CLINICAL DIAGNOSTICS

Labcare de Colombia

(CO16/6735)

Catalog

Clinical Proficiency Testing Programs

CERTUS

PROFICIENCY TESTING / EQA

Contents

LGC CERTUS Proficiency Testing is proud to offer ISO/IEC 17043:2010 Accredited clinical programs.

- Evaluations for accredited analytes can be used by ISO 15189 accredited laboratories to fulfill PT requirements.
- All ISO / IEC 17043:2010 programs are accredited under certificate number 5985:01, unless otherwise noted.
- Printed versions of the catalog may not have the most current scope information.

Introduction to Certus®

Certus offers a range of clinical samples for proficiency testing (PT) or external quality assessment (EQA). Our commitment to continuous improvement means that we are able to support clinical laboratories in their quest for ensuring the quality of their results.

These new ISO/IEC 17043 accredited programs will assist laboratory professionals in monitoring performance and provide an independent assessment of measurement quality. Test materials mimic clinical specimens across laboratory disciplines, including Chemistry, Hematology, Immunology, Serology, and Microbiology Molecular Multiplex. The operation of Certus is supported by an Advisory Group. This helps us provide valuable information to participants on current techincal issues and methodologies related to clinical laboratory science.

Our proprietary proficiency testing (PT) reporting platform, PORTAL, is Fast, Simple, and Interactive. PORTAL provides a multi-lingual web based platform for the submission of PT results, review of PT performance and ongoing monitoring of laboratory performance. Laboratories are able to enter results using multiple methods, instruments, and analysts: utilizing PORTAL to monitor various testing systems and laboratory personnel competence.

PT reports will be delivered in under 6 working days following the closure of a round. Once a report is released, laboratories may use the performance score calculator for further instrument checks and troubleshooting. Properly stored and preserved samples from closed rounds can be tested and z-scores calculated to enable laboratories to perform on-demand QA monitoring.

On the following pages, you will discover our full range of clinical programs organized by analytical discipline, enabling you to identify the samples you need.

Chemistry

Alcohol/Ammonia — ALM

Program Description

2 mL serum vials - Quantitative & Semi-quantitative

ANALYTES

Acetone (Ketones)	Ammonia	Ethanol

Frequency

4 samples, shipped three times per year; tested monthly

Blood Gas — BLG

Program Description

3 mL aqueous ampules - Quantitative
Samples are single use only due to the nature of the testing. Up to nine additional samples can be purchased for an additional charge.

ANALYTES

Bicarbonate (tCO_2)	Lactate	Potassium
Calcium, ionized	Magnesium, ionized	Sodium
Chloride	pCO_2	Urea/Urea Nitrogen
Creatinine	pH	
Glucose	pO_2	

Frequency

6 samples, shipped twice per year; tested monthly

Cardiac Markers — CM

Program Description

1.5 mL liquid serum vials - Quantitative & Qualitative

ANALYTES

CK-MB, activity	D-dimer (FEU)	Troponin I, Qualitative
CK-MB, mass	Myoglobin, Quantitative	Troponin T, Quantative
Creatine Kinase (CK), total	Myoglobin, Qualitative	Troponin T, Qualitative
D-Dimer (DDU)	Troponin I, Quantitative	

Frequency

4 samples, shipped three times per year; tested monthly

Chemistry - Basic / Therapeutic Drugs (1 - 20 analytes) CH-A20

Chemistry - Comprehensive / Therapeutic Drugs (20+ analytes) CH

Program Description

5 mL liquid serum vials - Quantitative
Two levels of participation. Participants select chosen analytes at the point of results entry.
It is recommended that the same analytes be reported each round for trending purposes.
Important Note: Please see Immunoassay - IA for TIBC (transferrin based calculation)

ANALYTES

Chemistry Analytes

Albumin	Cholinesterase	T Uptake (%)
Alkaline Phosphatase (ALP)	Cortisol	T Uptake (units)
Alpha-fetoprotein (AFP)	Creatine Kinase (CK)	T3, free
ALT / SGPT	Creatinine	T4, free
Amylase	GGT	Thyroxine (T4)
AST / SGOT	Glucose	TIBC (measured & iron based calculation)
Bicarbonate (CO_2)	Iron, Total	Total Protein
Bilirubin, direct	Lactate (Lactic Acid)	Triglycerides
Bilirubin, total	LD / LDH	Triiodothyronine (T3)
Calcium, ionized (serum)	Lipase	TSH
Calcium, total	Magnesium	UIBC
Chloride	Osmolality	Uric Acid (Urate)
Cholesterol, HDL	Phosphate	Urea/Urea Nitrogen
Cholesterol, LDL (calc & measured)	Potassium	
Cholesterol, total	Sodium	

Therapeutic Drug Analytes

Amikacin	Paracetamol (Acetaminophen)	Tobramycin
Carbamazepine	Phenobarbital	Valproate
Digoxin	Phenytoin	Vancomycin
Gentamicin	Salicylic Acid	
Lithium	Theophylline	

Frequency

1 sample, shipped monthly; tested monthly

Glycosylated Hemoglobin — GLH

Program Description

0.2 mL lyophilized hemolyzed human blood vials - Quantitative

ANALYTES

Glycosylated hemoglobin (as HbA1c)

FREQUENCY

6 samples, shipped twice per year; tested monthly

Serum HCG — HCG

Program Description

1 mL liquid serum vials - Quantitative & Qualitative

ANALYTES

hCG, qualitative	hCG, quantitative

Frequency

1 sample, shipped monthly; tested monthly

Immunoassay — IA

Program Description

5 mL liquid serum vials - Quantitative
Please see Chemistry - CH for analyte TIBC measured and iron-based calculation.

ANALYTES

11-Deoxycortisol	Folate	Prolactin
17-OH-Progesterone	Follicle Stimulating Hormone	PSA, total
Androstenedione	Growth Hormone (hGH)	Testosterone, total
CEA	Homocysteine	TIBC (transferrin-based calc.)
DHEA Sulfate	LH	Transferrin
Estradiol	PAP	Vitamin B12
Estriol (unconjugated)	Prealbumin	
Ferritin	Progesterone	

Frequency

1 sample, shipped monthly; tested monthly

Immunoassay - Special — IAS

Program Description

2 mL lyophilized serum vials - Quantitative

ANALYTES

1-25(OH)2 Vitamin D	Gastrin	Procalcitonin
25-OH Vitamin D	IGF-1	Renin Activity
ACTH	Insulin	Renin (Direct Concentration)
Calcitonin	Osteocalcin	
C-peptide	Parathyroid Hormone (PTH)	

Frequency

4 samples, shipped three times per year; tested monthly

Neonatal Bilirubin — NB

Program Description

1 mL serum vials - Quantitative

ANALYTES

Bilirubin, direct	Bilirubin, total

Frequency

4 samples, shipped three times per year; tested monthly

Tumor Markers — TM

Program Description

2 mL liquid serum vials - Quantitative

ANALYTES

Beta 2 Microglobulin	CA 19-9	PSA, free
CA 125	CA 27.29	PSA, total
CA 15-3	CEA	Thyroglobulin

Frequency

1 sample, shipped monthly; tested monthly

Urine Chemistry — UC

Program Description

10 mL urine vials - Quantitative

ANALYTES

Albumin / Creatinine Ratio (ACR)	Glucose	Total Nitrogen
Albumin/Microalbumin	Magnesium	Total Protein
Amylase	Osmolality	Uric Acid (Urate)
Calcium	Phosphate	Urea/Urea Nitrogen
Chloride	Potassium	
Creatinine	Sodium	

Frequency

3-5 samples, shipped three times per year; tested monthly

Hematology

Advanced Blood Cell ID	ABI
Program Description	
Virtual slide image - Qualitative	
ANALYTES	
Blood Cell Identification	
Frequency	
1 image with 7 cells, three times per year; supplied online	

Blood Cell ID and Differential		BID
Program Description		
Virtual slide image - Qualitative & Quantitative		
ANALYTES		
Blood Cell Identification	Lymphocytes	Neutrophils, segmented
Basophils	Lymphocytes, reactive	Neutrophils, segmented or band
Eosinophils	Monocytes	NRBCs per 100 WBCs
Immature Cells	Neutrophils, band	Unclassified Cells
Frequency		
3 images with 10 cells, three times per year; supplied online		

Basic Hematology		BHM
Program Description		
2 mL whole blood vials - Quantitative		
ANALYTES		
Hematocrit	MCV	RBC
Hemoglobin	MPV	RDW CV
MCH	Plateletcrit	RDW SD
MCHC	Platelets	WBC
Frequency		
3 samples, shipped four times per year; tested monthly		

Coagulation — COA

Program Description

1 mL lyophilized plasma vials - Quantitative

ANALYTES

Antithrombin III Activity	Factor IX Activity	Plasminogen Activity
APTT	Factor X Activity	Protein C Activity
Factor II Activity	Factor XI Activity	Protein S Activity
Factor V Activity	Factor XII Activity	Prothrombin Time
Factor VII Activity	Fibrinogen	Thrombin Time
Factor VIII Activity	INR	

Frequency

6 samples, shipped twice per year; tested monthly

Trichomonas Vaginalis — TRC

Program Description

Virtual slide images

ANALYTES

Trichomonas Vaginalis

Frequency

1 image, three times per year; supplied online

Microscopy Package — MP

Program Description

Virtual slide images - Qualitative

ANALYTES

Fecal WBC	Pinworm Prep	Vaginal Wet Prep
Fern Test	Sperm	Wet Prep-KOH
Nasal Smear	Urine Sediment (2 images)	

Frequency

9 images, three times per year; supplied online

Sedimentation Rate — SR

Program Description

5 mL whole blood vials - Quantitative

ANALYTES

Sedimentation Rate

Frequency

3 samples, shipped four times per year; tested monthly

Urinalysis and HCG — UA

Program Description

10 mL urine vials - Qualitative
For dipstick analysis. Samples are not compatible with IRIS and Sysmex automated instruments.

ANALYTES

Bilirubin	hCG	Protein
Bilirubin, confirmatory	Ketones	Protein, confirmatory
Blood/Hemoglobin	Leukocyte Esterase	Reducing Substance
Creatinine	Nitrite	Specific Gravity
Glucose	pH	Urobilinogen

Frequency

2 samples, shipped three times per year; tested upon receipt

Immunology / Immunohematology

Blood Bank — BB

Program Description

3 x 4 mL tubes of CPD anticoagulated whole blood; 1 x 2mL donor red cell suspension; 1 x 4mL 15% cell suspension for DAT.
Compatible with automated blood bank analysers and manual methods.

ANALYTES

ABO Group	Antibody Identification
ABO Subgroup	Antigen Typing
D (Rho) Type	Compatibility Testing
Antibody Screen	DAT

Frequency

5 samples, shipped three times per year; tested upon reciept

Hepatitis Serology — HEP

Program Description

Qualitative wtih 1.5 mL serum vials - Qualitative

ANALYTES

Anti-HAV, total	Anti-HBc, total	Anti-HCV
Anti-HAV, IgG	Anti-HBc, IgM	HBsAg
Anti-HAV, IgM	Anti-HBs	

Frequency

6 samples, shipped twice per year; tested monthly

HIV Serology — HIV

Program Description

1 mL serum vials - Qualitative

ANALYTES

Anti-HIV-1	Anti-HIV-1/2
Anti-HIV-2	HIV-1 p24 Antigen

Frequency

6 samples, shipped twice per year; tested monthly

Microbiology - Molecular Multiplex

Blood Pathogen Panel (multiplex) BCP

Program Description

1 mL liquid vials - Qualitative

ANALYTES

Bacteria

Acinetobacter sp.	*Enterococcus faecium*	*Proteus mirabilis*
Acinetobacter baumannii	*Escherichia coli*	*Pseudomonas aeruginosa*
ACB complex	*Fusobacterium necrophorum*	*Salmonella* sp.
Bacillus cereus group	*Fusobacterium nucleatum*	*Serratia marcescens*
Bacillus subtilis group	*Haemophilus influenzae*	*Serratia* sp.
Bacteriodes fragilis	*Klebsiella aerogenes*	*Staphylococcus* sp.
Citrobacter sp.	*Klebsiella oxytoca*	*Staphylococcus aureus*
Corynebacterium sp.	*Klebsiella pneumoniae*	*Staphylococcus epidermidis*
Cronobacter sakazakii	*Lactobacillus* sp.	*Staphylococcus lugdunensis*
Cutibacterium acnes	*Listeria* sp.	*Stenotrophomonas maltophilia*
Enterobacterales	*Listeria monocytogenes*	*Streptococcus* sp.
Enterobacter sp.	*Micrococcus* sp.	*Streptococcus agalactiae*
Enterobacter cloacae complex	*Morganella morganii*	*Streptococcus anginosus* group
Enterobacter non cloacae complex	*Neisseria meningitidis*	*Streptococcus pneumoniae*
Enterococcus sp.	*Proteus* sp.	*Streptococcus pyogenes*
Enterococcus faecalis		

Fungi

Candida albicans	*Candida kefyr*	*Cryptococcus gattii*
Candida auris	*Candida krusei*	*Cryptococcus neoformans*
Candida dubliniensis	*Candida lusitaniae*	*Crypto. neoformans/gattii*
Candida famata	*Candida parapsilosis*	*Fusarium*
Candida glabrata	*Candida tropicalis*	*Rhodotorula*
Candida guilliermondii		

Resistance Genes

CTX-M	mecA/C	vanA
IMP	mecA/C & MREJ	vanB
KPC	NDM	vanA/B
mcr-1	OXA	VIM
mecA	OXA-48-like	

Frequency

5 samples, shipped three times per year; tested upon receipt

Gastrointestinal Panel (multiplex) GIP

Program Description

1 mL liquid vials - Qualitative

ANALYTES

Bacteria

Campylobacter sp.	*Plesiomonas shigelloides*	*Vibrio* sp.
Enteroaggregative *E. coli* (EAEC)	*Salmonella* sp.	*Vibrio cholerae*
Enteropathogenic *E. coli* (EPEC)	*Shigella* sp.	*Yersinia enterocolitica*
Escherichia coli O157	*Shigella* / Enteroinvasive *E. coli* (EIEC)	

Toxins

C. difficile Toxin A/B	Shiga-like toxin-producing *E. coli* (STEC) *stx1/stx2*	Shiga Toxin 2
Enterotoxigenic *E. coli* (ETEC) lt/st	Shiga Toxin 1	

Parasites

Cryptosporidium sp.	*Entamoeba histolytica*	
Cyclospora cayetanensis	*Giardia lamblia*	

Viruses

Adenovirus F 40/41	Norovirus GI/GII	Sapovirus
Astrovirus	Rotavirus A	

Frequency

5 samples, shipped three times per year; tested upon reciept

Meningitis Panel (multiplex) MEP

Program Description

1 mL liquid vials - Qualitative

ANALYTES

Bacteria

Escherichia coli K1	*Listeria monocytogenes*	*Streptococcus agalactiae*
Haemophilus influenzae	*Neisseria meningitidis*	*Streptococcus pneumoniae*

Fungi

Crypto. neoformans/gatti

Viruses

Cytomegalovirus	Herpes simplex virus 2	Varicella zoster virus
Enterovirus	Human herpes virus 6	
Herpes simplex virus 1	Human parechovirus	

Frequency

5 samples, shipped three times per year; tested upon reciept

Pneumonia Panel (multiplex) PNE

Program Description

0.5 mL liquid vials

ANALYTES

Bacteria

(ACB) complex	*Klebsiella oxytoca*	*Pseudomonas aeruginosa*
Chlamydia pneumoniae	*Klebsiella pneumoniae* group	*Serratia marcescens*
Enterobacter cloacae complex	*Legionella pneumophila*	*Staphylococcus aureus*
Escherichia coli	*Moraxella catarrhalis*	*Streptococcus agalactiae*
Haemophilus influenzae	*Mycoplasma pneumoniae*	*Streptococcus pneumoniae*
Klebsiella aerogenes	*Proteus* sp.	*Streptococcus pyogenes*

Viruses

Adenovirus	Human Rhinov./Enterovirus	Parainfluenza virus
Coronavirus	Influenza A	Respiratory Syncytial Virus
Human Metapneumovirus	Influenza B	SARS-CoV-2

Resistance Genes

CTX-M	*mecA/C* & MREJ	OXA-48-like
IMP	NDM	VIM
KPC		

Frequency

5 samples, shipped three times per year; tested upon reciept

Respiratory Panel (multiplex) RSP

Program Description

1 mL liquid vials - Qualitative

ANALYTES

Bacteria

Bordetella holmsii	*Bordetella pertussis*	*Mycoplasma pneumoniae*
Bordetella parapertussis	*Chlamydophila pneumoniae*	
Bordetella parapertussis / bronchiseptica	*Legionella pneumophila*	

Viruses

Adenovirus	Human Parechovirus	Parainfluenza 2
Bocavirus	Human Rhinov./Enterov.	Parainfluenza 3
Coronavirus	Influenza A	Parainfluenza 4
Coronavirus 229E	Influenza A H1	Respiratory Syncytial Virus
Coronavirus HKU1	Influenza A H3	RSV A
Coronavirus NL63	Influenza A / H1-2009	RSV B
Coronavirus OC43	Influenza B	Rhinovirus
Human Metapneumovirus	Parainfluenza 1	SARS-CoV-2

Frequency

5 samples, shipped three times per year

Program Aims and Organization

The primary aim of the Certus Clinical Proficiency Testing programs is to enable laboratories performing analysis of clinical samples to monitor their performance and compare it with that of their peers. The programs also aim to provide information to participants on technical issues and methodologies relating to clinical laboratory science.

The Certus program year operates from January to December. The operation of the programs are supported by Advisory Groups consisting of experts in the field of clinical laboratory science and proficiency testing. The programs report on the performance of U.K. participants to the National Quality Assurance Advisory Panels for Chemical Pathology and for Medical Microbiology.

Test Materials

Details of test materials available in these programs are given in Appendix A. The analytes are continually reviewed to ensure they meet the needs of current laboratory testing and regulatory requirements.

Human blood was used in the preparation of some of the components of these test materials. Each donor unit was tested and found to be nonreactive for hepatitis B surface antigen and HIV antibody by FDA approved methods. Some test materials are prepared from bovine, equine, or porcine material. Animals used for this purpose are under veterinary control and tested for transmissible disease. Because no test method can offer complete assurance that products derived from human or animal blood will not transmit infectious agents, it is recommended that PT test materials be handled with the same precautions as patient samples.

Certificates of Analysis of the serum are retained.

Note: All test materials provided are intended for use as proficiency test materials only and are not to be used for any other purpose.

Subcontracting

Some aspects of the programs, such as test material production, homogeneity and stability testing, customer service, and dispatch can from time to time be subcontracted. For the CERTUS program, all these aspects are subcontracted, with the exception of customer service and dispatch. When subcontracting occurs, work is placed with a competent subcontractor and the accredited proficiency testing provider is responsible for this work. The planning of the scheme, the evaluation of performance and the authorisation of the final report will never be subcontracted.

Statistical Analysis

Information on the statistics used in these programs can be found in the LGC PT General Protocol and in the Program Reports. Methods for determining assigned values and the values for the SDPA used for individual analytes are given in Appendix A.

Methods

Methods are listed in our electronic reporting software, PORTAL. Please select the most appropriate method from the list. If none of the methods are appropriate, then please report your method as 'Other' and record a brief description in the Comments Section in PORTAL.

Results and Reports

Scheme results are returned through PORTAL, full instructions for which are provided by email.

Reports will be available on the website within 10 working days of round closure. Participants will be emailed a link to the report when it is available.

APPENDIX A - Description of abbreviations used

Assigned Value (AV)

The assigned value may be derived in the following ways:

- From the robust mean (RMean). This is the median of participant results after the removal of test results that are inappropriate for statistical evaluation, e.g. miscalculations, transpositions and other gross errors. Generally, the assigned value will be set using results from all methods, unless the measurement is considered method-dependant, in which case the assigned value will be set by method as illustrated in the report tables. For some analytes, where there is a recognized reference method for that type of measurement, this may be used as the assigned value for a particular analyte i.e. it would be applied to results obtained by any method.

Traceability: Assigned values which are derived from the participant results, or a sub-set of the results, are not traceable to an international measurement standard. The uncertainty of assigned values derived in this way is estimated from the participant results, according to ISO 13528.

- From a qualitative formulation (Qual Form). This applies to qualitative tests where the assigned value is simply based on the presence/absence of the analyte in the test material.

Traceability: Assigned values calculated from the qualitative formulation of the test material may be traceable to a certified reference standard or a microbiological reference strain.

- From a qualitative or semi-quantitative mode (Qual Mode). This applies to tests where the results are on an ordinal or categorical scale. The assigned value is based on the most common result from all methods, unless the measurement is considered method-dependant, in which case the assigned value will be set by method as illustrated in the report tables.

Traceability: Assigned values which are derived from the participant results, or a sub-set of the results, are not traceable to an international measurement standard.

- From expert labs (Expert). The assigned value for the analyte is provided by an 'expert' laboratory.

Traceability: Assigned values provided by an 'expert' laboratory may be traceable to an international measurement standard, according to the laboratory and the method used. The uncertainty of measurement for an assigned value produced in this way will be provided by the laboratory undertaking the analysis. Details of traceability and the associated uncertainty will be provided in the report for the scheme/round.

Range

Range is indicated to allow participants to gauge whether expected results will be comparable to samples routinely tested in the laboratory, and whether result options will match their patient reports. For quantitative analytes, the range indicates the concentration range at which the analyte may be present in the test material. For qualitative analytes, the range indicates the type or range of results allowed to be reported for the analyte. Examples are:

- Binary choices, such as "Positive / Negative" or "Detected / Not Detected".
- A range of ordinal choices, such as "Negative to Large". Ordinal ranges that include groupings of numeric results may be listed as "Semiquantitative".
- Categorical choices, such as species or type of cell, where the result has no magnitude. These are usually listed as "Identification", or "Suscept / Interm / Resist" for antimicrobial susceptibility testing. Where clinically appropriate for multiple species or cells to be identified in a test material, multiple choices may be reported. This will be described in the testing and reporting instructions.

SDPA

SDPA represents the 'standard deviation for proficiency assessment' which is used to assess participant performance for the measurement of each analyte. Wherever possible, the SDPA is based on a concentration dependent model (CDM) derived from historic data. Some analytes use a fixed SDPA whereas other analytes use Robust SD based on clinical relevance and statistical parameters. SDPA criteria is determined by the Advisory Group and reviewed periodically.

Units

This indicates the units used for the assessment of data. These are the units in which participants should report their results. For some analytes in some samples participants may have a choice of which units to report their results, however, the units stipulated in this scheme description are the default units to which any results reported using allowable alternative units will be converted.

Analyte Detail and Assessment Information

On PT reports, +/- 2/3 of the allowed variation is considered Satisfactory performance. Results outside 2/3 of the allowed amount are labeled Questionable because they may indicate investigation is needed to prevent a future Unsatisfactory result. Unsatisfactory results are those outside of the allowed variation.

Chemistry

Alcohol / Ammonia — ALM

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Acetone (Ketones)	Semi-quantitative	Neg to Large	Qual Mode	NA	NA
Ethanol	Quantitative	0 to 500	RMean	20% or 10 µmol/L for AVs <50 µmol/L	mg/dL
Ammonia	Quantitative	0 to 400	RMean	20% or 10 mg/dL for AVs <50 mg/dL	µmol/L

Basic / Comprehensive Chemistry & Therapeutic Drugs — CH

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Albumin	All	0 to 100	RMean	10%	µmol/L g/dL
Alkaline Phosphatase (ALP)	All	0 to 500	RMean	30%	U/L
Alpha-fetoprotein (AFP)	All	0 to 400	RMean	30% or 3.0 ng/mL for AVs <10 ng/mL	IU/mL ng/mL
ALT / SGPT	All	0 to 600	RMean	20% or 9.4 U/L for AVs <47 U/L	U/L
Amikacin	All	0 to 70	RMean	Robust SD	µmol/L µg/mL
Amylase	All	0 to 300	RMean	18% or 9 U/L for AVs < 50 U/L	U/L
AST / SGOT	All	0 to 600	RMean	20% or 9.4 U/L for AVs <47 U/L	U/L
Bicarbonate (CO2)	All	0 to 50	RMean	20% or 5 mmol/L for AVs < 25 mmol/L	mmol/L
Bilirubin, direct	All	0 to 60	RMean	36% or 0.4 mg/dL for AVs < 1.7 mg/dL	µmol/L mg/dL
Bilirubin, total	All	0 to 150	RMean	20% or 0.4 mg/dL for AVs < 1.7 mg/dL	µmol/L mg/dL
Calcium, ionized (serum)	All	0 to 2	RMean	10% or 0.1 mmol/L for AVs < 1 mmol/L	mmol/L
Calcium, total	All	0 to 20	RMean	10%	mmol/L mg/dL
Carbamazepine	All	0 to 100	RMean	20% or 0.8 µg/L for AVs < 4 µg/L	µmol/L µg/mL
Chloride	All	0 to 200	RMean	5%	mmol/L mEq/L
Cholesterol, HDL	All	0 to 200	RMean	20% or 6 mg/dL for AVs < 30 mg/dL	mmol/L mg/dL
Cholesterol, LDL (calc & measured)	All	0 to 200	RMean	20% or 5.4 mg/dL for AVs < 27 mg/dL	mmol/L mg/dL
Cholesterol, total	All	0 to 400	RMean	10%	mmol/L mg/dL

Basic / Comprehensive Chemistry & Therapeutic Drugs CH

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Cholinesterase	All	0 to 20,000	RMean	Robust SD	U/L
Cortisol	All	0 to 50	RMean	25%	nmol/L µg/dL
Creatine Kinase (CK)	All	0 to 800	RMean	20% or 6.6 U/L for AVs < 33 U/L	U/L
Creatinine	All	0 to 900	RMean	15% or 0.3 mg/dL for AVs < 2 mg/dL	µmol/L mg/dL
Digoxin	All	0 to 5	RMean	20% or 0.2 ng/mL for AVs < 1 ng/mL	nmol/L ng/mL
Gentamicin	All	0 to 20	RMean	25% or 0.3 µg/mL for AVs < 1.2 µg/mL	µmol/L µg/mL
GGT	All	0 to 300	RMean	20% or 6.6 U/L for AVs < 33 U/L	U/L
Glucose	All	0 to 500	RMean	8% or 6 mg/dL for AVs < 75 mg/dL	mmol/L mg/dL
Iron, Total	All	0 to 400	RMean	20% or 9 µg/dL for AVs < 45 µg/dL	µmol/L µg/dL
Lactate (Lactic Acid)	All	0 to 60	RMean	15 or 0.2 mmol/L for AVs < 1.4 mmol/L	mmol/L
LD / LDH	All	0 to 1000	RMean	15%	U/L
Lipase	All	0 to 100	RMean	12% o 30 U/L for AVs < 250 U/L	U/L
Lithium	All	0 to 5	RMean	20% or 0.2 mmol/L for AVs < 1 mmol/L	mmol/L
Magnesium	All	0 to 10	RMean	15%	mmol/L mg/dL
Osmolality	All	0 to 800	RMean	6%	mOsm/kg
Paracetamol (Acetaminophen)	All	0 to 1000	RMean	16% or 3.5 µg/mL for AVs < 22 µg/mL	µmol/L µg/mL
Phenobarbital	All	0 to 250	RMean	20% or 3 µg/mL for AVs < 15 µg/mL	µmol/L µg/mL
Phenytoin	All	0 to 160	RMean	25% or 2.5 µg/mL for AVs < 10 µg/mL	µmol/L µg/mL
Phosphate	All	0 to 10	RMean	10% or 0.3 mg/dL for AVs < 3 mg/dL	mmol/L mg/dL
Potassium	All	0 to 10	RMean	6% or 0.3 mmol/L for AVs <5 mmol/L	mmol/L
Salicylic Acid	All	0 to 40	RMean	15% or 3 mg/dL for AVs < 20 mg/dL	mmol/L mg/dL
Sodium	All	0 to 200	RMean	6 mmol/L	mmol/L
T Uptake (%)	All	0 to 90	RMean	18%	%
T Uptake (units)	All	0 to 3	RMean	Robust SD	NA
T3, free	All	0 to 40	RMean	25% or 0.6 pg/mL for AVs < 2.4 pg/mL	pmol/L pg/mL
T4, free	All	0 to 130	RMean	15% or 0.3 ng/dL for AVs < 2 ng/dL	pmol/L ng/dL
Theophylline	All	0 to 300	RMean	20% or 2 µg/mL for AVs < 10 µg/mL	µmol/L µg/mL
Thyroxine (T4)	All	0 to 350	RMean	18% or 1 µg/dL for AVs < 5.6 µg/dL	nmol/L µg/dL

Basic / Comprehensive Chemistry & Therapeutic Drugs — CH

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
TIBC (measured & iron-based calculation)	All	0 to 700	RMean	10% or 20 µg/dL for AVs < 200 µg/dL	µmol/L µg/dL
Tobramycin	All	0 to 40	RMean	15% or 0.3 µg/mL for AVs < 2 µg/mL	µmol/L µg/mL
Total Protein	All	0 to 200	RMean	10%	g/L g/dL
Triglycerides	All	0 to 400	RMean	25%	mmol/L mg/dL
Triiodothyronine (T3)	All	0 to 15	RMean	25% or 0.25 ng/mL for AVs < 1 ng/mL	nmol/L ng/mL
TSH	All	0 to 20	RMean	24% or 0.24 µU/mL for AVs < 1 µU/mL	µIU/mL
UIBC, measured	All	0 to 500	RMean	8% or 12 µg/dL for AVs < 150 µg/dL	µmol/L µg/dL
Urate	All	0 to 1000	RMean	15%	µmol/L mg/dL
Urea/Urea Nitrogen	All	0 to 60	RMean	15% or 2.2 mg/dL (BUN) for AVs < 22 mg/dL (BUN)	mmol/L mg/dL
Valproate	All	0 to 1000	RMean	20% or 8 µg/mL for AVs < 40 µg/mL	µmol/L µg/mL
Vancomycin	All	0 to 60	RMean	20% or 2 µg/mL for AVs < 2 µg/mL	µmol/L µg/mL

Blood Gas — BLG

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Bicarbonate (tCO2)	All	0 to 50	RMean	15%	mmol/L
Calcium, ionized	All	0 to 2	RMean	10% or 0.1 mmol/L for AVs <1 mmol/L	mmol/L
Chloride	All	0 to 200	RMean	5%	mmol/L
Creatinine	All	0 to 900	RMean	15% or 0.3mg/dL for AVs <0.1 mg/dL	µmol/L mg/dL
Glucose	All	0 to 500	RMean	8% or 2.0mg/dL for AVs <75 mg/dL	mmol/L mg/dL
Lactate	All	0 to 15	RMean	15% or 0.4 mmol/L for AVs <2.7 mmol/L	mmol/L
Magnesium, ionized	All	0 to 3	RMean	10% or 0.1 mmol/L for AVs <1 mmol/L	mmol/L
pCO2	All	0 to 100		12% or 5 mmHG for AVs <60 mmHG	mmHG
pH	All	7.0 to 7.9	RMean	0.05	NA
pO2	All	0 to 300	RMean	15% or 15 mmHG for AVs <100 mmHG	mmHG
Potassium	All	0 to 10	RMean	6% or 0.3 mmol/L for AVs <5 mmol/L	mmol/L
Sodium	All	0 to 200	RMean	3.5%	mmol/L
Urea / Urea Nitrogen	All	0 to 60	RMean	9% or 2 mg/dL for AVs <22 mg/dL	mmol/L mg/dL

Cardiac Markers — CM

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
CK-MB, activity	All	0 to 800	RMean	Robust SD	U/L
CK-MB, mass	All	0 to 100	RMean	Robust SD	ng/mL
Creatine Kinase (CK), total	All	0 to 800	RMean	18% or 6 U/L for AVs < 33 U/L	U/L
D-Dimer (DDU)	All	0 to 3000	RMean	Robust SD	µg/L
D-dimer (FEU)	All	0 to 6	RMean	Robust SD	µgFEU/mL
Myoglobin (Qualitative)	Qualitative	Pos/Neg	Qual Form	NA	NA
Myoglobin (Quantitative)	All	0 to 700	RMean	Robust SD or 5 ng/nL, whichever is greater	ng/mL µg/L
Troponin I (Qualitative)	Qualitative	Pos/Neg	Qual Form	NA	NA
Troponin I (Quantitative)	All	0 to 120	RMean	Robust SD or 0.2 ng/mL for AVs < 1 ng/mL	ng/mL
Troponin T (Qualitative)	Qualitative	Pos/Neg	Qual Form	NA	NA
Troponin T (Quantative)	All	0 to 3	RMean	20% or 0.6 for AVs < 0.3 ng/mL	ng/mL

Glycosylated Hemoglobin — GLH

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Glycosylated Hemoglobin	All	0 to 20	RMean	20%	%

Serum hCG — HCG

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
hCG, qualitative	Qualitative	Pos/Neg	Qual Form	NA	NA
hCG, quantative	Quantitative	0 - 20,000	RMean	20% or 11.2 U/L for AVs <56	U/L

Immunoassay IA

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
11-Deoxycortisol	All	0 to 500	RMean	Robust SD	nmol/L ng/dL
17-OH-Progesterone	All	0 to 2000	RMean	Robust SD	nmol/L ng/dL
Androstenedione	All	0 to 900	RMean	Robust SD	nmol/L ng/dL
CEA	All	0 to 50	RMean	15% or 0.7 ng/mL for AVs < 4.7 ng/mL	ng/mL
DHEA Sulfate	All	0 to 600	RMean	20%	µmol/L µg/dL
Estradiol	All	0 to 2400	RMean	Robust SD	pmol/L pg/mL
Estriol (unconjugated)	All	0 to 30	RMean	Robust SD	nmol/L ng/mL
Ferritin	All	0 to 400	RMean	20%	ng/mL
Folate	All	0 to 50	RMean	30% or 3.0 ng/mL for AVs <4 ng/mL	nmol/L ng/mL
Follicle Stimulating Hormone	All	0 to 100	RMean	CDM Model	U/L
Growth Hormone (hGH)	All	0 to 20	RMean	Robust SD	ng/mL
Homocysteine	All	0 to 100	RMean	20%	µmol/L
LH	All	0 to 100	RMean	20% or 0.54 U/L for AVs <2.7 U/L	U/L
PAP	All	0 to 100	RMean	Robust SD	ng/mL
Prealbumin	All	0 to 50	RMean	15%	mg/dL
Progesterone	All	0 to 200	RMean	25% or 0.8 ng/mL for AVs < 4 ng/mL	ng/mL nmol/L
Prolactin	All	0 to 100	RMean	24% or 3.6 ng/mL for AVs < 15 ng/mL	µU/mL ng/mL
PSA, total	All	0 to 50	RMean	20% or 0.2 ng/mL for AVs < 1 ng/mL	ng/mL
Testosterone, total	All	0 to 50	RMean	20% or 0.5 ng/mL for AVs < 2.5 ng/mL	ng/mL nmol/L
TIBC (transferrin -based calc.)	All	0 to 700	RMean	10% or 20 µg/dL for AVs < 200 µg/dL	µmol/L µg/dL
Transferrin	All	0 to 400	RMean	20%	µmol/L mg/dL
Vitamin B12	All	0 to 2000	RMean	CDM Model	pmol/L

Immunoassay special — IAS

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
1-25(OH)2 Vitamin D	All	0 to 400	RMean	Robust SD	pmol/L pg/mL
25-OH Vitamin D	All	0 to 700	RMean	30%	nmol/L ng/mL
ACTH	All	0 to 300	RMean	Robust SD	pmol/L pg/mL
Calcitonin	All	0 to 100	RMean	Robust SD	pmol/L pg/mL
C-peptide	All	0 to 20	RMean	Robust SD	nmol/L ng/mL
Gastrin	All	0 to 900	RMean	Robust SD	pmol/L pg/mL
IGF-1	All	0 to 500	RMean	Robust SD	nmol/L ng/mL
Insulin	All	0 to 200	RMean	18%	uU/mL
Osteocalcin	All	0 to 50	RMean	Robust SD	ng/mL
Parathyroid Hormone (PTH)	All	0 to 500	RMean	30%	pmol/L pg/mL
Procalcitonin	All	0 to 15	RMean	20% or 0.2 ng/mL for AVs < 1 ng/mL	ng/mL
Renin Activity	All	0 to 50	RMean	Robust SD	ng/mL/hr
Renin (Direct Concentration)	All	0 to 100	RMean	Robust SD	mIU/L pg/mL

Neonatal Bilirubin — NB

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Bilirubin, direct	All	0 to 200	RMean	36% or 0.4 mg/dL for AVs < 1.12 mg/dL	µmol/L mg/dL
Bilirubin, total	All	0 to 500	RMean	18% or 0.3 mg/dL for AVs < 1.7 mg/dL	µmol/L mg/dL

Tumor Markers — TM

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Beta 2 Microglobulin	All	0 to 5	RMean	20% or 0.1 mg/L for AVs < 0.5 mg/dL	mg/L
CA 125	All	0 to 300	RMean	20% or 5 U/mL for AVs < 25 U/mL	U/mL
CA 15-3	All	0 to 200	RMean	20% or 2 U/mL for AVs < 10 U/mL	U/mL
CA 19-9	All	0 to 400	RMean	20% or 5 U/mL for AVs < 25 U/mL	U/mL
CA 27.29	All	0 to 1000	RMean	Robust SD	U/mL
CEA	All	0 to 50	RMean	15% or 0.7 ng/mL for AVs < 4.7 ng/mL	ng/mL
PSA, free	All	0 to 20	RMean	20% or 0.2 ng/mL for AVs < 1 ng/mL	ng/mL
PSA, total	All	0 to 50	RMean	20% or 0.2 ng/mL for AVs < 1 ng/mL	ng/mL
Thyroglobulin	All	0 to 100	RMean	Robust SD	ng/mL

Urine Chemistry UC

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Urine Albumin / Creatinine Ratio (ACR)	All	0 to 150	RMean	Robust SD	mg/mmol µg/mg
Urine Albumin/ Microalbumin	All	0 to 100	RMean	20%	mg/L mg/dL
Urine Amylase	All	0 to 400	RMean	15%	U/L
Urine Calcium	All	0 to 15	RMean	12%	mmol/L mg/dL
Urine Chloride	All	0 to 300	RMean	8%	mmol/L
Urine Creatinine	All	0 to 300	RMean	20%	mmol/L mg/dL
Urine Glucose	All	0 to 300	RMean	8% or 4 mg/dL for AVs < 50 mg/dL	mmol/L mg/dL
Urine Magnesium	All	0 to 20	RMean	12%	mmol/L mg/dL
Urine Osmolality	All	0 to 1000	RMean	4%	mOsm/kg
Urine Phosphate	All	0 to 150	RMean	13%	mmol/L mg/dL
Urine Potassium	All	0 to 150	RMean	8%	mmol/L
Urine Sodium	All	0 to 250	RMean	Robust SD	mmol/L
Urine Total Nitrogen	All	0 to 1200	RMean	Robust SD	mmol/L mg/dL
Urine Total Protein	All	0 to 150	RMean	Robust SD	g/L mg/dL
Urine Urate	All	0 to 20	RMean	Robust SD	mmol/L mg/dL
Urine Urea/Urea Nitrogen	All	0 to 700	RMean	Robust SD	mmol/L mg/dL

Hematology

Advanced Blood Cell ID (online only) — ABI

7 x annotated cells / objects on a virtual slide. Cells/objects chosen for identification on one virtual image of a Wright stained peripheral blood smear.
Educational challenge designed to offer case studies that are more challenging and complex.
Educational challenges are not evaluated; statistics will be provided for self-assessment.

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Blood cell identification	Microscopic identification	Identification	Qual Form	NA	NA

Basic Hematology — BHM

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Hemoglobin	All	0 to 200	RMean	7%	g/L g/dL
Hematocrit	All	0 to 60	RMean	7%	L/L %
MCH	All	0 to 40	RMean	6%	pg
MCHC	All	0 to 400	RMean	6%	g/L g/dL
MCV	All	0 to 100	RMean	Robust SD or 3 fL whichever is greater	fL
MPV	All	0 to 20	RMean	18%	fL
Platelets	All	0 to 700	RMean	25% or 27 10^9/L for AVs < 111 10^9/L	10^9/L
Plateletcrit	All	0 to 4	RMean	Robust SD	%
RBC	All	0 to 10	RMean	6%	10^{12}/L
RDW CV	All	0 to 30	RMean	Robust SD	%
RDW SD	All	0 to 60	RMean	20% or Robust SD whichever greater	Fl
WBC	All	0 to 30	RMean	15% or 0.9 109/L for AVs < 6 109/L	109/L

Blood Cell Identification and Differential (online only) BID

10 x annotated cells / objects on a virtual slide. Cells/objects chosen for identification on two virtual images of Wright stained peripheral blood smears designated as Patient 1 and Patient 2. Differential performed on Patient 2
Five challenges selected on Patient 1 are intended for performance assessment.
Five challenges selected and differential slide provided on Patient 2 are for educational challenge. Intended targets are color coded green; all other results are not assessed. Statistics will be provided for self assessment.

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Blood Cell Identification	Microscopic identification	Identification	Qual Form	NA	NA
Neutrophils, segmented or band	Manual count	0 to 80	RMean	Not assessed*	%
Neutrophils, band	Manual count	0 to 80	RMean	Not assessed*	%
Neutrophils, segmented	Manual count	0 to 80	RMean	Not assessed*	%
Lymphocytes	Manual count	0 to 70	RMean	Not assessed*	%
Monocytes	Manual count	0 to 40	RMean	Not assessed*	%
Basophils	Manual count	0 to 20	RMean	Not assessed*	%
Eosinophils	Manual count	0 to 20	RMean	Not assessed*	%
Lymphocytes, reactive	Manual count	0 to 20	RMean	Not assessed*	%
Immature Cells	Manual count	0 to 20	RMean	Not assessed*	%
NRBCs per 100 WBCs	Manual count	0 to 20	RMean	Not assessed*	%
Platelet Estimate	Manual count	Increased to Decreased	QualMode	Not assessed*	NA
Unclassified Cells	Manual count	0 to 20	RMean	Not assessed*	%

*Results are not assessed and statistics are provided for self-evaluation on educational challenges

Coagulation COA

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Antithrombin III Activity	All	0 to 110	RMean	Robust SD	% Activity
APTT	All	0 to 70	RMean	15%	seconds
Factor II Activity	All	0 to 120	RMean	Robust SD	% Activity
Factor IX Activity	All	0 to 130	RMean	Robust SD	% Activity
Factor V Activity	All	0 to 120	RMean	Robust SD	% Activity
Factor VII Activity	All	0 to 120	RMean	Robust SD	% Activity
Factor VIII Activity	All	0 to 130	RMean	Robust SD	% Activity
Factor X Activity	All	0 to 130	RMean	Robust SD	% Activity
Factor XI Activity	All	0 to 130	RMean	Robust SD	% Activity
Factor XII Activity	All	0 to 120	RMean	Robust SD	% Activity
Fibrinogen	All	0 to 800	RMean	20%	g/L mg/dL
INR	All	0 to 8	RMean	18% or 0.18 for AVs < 1	NA
Plasminogen Activity	All	0 to 130	RMean	Robust SD	% Activity
Protein C Activity	All	0 to 130	RMean	Robust SD	% Activity
Protein S Activity	All	0 to 110	RMean	Robust SD	% Activity
Prothrombin Time	All	0 to 60	RMean	15%	seconds
Thrombin Time	All	0 to 50	RMean	Robust SD	seconds

Microscopy Package (online only) MP

9 x virtual images for microscopy. Virtual images of patient slides, including two Urine Sediment slides.

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Fecal WBC	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA
Fern Test	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA
Nasal Smear	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA
Pinworm Preparation	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA
Sperm	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA
Urine Sediment	Microscopic identification	Identification	Qual Form	NA	NA
Vaginal Wet Preparation	Microscopic identification	Identification	Qual Form	NA	NA
Vaginal Wet Prep - KOH	Microscopic interpretation	Positive / Negative	Qual Form	NA	NA

Sedimentation Rate SR

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Sedimentation Rate	See above	0 to 120	RMean	Robust SD	mm/hr

Urinalysis and HCG UA

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Bilirubin	Dipstick	Negative to Large	Qual Mode	NA	NA
Bilirubin, confirmatory	Dipstick	Positive / Negative	Qual Form	NA	NA
Blood/Haemoglobin	Dipstick	Negative to Large	Qual Mode	NA	NA
Creatinine	Dipstick	Semi-quantitative	Qual Mode	NA	NA
Glucose	Dipstick	Semi-quantitative	Qual Mode	NA	NA
hCG	Qualitative	Positive / Negative	Qual Form	NA	NA
Ketones	Dipstick	Negative to Large	Qual Mode	NA	NA
Leukocyte Esterase	Dipstick	Negative to Large	Qual Mode	NA	NA
Nitrite	Dipstick	Positive / Negative	Qual Form	NA	NA
pH	Dipstick	Semi-quantitative	Qual Mode	NA	NA
Protein	Dipstick	Semi-quantitative	Qual Mode	NA	NA
Protein, confirmatory	Dipstick	Semi-quantitative	Qual Mode	NA	NA
Reducing Substance	Dipstick	Semi-quantitative	Qual Mode	NA	NA
Specific Gravity	All	1 to 1.1	RMean	Fixed - 0.01	NA
Urobilinogen	Dipstick	Semi-quantitative	Qual Mode	NA	NA

Immunology / Immunohematology

Blood Bank — BB

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
ABO Group	All	Group A, B, AB, O	Qual Form	NA	NA
ABO Subgroup	All	Group A1, Asub, A1B, AsubB	Qual Form	NA	NA
D (Rho) Type	All	Rh Positive / Weak D / Rh Negative	Qual Form	NA	NA
Antibody Screen	All	Detected / Not Detected	Qual Form	NA	NA
Antibody Identification	All	Identification	Qual Form	NA	NA
Antigen Typing	All	Typing	Qual Form	NA	NA
Compatibility Testing	All	Compatible / Incompatible	Qual Form	NA	NA
DAT	All	Positive / Negative	Qual Form	NA	NA

Hepatitis Serology — HEP

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Anti-HAV, total	All	Positive / Negative	Qual Form	NA	NA
Anti-HAV, IgG	All	Positive / Negative	Qual Form	NA	NA
Anti-HAV, IgM	All	Positive / Negative	Qual Form	NA	NA
Anti-HBc, total	All	Positive / Negative	Qual Form	NA	NA
Anti-HBc, IgM	All	Positive / Negative	Qual Form	NA	NA
Anti-HBs	Qualitative	Positive / Negative	Qual Form	NA	NA
Anti-HBs	Quantitative	0 to 2000	RMean	RobustSD	mIU/mL
Anti-HCV	All	Positive / Negative	Qual Form	NA	NA
HBsAg	All	Positive / Negative	Qual Form	NA	NA

HIV Serology — HIV

Analytes	Method	Reporting Range	Assigned Value	Allowable Variation	Units
Anti-HIV-1	Qualitative	Positive / Negative	Qual Form	NA	NA
Anti-HIV-2	Qualitative	Positive / Negative	Qual Form	NA	NA
Anti-HIV-1/2	Qualitative	Positive / Negative	Qual Form	NA	NA
HIV-1 p24 Antigen	Qualitative	Positive / Negative	Qual Form	NA	NA

Microbiology - Molecular Multiplex

Blood Pathogen Panel (multiplex) BCP

All analytes are intended for molecular multiplex testing. The AV and Qual Form will be Detected / Not Detected. SDPA and Units are not applicable to these results.
Analytes currently included in the panel are listed in the table below.

Gastrointestinal Panel (multiplex) GIP

All analytes are intended for molecular multiplex testing. The AV and Qual Form will be Detected / Not Detected. SSDPA and Units are not applicable to these results.
Analytes currently included in the panel are listed in the table below.

Meningitis Panel (multiplex) MEP

All analytes are intended for molecular multiplex testing. The AV and Qual Form will be Detected / Not Detected. SDPA and Units are not applicable to these results.
Analytes currently included in the panel are listed in the table below.

Pneumonia Panel (multiplex) PNE

All analytes are intended for molecular multiplex testing. The AV and Qual Form will be Detected / Not Detected. SDPA and Units are not applicable to these results.
Analytes currently included in the panel are listed in the table below.

Respiratory Panel (multiplex) RSP

All analytes are intended for molecular multiplex testing. The AV and Qual Form will be Detected / Not Detected. SDPA and Units are not applicable to these results.
Analytes currently included in the panel are listed in the table below.

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Ship test materials / email instructions to participants.

Testing

Participants analyze test materials. Program reporting software - PORTAL allows participants to change the configuration of methods and instruments.

Results Submission

Report results through PORTAL within the specified deadline. Program reporting software – PORTAL allows both multiple instrument and analyst reporting, providing labs with the ability to monitor performance of various systems and personnel.

After Reporting Deadline

Results analyzed and the performance of laboratories compared using internationally accepted scoring.

Results Submission

Reports issued and participants notified once reports are available on PORTAL. Participants can download a Certificate of Participation.

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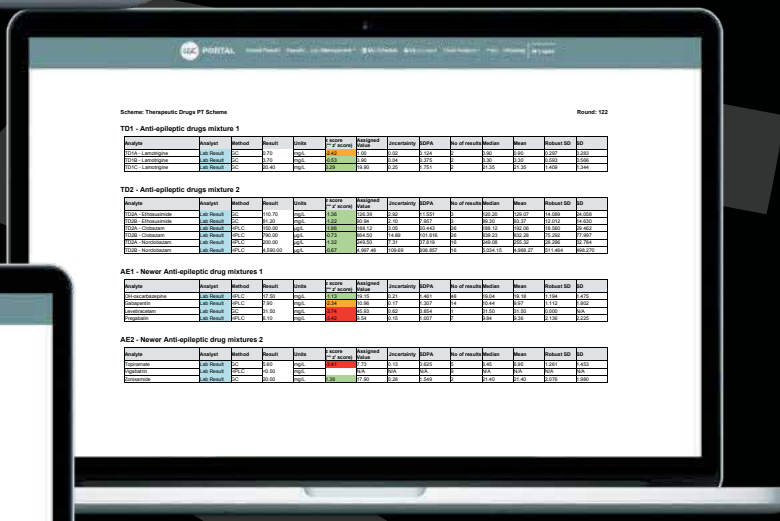
Z-Score Trending by Round and Concentration

Sample Performance and Histogram

Overall Performance Summary



Box and Whisker Plots Summary by Method

2024 Shipping Dates

Clinical Chemisrty		Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
ALM	Alcohol / Ammonia	5	-	-	-	10	-	-	16	-	-	-	-
BLG	Blood Gas	5	-	-	-	31	-	-	-	-	-	-	-
CM	Cardiac Markers	5	-	-	-	10	-	-	16	-	-	-	-
CH	Chemistry / TDM	5	2	1, 22	12	31	-	5, 26	16	-	4, 25	15	-
GLH	Glycosylated Hemoglobin	5	-	-	-	31	-	-	-	-	-	-	-
HCG	Serum hCG	5	2	1, 22	12	31	-	5, 26	16	-	4, 25	15	-
IA	Immunoassay	5	2	1, 22	12	31	-	5, 26	16	-	4, 25	15	-
IAS	Immunoassay - Special	5	-	-	-	10	-	-	16	-	-	-	-
NB	Neonatal Bilirubin	5	-	-	-	10	-	-	16	-	-	-	-
TM	Tumor Markers	5	2	1, 22	12	31	-	5, 26	16	-	4, 25	15	-
UC	Urine Chemistry	5	-	-	-	10	-	-	-	-	4	-	-
Hematology		**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
ABI	Advanced Blood Cell ID	-	-	-	*N/S	-	-	-	*N/S	-	-	-	*N/S
BID	Blood Cell ID and Differential	-	-	-	*N/S	-	-	-	*N/S	-	-	-	*N/S
BHM	Basic Hematology	5	-	22	-	-	-	5	-	-	4	-	-
COA	Coagulation	5	-	-	-	31	-	-	-	-	-	-	-
MP	Microscopy Package	-	-	-	*N/S	-	-	-	*N/S	-	-	-	*N/S
SR	Sedimentation Rate	5	-	22	-	-	-	5	-	-	4	-	-
TRC	Trichomonas	-	-	-	*N/S	-	-	-	*N/S	-	-	-	*N/S
UA	Urinalysis and HCG	-	-	1	-	-	-	26	-	-	25	-	-
Immunology		**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
BB	Blood Bank	-	-	22	-	-	-	26	-	-	-	15	-
HEP	Hepatitis Serology	5	-	-	-	31	-	-	-	-	-	-	-
HIV	HIV Serology	5	-	-	-	31	-	-	-	-	-	-	-
Microbiology		**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
BCP	Blood Culture Panel	-	2	-	-	31	-	-	-	13	-	-	-
GIP	Gastrointestinal Panel	-	2	-	-	31	-	-	-	13	-	-	-
MEP	Meningitis Panel	-	2	-	-	31	-	-	-	13	-	-	-
PNE	Pneumonia Panel	-	2	-	-	31	-	-	-	13	-	-	-
RSP	Respiratory Panel	-	2	-	-	31	-	-	-	13	-	-	-

*N/S – No shipment, Virtual (online) program only

2024 Certus Round Open and Close Dates

Chemistry

Shipment Frequency - 12 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan	2 Feb	1 Mar	22 Mar	12 Apr	31 May	5 Jul	26 Jul	16 Aug	4 Oct	25 Oct	15 Nov
Chemistry/TDM	CH	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
Immunoassay	IA	Round Start Dates	22 Jan	19 Feb	18 Mar	8 Apr	29 Apr	17 Jun	22 Jul	12 Aug	2 Sep	21 Oct	11 Nov	2 Dec
Serum hCG	HCG	Round Closure Dates	29 Jan	26 Feb	25 Mar	15 Apr	6 May	24 Jun	29 Jul	19 Aug	9 Sep	28 Oct	18 Nov	9 Dec
Tumor Markers	TM													

Shipment Frequency - 3 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan				10 May				16 Aug			
Alcohol / Ammonia	ALM	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
Cardiac Markers	CM	Round Start Dates	29 Jan	26 Feb	25 Mar	29 Apr	3 Jun	24 Jun	29 Jul	26 Aug	30 Sep	28 Oct	25 Nov	6 Jan
Immunoassay Special	IAS	Round Closure Dates	5 Feb	4 Mar	1 Apr	6 May	10 Jun	1 Jul	5 Aug	2 Sep	7 Oct	4 Nov	2 Dec	13 Jan
Neonatal Bilirubin	NB													

Program name	Sample Prefix	Round Information	5Jan				10-May				4 Oct			
Urine Chemistry	UC	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
		Round Start Dates	29 Jan	26 Feb	25 Mar	29 Apr	3 Jun	24 Jun	29 Jul	26 Aug	30 Sep	28 Oct	25 Nov	2 Jan
		Round Closure Dates	5 Feb	4 Mar	1 Apr	6 May	10 Jun	1 Jul	5 Aug	2 Sep	7 Oct	4 Nov	2 Dec	9 Jan

Shipment Frequency - 2 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan						31 May					
Blood Gas	BLG	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
		Round Start Dates	22 Jan	12 Feb	4 Mar	1 Apr	6 May	3 Jun	1 Jul	5 Aug	2 Sep	30 Sep	28 Oct	25 Nov
Glycosylated Hemoglobin	GLH	Round Closure Dates	29 Jan	19 Feb	11 Mar	8 Apr	13 May	10 Jun	8 Jul	12 Aug	9 Sep	7 Oct	4 Nov	2 Dec

Hematology

Shipment Frequency - 4 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan			22 Mar			5 Jul			4 Oct		
Basic Hematology	BHM	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
		Round Start Dates	22 Jan	12 Feb	11 Mar	15 Apr	13 May	10 Jun	22 Jul	19 Aug	16 Sep	21 Oct	18 Nov	9 Dec
Sedimentation Rate	SR	Round Closure Dates	29 Jan	19 Feb	18 Mar	22 Apr	20 May	17 Jun	29 Jul	26 Aug	23 Sep	28 Oct	25 Nov	16 Dec

Shipment Frequency - 3 times per year			Shipment Dates		
Program name	Sample Prefix	Round Information	No Shipment, Virtual (online)		
Advanced Blood Cell ID	ABI	Round Number	001	005	009
Blood Cell ID & Differential	BID	Round Start Dates	1 Apr	5 Aug	25 Nov
Microscopic Package	MP	Round Closure Dates	15 Apr	19 Aug	9 Dec
Trichomonas Virtual	TRC				

Program name	Sample Prefix	Round Information	1 Mar	26 Jul	25 Oct
Urinalysis & HCG	UA	Round Number	001	005	009
		Round Start Dates	8 Apr	12 Aug	2 Dec
		Round Closure Dates	15 Apr	19 Aug	9 Dec

Shipment Frequency - 2 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan						31 May					
Coagulation	COA	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
		Round Start Dates	22 Jan	12 Feb	4 Mar	1 Apr	6 May	3 Jun	1 Jul	5 Aug	2 Sep	30 Sep	28 Oct	25 Nov
		Round Closure Dates	29 Jan	19 Feb	11 Mar	8 Apr	13 May	10 Jun	8 Jul	12 Aug	9 Sep	7 Oct	4 Nov	2 Dec

Immunology / Immunohematology

Shipment Frequency - 3 times per year			Shipment Dates		
Program name	Sample Prefix	Round Information	22 Mar	26 Jul	15 Nov
Blood Bank	BB	Round Number	001	002	003
		Round Start Dates	15 Apr	19 Aug	9 Dec
		Round Closure Dates	22 Apr	26 Aug	16 Dec

Shipment Frequency - 2 times per year			Shipment Dates											
Program name	Sample Prefix	Round Information	5 Jan						31 May					
Hepatitis Serology	HEP	Round Number	001	002	003	004	005	006	007	008	009	010	011	012
		Round Start Dates	22 Jan	12 Feb	4 Mar	1 Apr	6 May	3 Jun	1 Jul	5 Aug	2 Sep	30 Sep	28 Oct	25 Nov
HIV Serology	HIV	Round Closure Dates	29 Jan	19 Feb	11 Mar	8 Apr	13 May	10 Jun	8 Jul	12 Aug	9 Sep	7 Oct	4 Nov	2 Dec

Microbiology - Molecular Multiplex

Shipment Frequency - 3 times per year			Shipment Dates		
Program name	Sample Prefix	Round Information	2 Feb	31 May	13 Sept
Blood Culture Panel	BCP	Round Number	001	002	003
Gastrointestinal Panel	GIP	Round Start Dates	26 Feb	24 Jun	07 Oct
Meiningitis Panel	MEP				
Pneumonia Panel	PNE	Round Closure Dates	04 Mar	01 Jul	14 Oct
Respiratory Panel	RSP				

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