



Ro'ya

مختبرات طبية متخصصة

Specialized Medical Laboratories

Special Infectious Agents Unit

Laboratory Test Directory

2018



Affiliated Laboratory:





Specialized Medical Laboratories

Introduction

Ro'ya Specialized Medical Laboratories is an initiative supported by the Kingdom of Saudi Arabia's Vision 2030; that led to the establishment of a group of highly specialized medical laboratories operating within the organization of King Abdulaziz University, Jeddah. The main aim of this initiative is to deliver state of the art services implying cutting edge technologies to all sectors in an efficient manner in order to achieve self-sustainability, one of the primary objectives of Saudi Arabia's vision 2030. Some of these services include advance genome technologies such as multiplex PCR, RT-PCR, whole exome sequencing, comparative genomic hybridization, genotyping, QPCR, MALDI-TOF and much more. Ro'ya also invests in indigenous human resource development of highest caliber that is utilized to establish extraordinary specialized laboratory services. Comprehensive range of medical lab services offered by Ro'ya can be found on our website.

Vision

Achieve par excellence and become renowned for our quality and variety of diagnostic services in the Kingdom of Saudi Arabia.

Mission

To help the Saudi society and beyond by providing high quality and internationally accredited diagnostic laboratory services to support the health care sector.

Objectives

- Work towards accomplishing the vision of the kingdom of Saudi Arabia 2030 by utilizing full physical and human potentials available.
- Adopt best medical laboratory practices according to optimum internationally known standards and criteria.
- Provide specialized medical laboratory services at competitive price for both Saudis and residents alike and report within shortest turnaround time.
- Market medical laboratory services and capabilities available to both private and public sectors.
- Achieve self-sustainable income for the university.
- Professionally operate all specialized medical laboratories at their full potential with precise monitoring to guarantee smooth functioning.

Request Form

It is recommended that a completed request form be filled out for each patient specimen. Requests without the minimum information listed below may be delayed or cancelled.

- Name of Client (Hospital)
- Name of patient
- Date of birth of patient
- Sex of patient
- Procedure name, Procedure ID of requested test
- Specimen type
- Date specimen was collected

Indicate specimen source, if applicable.

Indicate volume, if applicable.

Label the specimen with the patient name.

Follow the specific requirements outlined in the catalog for the test requested.

To obtain the request forms, call, fax or email our Special Infectious Agents Unit to arrange for it. Provide the following information for a prompt response:

- Contact person
- Name of Client (Hospital)
- Updated and complete address
- Updated Phone, Fax, and/or Email

Results Reports

Faxed/E. mail reports will be made available upon testing completion.

A permanent file copy will be forwarded by mail.

Reports are provided with patient information, client name, procedure name, and result.

Hours of Operation

Saturday - Thursday.

After hours operation, please contact us at: +966 53 8811153

Guidelines & Policies

Proficiency:

- 1- College of American Pathologists (CAP)
- 2- Quality Control for Molecular Diagnostics (QCMD)

Disclaimer:

The printed version of Special Infectious Agents Unit handbook user contains information that is current as of February, 2018. All information contained herein is subject to change.

Cancellation of Tests:

Requests for cancellation must be via fax or email, and will be honored at no charge if received prior to test setup. Cancellation requests faxed or emailed after test setup cannot be honored. A report will be issued automatically and charged appropriately.

Additional Tests:

Requests for additional orders on specimens received by Special Infectious Agents Unit must be confirmed via fax or email. Call to check on sample requirements and availability to avoid any rejections.

Test Turnaround Time:

This handbook user lists the days on which the test is setup as a guide to expected turnaround time. Repeated tests will take additional time.

Unlisted Tests:

New procedures are developed throughout the year; therefore, some tests are not listed in this Handbook user. For information about unlisted test, contact Special Infectious Agents Unit for inquiry.

Unacceptable Specimens:

Some specimens cannot be analyzed because of improper collection or degradation in transit. Other specimens may have prolonged turnaround times because of lack of necessary ancillary specimens or patient information.

You will be notified of rejected or problem specimens upon receipt. To avoid specimen rejection, please use the following checklist.

- Lack of hemolysis
- Patient information requested
- Patient/specimen properly identified
- Specimen container (metal-free, separation gel, sterile, etc.)
- Temperature (ambient, frozen, refrigerated)
- Transport medium

Specimen Collection & Preparation

Collection Requirements:

Laboratory test results are dependent on the quality of the specimen submitted. It is important that all specimens and request slips be properly labeled with the name of the patients, collection date, and the origin (source) of the specimen, when applicable.

If there is any doubt or question regarding the type of specimen that should be collected, Please call the Special Infectious Agents Unit to clarify the order and sample requirements.

Blood Collection:

Most laboratory tests are performed on anti-coagulated whole blood, plasma or serum. In general, specimens should be refrigerated until placed in the courier box for transport to the laboratory

Plasma:

Draw a sufficient amount of blood with the indicated anticoagulant to yield the necessary plasma volume. Gently mix the blood collection tube by inverting six to ten times immediately after collection. If required, separate plasma from cells by centrifugation within 20-30 minutes.

Serum:

Draw a sufficient amount of blood to yield the necessary serum volume. Allow blood to clot at room temperature, and then separate serum from clot by centrifugation with 20-30 minutes.

Caution:

Avoid hemolysis

Contact

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Laboratory Tests



Actinomyces – Anaerobic ID & AST

SIAU-01018-001

Synonym(s)	Anaerobe ID, Bacterial Identification, Anaerobe
Specimen Source	Human, Animal, and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Store anaerobically
Transport Medium	Pure culture isolate in Chopped Meat Glucose broth, thioglycolate broth or frozen in TSB plus glycerol
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Specimen stored at room temperature
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	None

Actinomycetes-Aerobic - ID
SIAU-01018-002

Synonym(s)	Nocardia, Streptomyces
Specimen Source	Human Animal, and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen refrigerated if unable to ship immediately.
Transport Medium	Suitable agar slant medium
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	None

Actinomycetes - Aerobic – ID and AST

SIAU-01018-003

Synonym(s)	Actinos
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics Pure
Specimen Type for Testing	fresh culture isolate on a suitable agar slant medium
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen refrigerated if unable to ship immediately.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday overnight to avoid weekend deliveries.
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	<p>If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.</p> <p>Not Applicable</p>

Adenovirus Molecular Detection SIAU-01018-004

Synonym(s)	Adenovirus
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Upper or lower respiratory tract specimens, eye swabs, pure culture isolate
Specimen Volume	2 - 3 mL viral transport medium
Specimen Storage & Preservation Prior Shipping	<p>Refrigerate all specimens promptly after collection. If specimens can be shipped to SIAU within 48 hours of collection, they should be kept refrigerated at 4°C and shipped on gel ice-packs. Freezing should be avoided if possible, as this will reduce virus infectivity. Specimens for virus culture should not be frozen at -20°C.</p> <p>If specimens must be held for >48 hours, they should be promptly frozen at -70°C and shipped on dry ice. Liquid specimens should be aliquoted into properly labeled, leak-proof, unbreakable screw cap vials. Samples should be collected and processed in a manner that prevents cross-contamination between specimens, including changing gloves between specimens.</p>
Transport Medium	Swabs may be shipped in commercial viral transport media
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	<p>Ship specimen Saturday - Thursday (avoid weekend deliveries).</p> <p>Frozen specimen should be shipped on dry ice</p> <p>Refrigerated specimen should be shipped on cold packs</p>
Methodology	Polymerase Chain Reaction
TAT	2 days
Assay Limitations	Use only sterile Dacron or rayon swabs with plastic shafts or if available, flocked swabs. Do NOT use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit some molecular assays.
Additional Information	None

Alkhumra Molecular Detection SIAU-01018-005

Synonym(s)	Alkhumra Hemorrhagic Fever Virus (AHFV)
Specimen Source	Human
Specimen Type for Testing	EDTA plasma and serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in cryovials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries), specimen should be shipped frozen on dry ice. See supplemental submission forms for further details. Do not ship specimen without prior consultation and approval.
Methodology	Real-Time Polymerase Chain Reaction (RT-PCR)
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Alkhumra Serology SIAU-01018-006

Synonym(s)	Alkhumra Hemorrhagic Fever Virus (AHFV)
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 – 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be kept cold (at or below 4°C). If possible place specimen in plastic screw capped vials. See link to supplemental submission form for specific information on various specimen types.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries), specimen should be shipped on cold packs or dry ice if frozen.
Methodology	ELISA or Microneutralization assay
TAT	5 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity
Additional Information	None

Alkhumra Virus Isolation

SIAU-01018-007

Synonym(s)	Alkhumra Hemorrhagic Fever Virus (AHFV)
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	Virus Isolation by Cell culture
TAT	7 Days
Assay Limitations	None
Additional Information	None

Anaerobic Bacteria Identification SIAU-01018-008

Synonym(s)	Anaerobe Id, Bacterial Identification, Anaerobe
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Store anaerobically
Transport Medium	Pure culture isolate in Chopped Meat Glucose broth, thioglycolate broth or frozen in TSB plus glycerol
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Specimen stored at room temperature should be shipped at room temperature
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	None

Antimicrobial Susceptibility Testing - Bacterial

SIAU-01018-009

Synonym(s)	AST
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on suitable agar medium
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Keep refrigerated if isolate cannot be shipped immediately. For fastidious organism (e.g. <i>Neisseria meningitidis</i>), store at room temperature.
Transport Medium	Pure culture isolate on suitable agar medium or frozen in TSB plus glycerol
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	<p>Ship specimen Saturday - Thursday (avoid weekend deliveries).</p> <p>Refrigerated specimen should be shipped on ice packs</p> <p>Specimen stored at room temperature should be shipped at room temperature</p>
Methodology	VITEK 2
TAT	3 Days
Assay Limitations	None
Additional Information	None

Bacterial Gastroenteritis Panel SIAU-01018-010

Synonym(s)	Campylobacter, Salmonella, Yersinia enterocolitica, Clostridium difficile entero-hemorrhagic E. coli vtx+Shigella/ enteroinvasive Escherichia
Specimen Source	Human
Specimen Type for Testing	Stool sample
Specimen Volume	5 - 10 g
Specimen Storage & Preservation Prior Shipping	Refrigerate tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Bacterial ID from Clinical Specimen SIAU-01018-011

Synonym(s)	None
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Primary Specimens with prior approval
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Keep refrigerated if unable to ship immediately.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	Primary culture based on specimen type, MALDI-TOF and 16S rRNA gene sequencing
TAT	3 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.

Additional Information

If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.

Some isolates require additional time to accurately characterize the organism which may result in a longer TAT, please contact the laboratory if concerned about a delay.

Bacterial Meningitis Panel SIAU-01018-012

Synonym(s)	Neisseria meningitides, Streptococcus pneumoniae, Haemophilus influenza
Specimen Source	Human
Specimen Type for Testing	CSF and EDTA plasma
Specimen Volume	2 - 3 mL CSF, 10 mL EDTA or citrate blood
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them. If specimens will be examined within 48 hours after collection, they can be refrigerated. If specimens must be held longer than 48 hours, freeze them as soon as possible after collection. Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs. Frozen specimen should be shipped on dry ice.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Brucella species Molecular Detection SIAU-01018-013

Synonym(s)	Brucella
Specimen Source	Human and animal
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Blood specimens should be transported in EDTA or Sodium Citrate tubes at 4°C
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Specimens should be shipped at 4°C.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Chikungunya Molecular Detection

SIAU-01018-014

Synonym(s)	Chikungunya
Specimen Source	Human
Specimen Type for Testing	Serum, cerebrospinal fluid (CSF)
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in cryovials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR)
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Chikungunya Serology - IgG

SIAU-01018-015

Synonym(s)	Chikungunya
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be kept at 4°C or colder
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	5 Days
Assay Limitations	None
Additional Information	None

Chikungunya Virus Serology SIAU-01018-016

Synonym(s)	Chikungunya Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be kept cold (at or below 4°C). If possible place specimen in plastic screw capped vials.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs or dry ice if frozen. See supplemental submission forms for further details.
Methodology	ELISA
TAT	3 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Chlamydia pneumoniae Molecular Detection

SIAU-01018-017

Synonym(s)	Chlamydia pneumoniae, Atypical pneumonia, CAP, Chlamydia
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal (NP) and/or Oropharyngeal (OP) swabs, and any lower respiratory tract specimen including bronchoalveolar lavage (BAL) and sputum cerebral spinal fluid.
Specimen Volume	Contingent upon specimen type. Please call for consultation
Specimen Storage & Preservation Prior Shipping	Specimens can be kept refrigerated if shipped in less than 72 hours of collection otherwise specimen should be kept frozen. Store swabs in universal transport medium.
Transport Medium	Universal transport medium
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be sent on ice packs. Frozen specimen should be sent on dry ice.
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Do not use cotton swabs with wooden shafts. Specimen should be acquired prior to antibiotic treatment. Improper specimen storage and handling may result in inconclusive or inaccurate results
Additional Information	All specimens are tested as a part of a multiplex qPCR detecting M.pneumoniae, C. pneumoniae, and Legionella species.

Chlamydia trachomatis - Molecular Detection

SIAU-01018-018

Synonym(s)	Chlamydia trachomatis (CT)
Specimen Source	Human
Specimen Type for Testing	Oral pharynx swabs, cervical swabs, vaginal swabs, and rectal swabs collected on any commercially available product, and urine
Specimen Volume	5 mL (urine)
Specimen Storage & Preservation Prior Shipping	Adhere to product insert instructions for swabs
Transport Medium	Adhere to product insert instructions for swabs
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Specimen should be shipped on dry ice if previously frozen, as an etiologic agent
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Adhere to product insert instructions for swabs
Additional Information	None

Crimean-Congo Hemorrhagic Fever Detection
SIAU-01018-019

Synonym(s)	CCHF
Specimen Source	Human
Specimen Type for Testing	EDTA plasma and Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment. See link to supplemental submission form for specific information on various specimen types.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice. See supplemental submission forms for further details.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen; warming or freeze thawing reduces sensitivity. Heparin may cause interference with the molecular tests and should be avoided.
Additional Information	None

Crimean Congo Hemorrhagic Fever Serology
SIAU-01018-020

Synonym(s)	CCHF
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be kept cold (at or below 4°C). If possible place specimen in plastic screw capped vials.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs or dry ice if frozen. See supplemental submission forms for further details.
Methodology	IIFT
TAT	3 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Cytomegalovirus Molecular Detection

SIAU-01018-021

Synonym(s)	CMV
Specimen Source	Human
Specimen Type for Testing	EDTA Plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA or citrate tubes.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs.
Methodology	Polymerase Chain Reaction
TAT	2 days
Assay Limitations	None
Additional Information	None

Cytomegalovirus Quantification
SIAU-01018-022

Synonym(s)	CMV
Specimen Source	Human
Specimen Type for Testing	EDTA Plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA or citrate tubes.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs.
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 days
Assay Limitations	None
Additional Information	None

Cytomegalovirus Serology - IgG

SIAU-01018-023

Synonym(s)	CMV IgG antibody
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs.
Methodology	ELISA
TAT	3 days
Assay Limitations	None
Additional Information	None

Cytomegalovirus Serology - IgM

SIAU-01018-024

Synonym(s)	CMV IgM antibody
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs.
Methodology	ELISA
TAT	3 days
Assay Limitations	None
Additional Information	None

Dengue Virus IgG
SIAU-01018-025

Synonym(s)	Dengue fever, Dengue
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	ELISA
TAT	3 Days
Assay Limitations	None
Additional Information	None

Dengue Virus IgM

SIAU-01018-026

Synonym(s)	Dengue fever, Dengue
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	ELISA
TAT	3 Days
Assay Limitations	None
Additional Information	None

Dengue Virus Isolation

SIAU-01018-027

Synonym(s)	Dengue virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	Virus Isolation by Cell culture
TAT	7 Days
Assay Limitations	None
Additional Information	None

Dengue Virus Molecular Detection

SIAU-01018-028

Synonym(s)	Dengue fever, Dengue
Specimen Source	Human
Specimen Type for Testing	EDTA Plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Dengue Virus Molecular Typing

SIAU-01018-029

Synonym(s)	Dengue virus 1, Dengue virus 2, Dengue virus 3, Dengue virus 4
Specimen Source	Human
Specimen Type for Testing	EDTA Plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	Multiplex Real Time RT-PCR
TAT	2 Days
Assay Limitations	None
Additional Information	None

Dengue Virus NS1 Antigen
SIAU-01018-030

Synonym(s)	Dengue fever, Dengue
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	We recommend freezing the serum immediately after it is separated and to send on dry ice. If dry ice is not available, we recommend that the serum is kept refrigerated and delivered in cold packs.
Transport Medium	Not Applicable
Specimen Labeling	Include complete name, age, and sex of patient, home address, date of onset of symptoms, date sample was obtained, complete name and mailing address of the physician, laboratory, clinic, or hospital
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on ice packs.
Methodology	NS1 Antigen Test
TAT	3 Days
Assay Limitations	None
Additional Information	None

Ebola Molecular Detection

SIAU-01018-031

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	EDTA blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must kept refrigerated until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	<p>Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice.</p> <p>Do not ship specimen without prior consultation and approval.</p>
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	<p>Specimen must remain refrigerated , warming or freeze thawing reduces sensitivity.</p> <p>Heparin specimens cause interference with the molecular tests and should be avoided.</p>
Additional Information	None

Entamoeba histolytica/dispar Molecular Detection

SIAU-01018-032

Synonym(s)	Amebiasis, Entameba histolytica, Entameba dispar, parasite
Specimen Source	Human
Specimen Type for Testing	Stool
Specimen Volume	0.5 g or 2 mL
Specimen Storage & Preservation Prior Shipping	Specimens collected in the absence of preservatives must be kept refrigerated (4°C) or frozen.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Ship fixed/preserved specimens at room temperature. Ship unpreserved specimens on wet ice (cold pack) if stored refrigerated or frozen (on dry ice) if stored frozen.
Methodology	Real-Time Polymerase Chain Reaction
TAT	4 Days
Assay Limitations	Specimens fixed in formalin-containing preservatives or LV-PVA are not suitable for molecular studies.
Additional Information	None

Enteric Fever Panel

SIAU-01018-033

Synonym(s)	Salmonella spp, Salmonella enterica serovar Typhi, Salmonella enterica serovar Paratyphi A
Specimen Source	Human and animal
Specimen Type for Testing	EDTA Blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Epstein Barr Virus Molecular Detection
SIAU-01018-035

Synonym(s)	EBV
Specimen Source	Human
Specimen Type for Testing	cerebrospinal fluid (CSF) or EDTA Plasma
Specimen Volume	2 - 5 µL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA tubes.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Fungal Identification (18S - rRNA)

SIAU-01018-036

Synonym(s)	Fungal identification, mold identification, yeast identification
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure culture isolate
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Isolates can be refrigerated or kept at an ambient temperature
Transport Medium	Isolates should be on a suitable agar slant
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Specimen should be shipped at ambient temperature
Methodology	MALDI-TOF and 18S rRNA gene sequencing
TAT	4 Days
Assay Limitations	None
Additional Information	None

Gram Negative Bacilli Identification (Non-enteric/Non-fermenter) SIAU-01018-037

Synonym(s)	Gram Negative Rod
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium.
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen refrigerated if unable to ship immediately
Transport Medium	Not applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries).
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.

Gram Negative Cocci Identification (Not GC or meningococcus) SIAU-01018-038

Synonym(s)	Neisseria Identification
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen refrigerated if unable to ship immediately
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries).
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF would be process by 16S sequencing, required additional 3 days.
Additional Information	If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.

Gram Positive Bacilli Identification

SIAU-01018-039

Synonym(s)	Gram Positive Rod Identification, GPB, GPR
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen refrigerated if unable to ship immediately
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday, overnight to avoid weekend deliveries
Methodology	MALDI-TOF and 16S rRNA gene sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.

Hepatitis A IgG
SIAU-01018-040

Synonym(s)	HAV, Hepatitis A virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	3 Days
Assay Limitations	Hemolyzed specimen are not accepted
Additional Information	None

Hepatitis A IgM

SIAU-01018-041

Synonym(s)	HAV, Hepatitis A virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	3 Days
Assay Limitations	Hemolyzed specimen are not accepted
Additional Information	None

Hepatitis A Molecular Detection SIAU-01018-042

Synonym(s)	HAV, Hepatitis A virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma, stool
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis B Anti-HBe
SIAU-01018-043

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Hepatitis B Anti-HBs

SIAU-01018-044

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Hepatitis B cIgM

SIAU-01018-045

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Hepatitis B eAg
SIAU-01018-046

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Hepatitis B Genotyping

SIAU-01018-047

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Genotyping by S Gene Sequencing
TAT	1 Week
Assay Limitations	Hemolyzed specimen are not accepted
Additional Information	None

Hepatitis B Molecular Detection

SIAU-01018-048

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 days
Assay Limitations	Hemolyzed specimen are not accepted
Additional Information	None

Hepatitis B Surface Antigen Test
SIAU-01018-049

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen at -20°C
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on cold packs
Methodology	ELISA
TAT	2 Days
Assay Limitations	Do not send whole blood or hemolyzed serum
Additional Information	None

Hepatitis B Total Anti-HBc
SIAU-01018-050

Synonym(s)	Hepatitis B Total Anti-HBc
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Hepatitis B Viral Load

SIAU-01018-051

Synonym(s)	HBV, Hepatitis B Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Quantitative Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis C Genotyping

SIAU-01018-052

Synonym(s)	HCV, Hepatitis C Virus
Pre-Approval Needed	None
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	HCV Genotyping by 5'-UTR DNA Sequencing
TAT	1 week
Assay Limitations	None
Additional Information	None

Hepatitis C Molecular Detection SIAU-01018-053

Synonym(s)	HCV, Hepatitis C Virus
Pre-Approval Needed	None
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Hemolyzed specimen are not accepted
Additional Information	None

Hepatitis C Serology

SIAU-01018-054

Synonym(s)	HCV, Hepatitis C Virus
Pre-Approval Needed	None
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Anti-HCV by ELISA
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis C Viral Load

SIAU-01018-055

Synonym(s)	HCV, Hepatitis C Virus
Pre-Approval Needed	None
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Quantitative Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis D Genotyping

SIAU-01018-056

Synonym(s)	HDV, Hepatitis D Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	2 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	HDV Genotyping by DNA sequencing
TAT	1 week
Assay Limitations	None
Additional Information	None

Hepatitis D Molecular Detection
SIAU-01018-057

Synonym(s)	HDV, Hepatitis D Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma.
Specimen Volume	2 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis E Genotyping

SIAU-01018-058

Synonym(s)	HEV, Hepatitis E Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma, and stool.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	HEV Genotyping by DNA sequencing
TAT	1 week
Assay Limitations	None
Additional Information	None

Hepatitis E Molecular Detection
SIAU-01018-059

Synonym(s)	HEV, Hepatitis E Virus
Specimen Source	Human
Specimen Type for Testing	Serum, EDTA plasma, and stool.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Hepatitis E Serology - IgG

SIAU-01018-060

Synonym(s)	HEV, Hepatitis E Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	IgG anti-HEV by ELISA
TAT	1 week
Assay Limitations	None
Additional Information	None

Hepatitis E Serology - IgM

SIAU-01018-061

Synonym(s)	HEV, Hepatitis E Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimens should be stored frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	IgM anti-HEV by ELISA
TAT	1 week
Assay Limitations	None
Additional Information	None

Herpes Simplex Virus 1/2 Molecular Detection

SIAU-01018-062

Synonym(s)	Oral herpes, Genital herpes
Specimen Source	Human
Specimen Type for Testing	Cerebrospinal fluid (CSF), saliva, Plasma, vaginal/throat/eye/skin swab
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Samples can be kept either refrigerated or frozen.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday , on cold packs or dry ice. Skin lesions should be shipped dry.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

H. Influenzae Molecular Detection

SIAU-01018-064

Synonym(s)	H. Influenzae
Specimen Source	Human
Specimen Type for Testing	Pure culture isolate, frozen stock, primary specimen such as CSF, whole blood and serum.
Specimen Volume	2 - 5 mL (CSF, whole blood)
Specimen Storage & Preservation Prior Shipping	Primary specimens or stocks should be kept frozen. After overnight incubation at 37°C with 5% CO ₂ , store slants at an ambient temperature
Transport Medium	Preferred medium include chocolate agar slants or frozen stocks. If possible, for the shipment of 10 or more specimens, please ship frozen stocks.
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday overnight to avoid weekend deliveries. Frozen specimens should be shipped on dry ice. Please include shipping spreadsheet in shipment and if possible, email spreadsheet prior to shipment.
Methodology	Real- time Polymerase Chain Reaction
TAT	3 Days
Assay Limitations	Improperly temperature controlled specimens/isolates can give false negative results.
Additional Information	None

HIV-1 Drug Resistance (Integrase) SIAU-01018-065

Synonym(s)	HIV drug resistance (DR), HIV susceptibility to antiretroviral drugs
Specimen Source	Human
Specimen Type for Testing	EDTA plasma
Specimen Volume	2-4 mL
Specimen Storage & Preservation Prior Shipping	Freeze plasma and DBS samples as soon as possible at -20 to -80°C Avoid freeze/thaw cycles as much as possible.
Transport Medium	Not Applicable
Specimen Labeling	All primary specimen containers must include two unique identifiers at the time of collection. The identifiers must be clearly labeled on each specimen and correspond to information on the requisition form. Surveillance studies and some study protocols require de-linked patient information, which should not accompany samples, or provided to SIAU.
Shipping Requirements	Transport plasma specimens in frozen conditions using dry ice.
Methodology	Identification of mutations within HIV-1 pol gene region by RNA extraction, Polymerase Chain Reaction amplification, DNA sequencing, and drug resistance analysis
TAT	2 Weeks
Assay Limitations	Do not use heparin as an anticoagulant. Plasma should not be used after more than two freeze-thaw cycles. Plasma sample will be rejected if improperly labeled or unlabeled, with discrepant documentation, insufficient volume, without documentation, and evidence of leakage or contamination.
Additional Information	None

HIV-1 Genotype Drug Resistance (Protease & Reverse Transcriptase) SIAU-01018-066

Synonym(s)	HIV drug resistance (DR), HIV susceptibility to antiretroviral drugs
Specimen Source	Human
Specimen Type for Testing	EDTA plasma
Specimen Volume	5-10 mL of plasma
Specimen Storage & Preservation Prior Shipping	Freeze plasma and DBS samples as soon as possible at -20 to -80°C Avoid freeze/thaw cycles as much as possible.
Transport Medium	Not Applicable
Specimen Labeling	All primary specimen containers must include two unique identifiers at the time of collection. The identifiers must be clearly labeled on each specimen and correspond to information on the requisition form. Surveillance studies and some study protocols require de-linked patient information, which should not accompany samples, or provided to SIAU.
Shipping Requirements	Transport plasma specimens in frozen conditions using dry ice.
Methodology	Identification of mutations within HIV-1 pol gene region by RNA extraction, Polymerase Chain Reaction amplification, DNA sequencing, and drug resistance analysis
TAT	2 Weeks
Assay Limitations	Do not use heparin as an anticoagulant. Plasma should not be used after more than two freeze-thaw cycles. Plasma sample will be rejected if improperly labeled or unlabeled, with discrepant documentation, insufficient volume, without documentation, and evidence of leakage or contamination.
Additional Information	None

HIV antigen/antibody Combo SIAU-01018-067

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Serum or Plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	2 days at ambient temperature; 7 days at 2-8°C. Specimens should be stored at -20°C for long-term storage and should not have more than 4 freeze/thaw cycles.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	For best results, specimens should be shipped frozen on dry ice.
Methodology	ELISA
TAT	3 Days
Assay Limitations	Do not heat inactivate specimens
Additional Information	None

HIV Molecular Detection SIAU-01018-068

Synonym(s)	HIV
Specimen Source	Human
Specimen Type for Testing	Not Applicable
Specimen Volume	2 - 4 mL of plasma
Specimen Storage & Preservation Prior Shipping	<p>Freeze plasma sample as soon as possible at -80°C before shipment, 6 month maximum. If a -80°C freezer is not available, store samples at -20°C before shipment, 1 month maximum. Higher temperatures and longer lengths of time in storage may compromise sample quality and invalidate test results.</p> <p>Aliquot plasma samples in 1.5 - 2.0 mL polypropylene tube with screw cap. Ensure the specimen identification is clearly visible on plasma tubes. Ideally, use printed barcoded labels or printed information.</p>
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Transport plasma specimens in frozen conditions using dry ice.
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	<p>Do not use heparin as an anticoagulant. Plasma should not be used after more than two freeze-thaw cycles. Plasma samples will be rejected if improperly labeled or unlabeled, with discrepant documentation, insufficient volume, without documentation, and evidence of leakage or contamination.</p>

HIV Viral Load SIAU-01018-069

Synonym(s)	HIV
Specimen Source	Human
Specimen Type for Testing	Not Applicable
Specimen Volume	5 - 10 mL of plasma
Specimen Storage & Preservation Prior Shipping	Freeze plasma sample as soon as possible at -80°C before shipment, 6 month maximum. If a -80°C freezer is not available, store samples at -20°C before shipment, 1 month maximum. Higher temperatures and longer lengths of time in storage may compromise sample quality and invalidate test results. Aliquot plasma samples in 1.5 - 2.0 mL polypropylene tube with screw cap. Ensure the specimen identification is clearly visible on plasma tubes. Ideally, use printed barcoded labels or printed information.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Transport plasma specimens in frozen conditions using dry ice.
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	Do not use heparin as an anticoagulant. Plasma should not be used after more than two freeze-thaw cycles. Plasma samples will be rejected if improperly labeled or unlabeled, with discrepant documentation, insufficient volume, without documentation, and evidence of leakage or contamination.

Human Herpes Virus 6 Molecular Detection
SIAU-01018-070

Synonym(s)	HHV6
Specimen Source	Human
Specimen Type for Testing	Cerebrospinal fluid (CSF) or blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship overnight Saturday - Thursday, with cold packs.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Human Herpes Virus 7 Molecular Detection
SIAU-01018-071

Synonym(s)	HHV7
Specimen Source	Human
Specimen Type for Testing	Cerebrospinal fluid (CSF) or blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship overnight Saturday - Thursday, with cold packs or dry ice as an etiologic agent.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Human Herpes Virus 8 Molecular Detection
SIAU-01018-072

Synonym(s)	Kaposi's sarcoma-associated herpesvirus, KSHV, HHV8
Specimen Source	Human
Specimen Type for Testing	Blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Keep specimen either refrigerated or frozen. Blood should be collected in EDTA.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship overnight Saturday - Thursday, with cold packs.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Human Papilloma Virus Molecular Detection
SIAU-01018-073

Synonym(s)	HPV
Specimen Source	Human
Specimen Type for Testing	Cervical and urethral scrapes in Cytological Preservative Solution, PAP smears
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Refrigerated
Transport Medium	Cytological Preservative Solution
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	Polymerase Chain Reaction
TAT	1 week
Assay Limitations	None
Additional Information	None

Human Papilloma Virus Molecular Typing

SIAU-01018-074

Synonym(s)	HPV
Specimen Source	Human
Specimen Type for Testing	Cervical and urethral scrapes in Cytological Preservative Solution, PAP smears
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Refrigerated
Transport Medium	Cytological Preservative Solution
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	Polymerase Chain Reaction and sequencing
TAT	1 week
Assay Limitations	None
Additional Information	None

Influenza Molecular Diagnosis

SIAU-01018-075

Synonym(s)	Flu A, & Flu B
Specimen Source	Human
Specimen Type for Testing	Respiratory clinical specimens (i.e. Nasopharyngeal swabs, nasal swabs, throat swabs, nasal aspirates, nasal washes, lower respiratory tract specimens), and others upon consultation with the laboratory.
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Swab specimens should be collected using only swabs with a synthetic tip, such as nylon or Dacron®, and an aluminum or plastic shaft. Clinical specimens should be placed at 4°C and transported to the laboratory promptly. Specimens received cold that are to be shipped within 48 hours should be stored refrigerated (2°–8°C); otherwise specimens should be frozen at or below -70°C until shipped.
Transport Medium	Swabs must be in viral transport medium
Specimen Labeling	Specimen ID must match the ID on the form
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Urgent specimen can be shipped any time with prior approval from the laboratory. Ship extracted RNA and frozen specimen on dry ice. Refrigerated specimens should be shipped on cold packs
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Low virus numbers or co-infections can affect test results. Calcium alginate swabs are unacceptable and cotton swabs with wooden shafts are not recommended because it can cause a false-negative result.
Additional Information	Specimens requiring additional testing and specimens submitted for surveillance studies will take longer than seven days for results.

Lassa Fever Molecular Detection SIAU-01018-076

Synonym(s)	Arenavirus
Specimen Source	Human
Specimen Type for Testing	Blood and Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice. Do not ship specimen without prior consultation and approval.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen; warming or freeze thawing reduces sensitivity. Heparin may cause interference with the molecular tests and should be avoided.
Additional Information	None

Legionella species Molecular Detection and Identification
SIAU-01018-077

Synonym(s)	Legionnaires' disease or LD, Legionellosis
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culture isolate on a suitable agar slant medium, Respiratory specimens (BAL & tracheal aspirate)
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Clinical specimens should be frozen immediately. Isolates should be prepared on appropriate slants [Buffered Charcoal Yeast (BCYE)] and shipped at 4°C.
Transport Medium	BCYE or equivalent slants for isolates
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Do not ship on Fridays or the day before a public holiday. Please see attached shipping instructions for details.
Methodology	Multiplex Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Leishmaniasis Serology - IgG
SIAU-01018-080

Synonym(s)	Leishmaniasis Serology, Visceral leishmaniasis, Kala azar; Leishmania donovoni, Leishmania major, Leishmania, parasite
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	No specific requirements
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Ship specimen at room temperature.
Methodology	ELISA
TAT	5 Days
Assay Limitations	Substances known to interfere with immunoassays include: bilirubin, lipids, and hemoglobin
Additional Information	None

Leishmania species Molecular Detection SIAU-01018-081

Synonym(s)	Parasite
Specimen Source	Human
Specimen Type for Testing	Whole blood and Urine
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Culture should be kept at room temperature and shipped. Blood and bone marrow should be shipped on wet ice (cold pack).
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Leptospira species Molecular Detection

SIAU-01018-082

Synonym(s)	Leptospirosis
Specimen Source	Human
Specimen Type for Testing	Clinical specimens (blood, CSF, serum, and urine). Blood specimens should be collected in EDTA or Sodium Citrate tubes
Specimen Volume	5 - 10 mL for blood, CSF, and serum; 10 mL for urine
Specimen Storage & Preservation Prior Shipping	Keep frozen at -20° C
Transport Medium	Blood specimens transported in EDTA.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries) Specimens should be shipped frozen at -20° C
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Blood specimens collected in heparin are not acceptable
Additional Information	None

Listeria Identification
SIAU-01018-085

Synonym(s)	Listeria
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Isolates
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Ship growth on nonselective slant/stab such as TSA, HIA, etc.; screw cap tubes preferred.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship isolates or cultures Saturday - Thursday, (avoid weekend deliveries). Ship at ambient temperature in compliance with Federal and local guidelines There are no time constraints for submitting sequence data
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Lymphocyte Subset Immunophenotype
SIAU-01018-086

Synonym(s)	CD45/CD19/CD3/CD4/CD8/CD16+56
Specimen Source	Human
Specimen Type for Testing	10 mL EDTA Blood
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be stored at room temperature until analysis. Specimen should be transported to the lab within 2-4 hours from collection. Do not refrigerate or freeze.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped at room temperature within 3-4 hours from collection. Do not ship specimen without prior consultation and approval.
Methodology	Flowcytometry
TAT	3 Days
Assay Limitations	None
Additional Information	None

Malaria Molecular Detection

SIAU-01018-087

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Blood; please include the blood smear slides in the shipment
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Collect a 5 - 10 mL blood sample in Vacutainer® EDTA tubes prior to anti-parasitic therapy and store at 4°C.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Ship specimen on wet ice (cold pack).
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Malaria Molecular Differentiation Panel

SIAU-01018-088

Synonym(s)	Plasmodium falciparum, Plasmodium vivax, Plasmodium malaria, Plasmodium ovale, parasite
Specimen Source	Human
Specimen Type for Testing	Blood; Please include the blood smear slides in the shipment
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Collect a 5 - 10 mL blood sample in Vacutainer® EDTA tubes prior to anti-parasitic therapy and store at 4°C.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Ship specimen on wet ice (cold pack).
Methodology	Multiplex Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Marburg Molecular Detection SIAU-01018-089

Synonym(s)	Marburg Virus
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice. See supplemental submission forms for further details. Do not ship specimen without prior consultation and approval.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Measles Molecular Detection SIAU-01018-090

Synonym(s)	Measles Virus
Specimen Source	Human
Specimen Type for Testing	Throat swab in viral medium, Nasopharyngeal aspirate or swab, urine, cataracts, lens aspirate, oral fluid, cerebrospinal fluid (CSF), blood.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Avoid repeat freeze-thaw cycles or freezing at -20°C (standard freezer temp) because formation of ice crystals decreases infectivity. If -40°C or -70°C freezers are not available, it is recommended to keep the sample in the refrigerator (4°C).
Transport Medium	Viral transport medium for swabs and appropriate culture medium. Make sure tubes are all in leak proof containers.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday overnight to avoid weekend deliveries Transport samples with cold packs as soon as possible following sample collection. Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Real time RT-PCR.
TAT	2 Days
Assay Limitations	None
Additional Information	Please include vaccination history, age, date of symptom onset and sample collection.

Measles Serology - IgG

SIAU-01018-091

Synonym(s)	Measles
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated, not frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on cold packs Laboratory will instruct on how to ship for other specimen types
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	IgG assays are qualitative assays Please include vaccination history, age, date of onset and sample collection.

Measles Serology - IgM

SIAU-01018-092

Synonym(s)	Measles
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated, not frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on cold packs Laboratory will instruct on how to ship for other specimen types
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	IgM assays are qualitative assays Please include vaccination history, age, date of onset and sample collection.

MERS-CoV Molecular Detection SIAU-01018-093

Synonym(s)	MERS-CoV, Middle East Respiratory Syndrome Coronavirus
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal wash/aspirates, nasopharyngeal swabs, oropharyngeal swabs, bronchoalveolar lavage, tracheal aspirate, pleural fluid tap, sputum, stool.
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them. If specimens will be examined within 48 hours after collection, they can be refrigerated. If specimens must be held longer than 48 hours, freeze them as soon as possible after collection. Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.
Transport Medium	Swabs may be shipped in commercial viral transport media
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Refrigerated specimens should be transported on ice packs at 2-8°C up to 48 hours; if exceeding 48 hours, freeze at -70°C and ship on dry ice.
Methodology	Real-Time Polymerase Chain Reaction.
TAT	1 Day
Assay Limitations	Use only sterile Dacron or rayon swabs with plastic shafts or if available, flocked swabs. Do NOT use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit some molecular assays.
Additional Information	Provide information of Camel contact.

MERS-CoV Serology - IgG

SIAU-01018-094

Synonym(s)	Middle East Respiratory Syndrome Coronavirus (MERS-CoV) ELISA
Specimen Source	Human
Specimen Type for Testing	Serum (single specimen collected >14 days after symptom onset; paired acute and convalescent).
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Collect whole blood in a serum separator tube. Allow the blood to clot, centrifuge briefly, and collect all the resulting sera in vials with external caps and internal O-ring seals. If there is no O-ring seal, then seal tightly with the available cap and secure with Parafilm. Do not collect specimen in heparin tubes. Store serum at 4°C. Serum may be frozen, if needed.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimens should be transported on ice packs at 2-8°C up to 48 hours; if exceeding 48 hours, freeze at -70°C and ship on dry ice.
Methodology	ELISA using S1 antigen / SNT
TAT	3 Days
Assay Limitations	None
Additional Information	Provide information of Camel contact.

MERS-CoV Virus Isolation SIAU-01018-095

Synonym(s)	MERS-CoV, Middle East Respiratory Syndrome Coronavirus
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal wash/aspirates, nasopharyngeal swabs, oropharyngeal swabs, bronchoalveolar lavage, tracheal aspirate, pleural fluid tap, sputum, stool.
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them. If specimens will be examined within 48 hours after collection, they can be refrigerated. If specimens must be held longer than 48 hours, freeze them as soon as possible after collection. Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.
Transport Medium	Swabs may be shipped in commercial viral transport media
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Refrigerated specimens should be transported on ice packs at 2-8°C up to 48 hours; if exceeding 48 hours, freeze at -70°C and ship on dry ice.
Methodology	Virus Isolation (cell culture)
TAT	7 Days
Assay Limitations	Virus isolation in cell culture and initial characterization of viral agents recovered in cultures of MERS-CoV specimens are NOT recommended at this time. However, if done, these activities must be performed in a BSL-3 facility using BSL-3 work practices. Use only sterile Dacron or rayon swabs with plastic shafts or if available, flocked swabs. Do NOT use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit some molecular assays.
Additional Information	Provide information of Camel contact.

Mumps Molecular Detection SIAU-01018-096

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Buccal swab, nasal swab, throat swab, urine, oral fluid and cerebrospinal fluid (CSF)
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Avoid repeat freeze-thaw cycles or freezing at -20°C (standard freezer temp) because formation of ice crystals decreases infectivity. If -40°C or -70°C freezers are not available, it is recommended to keep the sample in the refrigerator (4°C).
Transport Medium	Viral transport medium for swabs. Make sure tubes are all leak proof containers.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Transport samples with cold packs as soon as possible following sample collection. Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Real time RT-PCR, Viral culture, Genotyping by Nucleic acid sequencing
TAT	3 Days
Assay Limitations	None
Additional Information	Please include vaccination history, age, date of symptom onset and date of sample collection.

Mumps Serology - IgG

SIAU-01018-097

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated, not frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on cold packs.
Methodology	ELISA
TAT	3 Days
Assay Limitations	None
Additional Information	Date of onset and sample collection.

Mumps Serology - IgM

SIAU-01018-098

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated, not frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on cold packs.
Methodology	ELISA
TAT	3 Days
Assay Limitations	None
Additional Information	Date of onset and sample collection.

Mycobacterium – Non - tuberculosis Mycobacteria Identification

SIAU-01018-099

Synonym(s)	Non-TB Mycobacteria, Mycobacteria
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Pure fresh culutre isolate demonstrated to not be part of the Mycobacterium tuberculosis complex Isolates from the following specimens will be accepted for testing: Sterile sites (e.g., blood, CSF, body fluids) Abscess, exudate or skin lesion Wounds or surgical sites BAL/ bronch wash Sputum Gastric lavage (pediatric)
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Keep specimen at room temperature
Transport Medium	Lowenstein-Jensen or Middlebrook 7H10/7H11 agar
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	16S rRNA gene Sequencing
TAT	2 Days
Assay Limitations	Incase isolate unidentified by MALDI-TOF will be processed by 16S sequencing. It will require additional 3 days.
Additional Information	Isolates from wounds or surgical sites must have documentation that NTM was abundant on primary culture (3+ to 4+) or was the only organism isolated. Isolates from sputum must have documentation that the NTM was from two or more sputum cultures (collected on different days), was the only mycobacterial species present, and have abundant growth on primary culture.

***Mycobacterium* TB Complex - Identification**

SIAU-01018-100

Synonym(s)	TB, Tuberculosis
Specimen Source	Human
Specimen Type for Testing	Pure culture isolate
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Mycobacterium tuberculosis (MTB) Growth Medium
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries).
Methodology	Genetic based testing
TAT	2 Days
Assay Limitations	None
Additional Information	Prior arrangement should be made with the lab for this test

Mycobacterium TB Complex - Molecular Detection of Drug Resistance (MDDR)

SIAU-01018-101

Synonym(s)	MDDR, TB, Tuberculosis
Specimen Source	Human
Specimen Type for Testing	Nucleic Acid Amplification positive (NAA+), pure culture isolate on solid medium or in broth culture; Mixed cultures known to contain MTBC; DNA
Specimen Volume	2 - 5 mL
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Mycobacterium tuberculosis (MTB) Growth Medium
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Sediments and broth cultures should not be shipped frozen.
Methodology	Polymerase Chain Reaction, Sequencing
TAT	3 Days
Assay Limitations	Samples with low numbers of MTBC may not amplify; Heteroresistance may not be detected; the results of MDDR assay should not be used to rule out the presence of MTBC in a sample.
Additional Information	Prior arrangement should be made with the lab for this test

***Mycoplasma pneumoniae* Molecular Detection**

SIAU-01018-102

Synonym(s)	Atypical pneumonia, Community Acquired Pneumonia (CAP), macrolide resistance, Walking pneumonia
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal (NP) and/or Oropharyngeal (OP) swabs, any lower respiratory tract specimen (ie. bronchoalveolar lavage (BAL)), sputum, tissue, cerebrospinal fluid (CSF), isolate, and purified nucleic acid. Upon consultation with SIAU laboratory points of contact, other specimen types may be acceptable.
Specimen Volume	Contingent upon specimen type. Please consult with SIAU laboratory point of contact.
Specimen Storage & Preservation Prior Shipping	Specimens can be kept refrigerated if shipped within 72 hours of collection; otherwise specimen should be frozen. Store swabs in universal transport medium.
Transport Medium	Universal transport medium
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Refrigerated specimens should be packed with cold packs. Frozen specimens should be packed with dry ice.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Do not use cotton swabs with wooden shafts. Specimen should be acquired prior to antibiotic treatment. Improper specimen storage and handling may result in inconclusive or inaccurate results.
Additional Information	All specimens are tested as part of a multiplex Real-Time Polymerase Chain Reaction assay for detection of <i>M. pneumoniae</i> , <i>C. pneumoniae</i> , and <i>Legionella</i> species.

Neisseria meningitides Molecular Detection Identification

SIAU-01018-103

Synonym(s)	None
Specimen Source	Human
Specimen Type for Testing	Pure culture isolate, frozen stock, primary specimen such as CSF, whole blood, serum, and other sterile site specimen types upon consultation.
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Primary specimens or stocks should be kept frozen. After overnight incubation at 37°C with 5% CO ₂ , store slants at an ambient temperature.
Transport Medium	Preferred medium include chocolate agar slants or frozen stocks. If possible, for the shipment of 10 or more specimens, please ship frozen stocks.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Frozen specimens should be shipped on dry ice. Please include shipping spreadsheet in shipment.
Methodology	Real-time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Improperly temperature controlled specimens/isolates can give false negative results.
Additional Information	None

Nucleic Acid Tests (NAT)

SIAU-01018-104

Synonym(s)	HIV-1 RNA, HIV-2 RNA, HCV RNA and HBV DNA
Specimen Source	Human (Blood Donors)
Specimen Type for Testing	Whole blood (EDTA collection tube)
Specimen Volume	5 – 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be kept at 4°C
Transport Medium	Not Applicable
Specimen Labeling	Donor/patient name, Donor/Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Please contact laboratory prior to shipping any specimen. Ship specimen at room temperature, not on dry ice, unless the specimen has been previously frozen. Frozen specimens may be shipped in cold with ice-packs. Please send the shipment tracking number on the day of shipment by e-mail to SIAU Contact
Methodology	Transcription-Mediated Amplification (TMA), and detection of the amplification products (amplicon) by the Hybridization Protection Assay (HPA)
TAT	2 Days
Assay Limitations	None
Additional Information	None

Parvovirus B19 Molecular Detection SIAU-01018-105

Synonym(s)	Parvovirus B19 Molecular Detection (Fifth Disease)
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	3 - 5 mL
Specimen Storage & Preservation Prior Shipping	<p>Refrigerate all specimens promptly after collection. If specimens can be shipped to SIAU within 48 hours of collection, they should be kept refrigerated at 4°C and shipped on gel ice-packs. If specimens must be held for > 48 hours, they should be promptly frozen at -70°C and shipped on dry ice. Liquid specimens should be aliquoted into properly labeled, leak-proof, unbreakable screw cap vials.</p> <p>Samples should be collected and processed in a manner that prevents cross-contamination between specimens, including changing gloves between specimens.</p>
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	<p>Ship specimen Saturday - Thursday, (avoid weekend deliveries)</p> <p>Refrigerated specimen should be shipped on cold packs.</p> <p>Frozen specimen should be shipped on dry ice.</p>
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Parvovirus B19 Molecular Quantitation

SIAU-01018-106

Synonym(s)	Parvovirus B19 Molecular Quantitation (Fifth Disease)
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	3 - 5 mL
Specimen Storage & Preservation Prior Shipping	<p>Refrigerate all specimens promptly after collection. If specimens can be shipped to SIAU within 48 hours of collection, they should be kept refrigerated at 4°C and shipped on gel ice-packs. If specimens must be held for > 48 hours, they should be promptly frozen at -70°C and shipped on dry ice. Liquid specimens should be aliquoted into properly labeled, leak-proof, unbreakable screw cap vials.</p> <p>Samples should be collected and processed in a manner that prevents cross-contamination between specimens, including changing gloves between specimens.</p>
Transport Medium	Not Applicable
Specimen Labeling	<p>Patient name, patient ID #, specimen type, date collected.</p> <p>Clearly label specimen type.</p>
Shipping Requirements	<p>Ship specimen Saturday - Thursday, (avoid weekend deliveries)</p> <p>Refrigerated specimen should be shipped on cold packs.</p> <p>Frozen specimen should be shipped on dry ice.</p>
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Respiratory Panel

SIAU-01018-108

Synonym(s)	FluA, FluB, FluC, H1N1, Rhino virus, Human Para Influenza Virus 1, Human Para Influenza Virus 2, Human Para Influenza Virus 3, Human Para Influenza Virus 4, Human Corona Virus Cor229, Human Corona Virus Cor63, Human Corona Virus HKU1, Human Corona Virus Cor43, Human Metapneumo virus A/B, Human Bocavirus, Respiratory Syncytial Virus A/B, Human parechovirus, Enterovirus, Human Adeno Virus, Mycoplasma pneumoniae, Staphylococcus aureus, Chlamydia pneumonia, Haemophilus Influenzae type B, Streptococcus pneumoniae, Pneumocystis jirovecii, Legionella longbeacha/ Legionella pneumophila, Klebsiella pneumoniae, Salmonella species, Moraxella catarrhalis, and Bordetella pertussis
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal wash/aspirates, nasopharyngeal swabs, oropharyngeal swabs, broncheoalveolar lavage, tracheal aspirate, pleural fluid tap, and sputum,
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them. If specimens will be examined within 48 hours after collection, they can be refrigerated. If specimens must be held longer than 48 hours, freeze them as soon as possible after collection. Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.
Transport Medium	Swabs may be shipped in commercial viral transport media
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs. Frozen specimen should be shipped on dry ice.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Use only sterile Dacron or rayon swabs with plastic shafts or if available, flocked swabs. Do NOT use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit some molecular assays.
Additional Information	None

Rickettsia Molecular Detection

SIAU-01018-109

Synonym(s)	Rickettsiosis, Rocky Mountain Spotted Fever (RMSF), Spotted fever group Rickettsia (SFG), Typhus group Rickettsia (TG)
Specimen Source	Human and animal
Specimen Type for Testing	Acute samples only, anticoagulated whole blood collected and EDTA tube.
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Ideally keep specimen at a refrigerated temperature not frozen. If previously frozen, then keep specimen frozen.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Specimen should be shipped refrigerated on cold packs.
Methodology	Real Time Polymerase chain Reaction, Sequencing
TAT	2 Days
Assay Limitations	Hemolysis in whole blood specimen will interfere with results. Multiple freeze thaw cycles and sample storage above refrigerated temperatures will interfere with proper nucleic acid extraction. If a specimen is drawn at convalescence it will reduce the chance of the target organism being present in blood. Avoid collection of blood specimen in heparin tubes.
Additional Information	Suspected Agent, Date of illness onset (and time if available), Specimen type (e.g., serum, whole blood, tissue, etc.), Brief clinical summary (including details of antibiotic therapy and dates) and pertinent clinical findings- Travel and exposure history (including animals, arthropods, etc.)- Test requested

Rift Valley Fever Virus Isolation

SIAU-01018-110

Synonym(s)	RVF
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice.
Methodology	Polymerase Chain Reaction
TAT	7 Days
Assay Limitations	Virus isolation in cell culture activities must be performed in a BSL-3 facility using BSL-3 work practices. Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Rift Valley Fever Virus Molecular Detection

SIAU-01018-111

Synonym(s)	RVF
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Specimen must remain frozen, warming or freeze thawing reduces sensitivity. Heparin specimens cause interference with the molecular tests and should be avoided.
Additional Information	None

Rift Valley Fever Virus Serology

SIAU-01018-112

Synonym(s)	RVF
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be kept cold (at or below 4°C). If possible place specimen in plastic screw capped vials.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped on cold packs or dry ice if frozen.
Methodology	ELISA or Microneutralization assay
TAT	4 Days
Assay Limitations	Specimen must remain frozen; warming or freeze thawing reduces sensitivity.
Additional Information	None

Rotavirus Antigen Detection

SIAU-01018-113

Synonym(s)	Rotaviru
Specimen Source	Human
Specimen Type for Testing	Human stool
Specimen Volume	0.5 g or 2 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be kept either frozen at -20°C or colder or refrigerated at 4°C. Specimen tubes or cups must be packed inside of a leak proof secondary container. The secondary container needs to be packed inside an approved class B specimen shipping container (i.e. Fisher scientific cat# 22-130-431).
Transport Medium	Do not send specimen in bacterial or viral transport medium or a fixative
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Sunday -Wednesday, overnight to avoid weekend deliveries Frozen specimen should be shipped on dry ice Refrigerated specimen should be shipped on cold packs
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Rotavirus Molecular Detection
SIAU-01018-114

Synonym(s)	Rotavirus Real Time RT-PCR, Rotavirus Sequencing
Specimen Source	Human
Specimen Type for Testing	Stool
Specimen Volume	0.5 g or 2 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be kept either frozen at -20°C or colder or refrigerated at 4°C. Specimen tubes or cups must be packed inside of a leak proof secondary container. The secondary container needs to be packed inside an approved class B specimen shipping container (i.e. Fisher scientific cat# 22-130-431).
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday -Wednesday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Rubella Serology - IgG

SIAU-01018-115

Synonym(s)	Rubella
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 ml
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated or frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on ice packs.
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	IgG assays are qualitative assays.

Rubella Serology - IgM

SIAU-01018-116

Synonym(s)	Rubella
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 ml
Specimen Storage & Preservation Prior Shipping	Serum should be kept refrigerated or frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries). Refrigerated specimen should be shipped on ice packs.
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	IgM assays are qualitative assays.

Salmonella Molecular Detection SIAU-01018-117

Synonym(s)	Salmonella
Specimen Source	Human, and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Fresh culture Isolates, clinical specimen.
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Ship cultures on nonselective nutrient or similar agar (TSA, HIA, etc.) in tubes with leak-proof screw cap closures. Agar plates are not acceptable.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries).
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

SARS Molecular Detection SIAU-01018-118

Synonym(s)	SARS coronavirus
Specimen Source	Human
Specimen Type for Testing	Nasopharyngeal wash/aspirates, nasopharyngeal swabs, oropharyngeal swabs, bronchoalveolar lavage, tracheal aspirate, pleural fluid tap, sputum, and post-mortem tissue.
Specimen Volume	2 - 3 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them. If specimens will be examined within 48 hours after collection, they can be refrigerated. If specimens must be held longer than 48 hours, freeze them as soon as possible after collection. Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.
Transport Medium	Swabs may be shipped in commercial viral transport media
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries).
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	Use only sterile Dacron or rayon swabs with plastic shafts or if available, flocked swabs. Do NOT use calcium alginate swabs or swabs with wooden sticks, as they may contain substances that inactivate some viruses and inhibit some molecular assays.
Additional Information	None

Sexually Transmitted Infections Panel

SIAU-01018-119

Synonym(s)	Chlamydia trachomatis, Neisseria gonorrhoeae, Trichomonas vaginalis, Ureaplasma urealyticum/parvum and herpes simplex virus 1/2, Mycoplasma genitalium and Gardnerella vaginalis
Specimen Source	Human
Specimen Type for Testing	Urine samples, vaginal swab, genital swabs and rectal swabs of human origin
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Store culture at -70°C in TSA with 20% glycerol medium
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Specimen should be shipped on dry ice.
Methodology	Multiplex Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Staphylococcus and MRSA Detection

SIAU-01018-120

Synonym(s)	Staph Typing, MRSA Typing, Staphylococcal Typing
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Fresh culture isolate on suitable agar medium. Additional specimen types upon consultation with laboratory.
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	Isolate should be stored at 4°C
Transport Medium	Pure culture isolate on suitable agar medium or frozen in TSB plus glycerol
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday (avoid weekend deliveries).
Methodology	MALDI-TOF, 16S rRNA gene Sequencing, Polymerase Chain Reaction for MRSA gene
TAT	3 Days
Assay Limitations	None
Additional Information	None

Stool Parasites Panel
SIAU-01018-122

Synonym(s)	Entamoeba histolytica, Cryptosporidium spp. and Giardia lamblia
Specimen Source	Human
Specimen Type for Testing	Stool samples of human origin
Specimen Volume	5 - 10 g
Specimen Storage & Preservation Prior Shipping	Refrigerate tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Streptococcus (Beta Hemolytic Strep) Typing

SIAU-01018-123

Synonym(s)	GAS typing, GBS typing, other beta hemolytic strep, Group A Strep, Group B Strep
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Isolates and clinical/environmental specimens and others as approved upon consultation
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	For isolates, store on blood or chocolate agar, in transport media or as a frozen glycerol stock; additional details and directions will be provided upon consultation
Transport Medium	Dependent on specimen type to be determined upon consultation.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Molecular Testing
TAT	2 Days
Assay Limitations	None
Additional Information	None

Streptococcus Genotyping SIAU-01018-124

Synonym(s)	None
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Sterile site Isolates of GAS, GBS and S. pneumoniae that meet the ABCs inclusion criteria
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	For isolates, store on blood or chocolate agar, in transport media or as a frozen glycerol stock; additional details and directions will be provided upon consultation.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Streptococcus Identification

SIAU-01018-125

Synonym(s)	Streptococci, viridans streptococci
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Isolates and clinical/environmental specimens and others as approved upon consultation
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	For isolates, store on blood or chocolate agar, in transport media or as a frozen glycerol stock; additional details and directions will be provided upon consultation.
Transport Medium	Dependent on specimen type to be determined upon consultation
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	MALDI-TOF, Polymerase chain reaction
TAT	3 Days
Assay Limitations	None
Additional Information	None

Streptococcus Pneumoniae Typing

SIAU-01018-126

Synonym(s)	Pneumococcus Serotyping
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Isolates and clinical/environmental specimens and others as approved upon consultation
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	For isolates, store on blood or chocolate agar, in transport media or as a frozen glycerol stock.
Transport Medium	Dependent on specimen type to be determined upon consultation
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice. Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Polymerase Chain Reaction
TAT	3 Days
Assay Limitations	None
Additional Information	None

Tick Borne Encephalitis Molecular Detection
SIAU-01018-128

Synonym(s)	TBE
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen must be placed in plastic screw capped vials, frozen to -70°C, and kept frozen until shipment.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday (avoid weekend deliveries). Specimen should be shipped frozen on dry ice.
Methodology	Molecular Typing, Polymerase Chain Reaction
TAT	4 Days
Assay Limitations	Specimen must remain frozen; warming or freeze thawing reduces sensitivity. Heparin may cause interference with the molecular tests and should be avoided.
Additional Information	None

Treponema Pallidum Molecular Detection
SIAU-01018-129

Synonym(s)	Syphilis
Specimen Source	Human
Specimen Type for Testing	Swab of an ulcer or skin lesion, blood collected in an EDTA tube, body fluids.
Specimen Volume	Not applicable
Specimen Storage & Preservation Prior Shipping	Specimens should be frozen
Transport Medium	Should be transported on commercial Nucleic Acid Amplification Test (NAAT) medium
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday , (avoid weekend deliveries). Frozen specimen should be shipped on dry ice, refrigerated specimen should be shipped on cold packs.
Methodology	Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Tropical Fever Panel SIAU-01018-130

Synonym(s)	Dengue virus, Salmonella spp., Plasmodium spp., Leptospira spp., Rickettsia spp., West Nile virus, and chikungunya virus
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	<p>If specimens will be examined within 48 hours after collection, they can be refrigerated.</p> <p>If specimens must be held longer than 48 hours, freeze them as soon as possible after collection.</p> <p>Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.</p>
Transport Medium	Not applicable
Specimen Labeling	<p>Patient name, patient ID #, specimen type, date collected.</p> <p>Clearly label specimen type.</p>
Shipping Requirements	<p>Ship specimen Saturday - Thursday, (avoid weekend deliveries)</p> <p>Refrigerated specimen should be shipped on cold packs.</p> <p>Frozen specimen should be shipped on dry ice.</p>
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Varicella Zoster Virus Molecular Detection SIAU-01018-131

Synonym(s)	Varicella Zoster Virus (VZV)
Specimen Source	Human
Specimen Type for Testing	EDTA plasma or CSF
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	<p>If specimens will be examined within 48 hours after collection, they can be refrigerated.</p> <p>If specimens must be held longer than 48 hours, freeze them as soon as possible after collection.</p> <p>Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.</p>
Transport Medium	Not Applicable
Specimen Labeling	<p>Patient name, patient ID #, specimen type, date collected.</p> <p>Clearly label specimen type.</p>
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries). Cold packs or dry ice for liquid specimen. Ambient temperature for scabs and lesions.
Methodology	Real-Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

***Vibrio cholera* ID, Serotyping, and Virulence Profiling**

SIAU-01018-132

Synonym(s)	Cholera
Specimen Source	Human and Food/Environmental/Medical Devices/Biologics
Specimen Type for Testing	Fresh culture Isolates
Specimen Volume	Not Applicable
Specimen Storage & Preservation Prior Shipping	No Specific Requirements
Transport Medium	Ship cultures on nonselective nutrient or similar agar (TSA, HIA, etc.) in tubes with leak-proof screw cap closures. Agar plates are not acceptable.
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries).
Methodology	Phenotypic Characterization (Serogrouping for O1, O139, O75, and O141), Polymerase Chain Reaction for Virulence Markers (Toxin and tcpA biotype)
TAT	5 Days
Assay Limitations	None
Additional Information	None

Viral Gastroenteritis Panel SIAU-01018-133

Synonym(s)	Norovirus GI, Norovirus GII, Human Astrovirus, Rotavirus, Human Adenovirus, and Sapovirus
Specimen Source	Human
Specimen Type for Testing	Stool samples of human origin
Specimen Volume	5 - 10 g
Specimen Storage & Preservation Prior Shipping	Sample should be kept refrigerated or frozen
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Viral Meningitis Panel

SIAU-01018-134

Synonym(s)	CMV, EBV, HSV-1, HSV-2, VZV, EV, HPeV, HHV-6, HHV-7, B19
Specimen Source	Human
Specimen Type for Testing	EDTA plasma or CSF
Specimen Volume	2 - 3 mL CSF, 10 mL EDTA or citrate blood
Specimen Storage & Preservation Prior Shipping	<p>If specimens will be examined within 48 hours after collection, they can be refrigerated.</p> <p>If specimens must be held longer than 48 hours, freeze them as soon as possible after collection.</p> <p>Although storage in an ultra-low freezer (-70°C) is preferable, storage in a home-type freezer (if properly set at -20°C) is acceptable for short periods.</p>
Transport Medium	Not Applicable
Specimen Labeling	<p>Patient name, patient ID #, specimen type, date collected.</p> <p>Clearly label specimen type.</p>
Shipping Requirements	<p>Ship specimen Saturday - Thursday, (avoid weekend deliveries)</p> <p>Refrigerated specimen should be shipped on cold packs.</p> <p>Frozen specimen should be shipped on dry ice.</p>
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

West Nile Virus Serology

SIAU-01018-135

Synonym(s)	West Nile virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL serum
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs. Frozen specimen should be shipped on dry ice.
Methodology	ELISA
TAT	4 Days
Assay Limitations	None
Additional Information	None

Yellow Fever Virus Serology

SIAU-01018-136

Synonym(s)	Yellow fever virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs. Frozen specimen should be shipped on dry ice.
Methodology	IIFT
TAT	4 Days
Assay Limitations	None
Additional Information	None

Zika/Dengue/Chik Panel SIAU-01018-137

Synonym(s)	Zika virus, Dengue virus, Chikungunya virus
Specimen Source	Human
Specimen Type for Testing	Serum and EDTA plasma
Specimen Volume	10 mL
Specimen Storage & Preservation Prior Shipping	Refrigerate or freeze tubes after specimens are placed in them.
Transport Medium	Not Applicable
Specimen Labeling	Patient name, patient ID #, specimen type, date collected. Clearly label specimen type.
Shipping Requirements	Ship specimen Saturday - Thursday, (avoid weekend deliveries) Refrigerated specimen should be shipped on cold packs. Frozen specimen should be shipped on dry ice.
Methodology	Multiplex Real Time Polymerase Chain Reaction
TAT	2 Days
Assay Limitations	None
Additional Information	None

Zika Virus Serology

SIAU-01018-139

Synonym(s)	Zika Virus
Specimen Source	Human
Specimen Type for Testing	Serum
Specimen Volume	5 - 10 mL
Specimen Storage & Preservation Prior Shipping	Specimen should be kept at 4°C or colder
Transport Medium	Not Applicable
Specimen Labeling	Patient name, Patient ID #, specimen type, date collected.
Shipping Requirements	Ship Saturday - Thursday, (avoid weekend deliveries). Frozen specimen should be shipped on dry ice
Methodology	ELISA
TAT	5 Days
Assay Limitations	None
Additional Information	None



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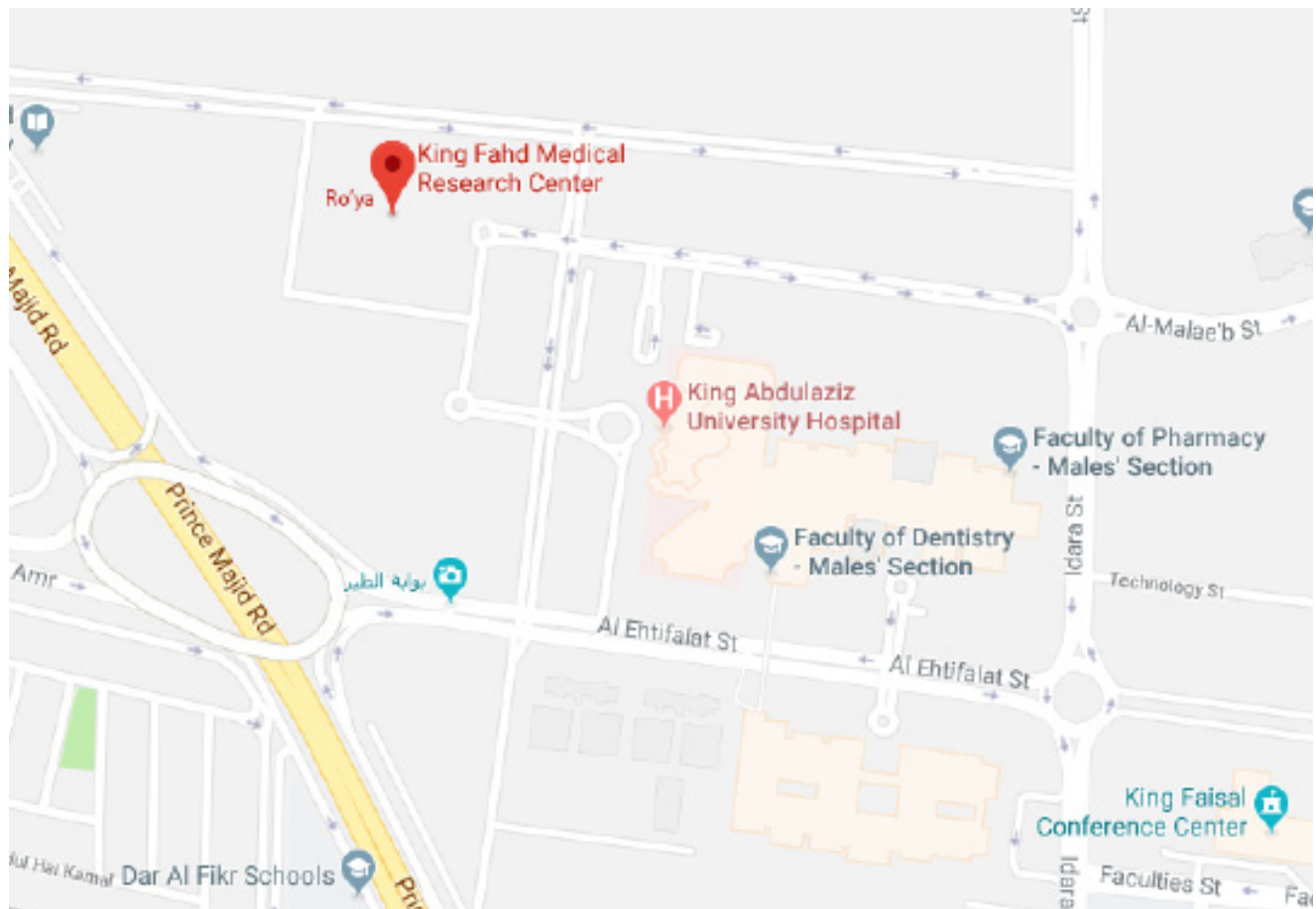
Zika/Dengue/Chik Panel 136
 Zika Virus Serology 137

Location



Location

Ro'ya Specialized Medical Laboratories
King Fahd Medical Research Center
King Abdulaziz University
Jeddah, Kingdom of Saudi Arabia





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