycerides														X				
	Troponin I						X	X											
	Troponin T						X	X											
	TSH														X				X
	TT									X									
	Tumour Necrosis Factor alpha (TNF-α)*												X						
U	UIBC														X				
	Unconjugated Oestriol																		
	Urea														X			X	
	Uric Acid														X			X	
	Urobilinogen																		
V	Valproic Acid																		X
	Vancomycin																		X
	Vascular Endothelial Growth Factor (VEGF)*												X						
	Vitamin B12																		X
	VMA																	X	
W	Total White Blood Cell Count (WBC)																X		
Z	Zinc														X				

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																	X	Secobarbital	S
																		SHBG	
		X																Sirolimus	
												X						Sodium	
																X		Specific Gravity	
					X													Strain Identification	
										X								Syphilis	
																		T_3 (Free)	T
																		T_3 (Total)	
																		T_4 (Free)	
																		T_4 (Total)	
		X																Tacrolimus	
																		Testosterone (Free)*	
																		Testosterone (Total)	
															X			Theophylline	
																		Thyroglobulin	
																		TIBC	
															X			Tobramycin	
				X														Total hCG	
													X					Transferrin	
			X									X						Triglycerides	
																		Troponin I	
																		Troponin T	
																		TSH	
																		TT	
																		Tumour Necrosis Factor alpha (TNF-α)*	
																		UIBC	U
				X														Unconjugated Oestriol	
												X						Urea	
												X						Uric Acid	
																X		Urobilinogen	
															X			Valproic Acid	V
															X			Vancomycin	
																		Vascular Endothelial Growth Factor (VEGF)*	
																		Vitamin B12	
																		VMA	
																		Total White Blood Cell Count (WBC)	W
																		Zinc	Z

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