COUNTY OF LOS ANGELES

Public Health

Public Health Laboratories

Catalog of Laboratory Tests

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History

HISTORY

WHERE WE BEGAN

The County's humble beginnings in health care began in 1878, when it opened a 100-bed hospital and County Poor Farm for the county's indigent. In 1903, The Los Angeles County Public Health Department was founded.

In April 1915, the Board of Supervisors appointed John Larabee Pomeroy as the county's first health officer. The health department's official headquarters were provided in the basement of the County Court House on North Broadway, Los Angeles.

As the department grew, the administrative offices were moved to the old Alhambra Hotel, north of the Hall of Justice. However, when the East Los Angeles Health Center was completed in 1929, four of the Department's seven bureaus were moved there due to the over-crowding in the Hall of Justice. One of those four bureaus was the Bureau of Laboratories which consisted of three testing units: Bacteriology, Serology and Chemistry. Dr. Raymond. V. Stone was Director of the Bureau of Laboratories.

In 1942, offices in a county building located at 808 North Spring Street, Los Angeles enabled the entire staff to be housed together. The Scope of Laboratory Services in 1942 included the following examinations of specimens for the diagnosis and control of communicable diseases:

Blood for syphilis serology; blood for agglutination tests for typhoid, paratyphoid, undulant fever, tularemia, typhus, Rocky Mountain spotted fever, and Weil's Disease; blood smears for malaria and relapsing fever; chancre material in capillary tube, for suspected syphilis (Dark field); urine and feces examination for the typhoid-paratyphoid-dysentery-cholera group of organisms; feces for intestinal parasites (including amebiasis); sputum for tubercle bacilli (smear, concentration, culture and coccidiodes organisms; smears for gonococci and Vincent's organisms, purulent ophthalmia; cultures for diphtheria bacilli and virulence tests; Actinomycosis exudates for smear and culture, Anthrax: smear, culture and animal inoculation; Suspected glanders exudate; smears for suspected Leprosy; material for suspected Plague and Rabies (Human autopsy or animal material); exam for suspected septic sore throat; material for culturing and smear, impetigo; food samples for suspected botulism; food-poisonings and food infections.

HISTORY

The Los Angeles County Public Health Laboratory moved to 241 North Figueroa Street in 1950. In 1963, it merged with the City of Los Angeles Public Health Laboratory and moved into the quarters where the Los Angeles City Laboratory was operating.

When more space was needed temporary quarters were provided in the Old Hall of Records at 220 North Broadway, Los Angeles. The Lab Director was Dr. Carl A. Lawrence.

In April 1971, the PHL moved to the new County of Los Angeles-Health Department Administrative Headquarters at 313 North Figueroa Street, Los Angeles. The PHL occupied the 11th and 12th floor of the new headquarters. The Lab Director was Dr. Richard Barnes.

In the Fall of 1973, the county environmental chemistry unit joined the PHL. However, in July 1990, that part of the laboratory was transferred to the Agriculture Weights and Measures Department in the county.

The PHL had outgrown its high-rise space in downtown Los Angeles under Dr. Sydney Harvey. Under her leadership, the laboratory and its 130 employees prepared to relocate, 13 miles southeast of downtown L.A. The move took place in four phases with the first phase occurring in mid-March 2007. The location was on the former site of the County Poor Farm, now called Rancho Los Amigos-South Campus.

The PHL's current address is **12750 Erickson Avenue, Downey, CA 90242**

YEAR	LABORATORY DIRECTOR
1926-1952	Raymond V. Stone, D.V.M., R.S.
1952	Elaine De Boynton
1953-1969	Carl A. Lawrence, Ph.D.
1970	Elaine De Boynton
1970-1990	Richard Barnes, Ph.D.
1991-1994	Marlene F. Rafter
1994-2005	Sydney M. Harvey, Ph.D.
2005-2010	Sohair F. Sabet, Ph.D.
2010-2011	Mary Beth Duke
2011-2013	J. Michael Janda, Ph.D.
2013-Present	Nicole M. Green, Ph.D.

General Information

THE LABORATORY TODAY

The Los Angeles County Public Health Laboratories (PHL) serve as the reference laboratory for the County of Los Angeles and City of Pasadena. This represents a population of over 10.2 million residents and 43 million annual visitors divided into 8 service planning areas. Our LRN catchment area includes the counties of Los Angeles, Orange, Ventura, Santa Barbara, and San Luis Obispo during emergency situations.

PHL functions as a diagnostic and reference laboratory to test epidemiologically significant specimens with potential public health implications. Our laboratory performs reference testing for laboratories that do not have the capability to fully identify disease agents of public health significance, aids in the diagnosis of unusual pathogens, and confirms atypical tests results. We serve more than 100 hospitals, and 14 public health clinics to provide primary diagnostic testing, surveillance testing, and outbreak response.

In addition to testing, PHL oversees Non-Diagnostic General Health Assessment licensure and provides quality assurance and safety recommendations. Our laboratory is an approved training lab for California Public Health Microbiology training. Importantly, our laboratory works closely with partner public health programs and clinics to institute new test procedures.

MISSION

To improve and protect public health through the provision of information from timely, cost effective, and sophisticated testing.

VISION

The Los Angles County Public Health Laboratory is recognized nationally as a premier public health laboratory.

CORE VALUES

Our laboratory has been built on the core value of SERVICE. Our greatest asset is our staff that delivers and ensures world-class analytical testing.

“At the Los Angeles County Public Health Laboratory, we strive to take personal responsibility to live our service values on a daily basis and dedicate ourselves to providing the best possible testing services to our community.”

OUR SERVICE VALUES

Satisfaction
We respond to our communities’ needs and provide the highest level of customer service as we hold ourselves accountable for our performance.

Efficiency
We constantly work to identify areas for improvement regarding laboratory finance, diagnostic services, and environmentally-sound testing.

Results and Accountability
We deliver accurate results in a timely manner and have exceptionally high standards of laboratory quality control and assurance.

Value
We offer affordable, state-of-the-art, reference diagnostic services with outreach to generate new revenue streams.

Innovation and Continuous Learning
We provide current training information and educational opportunities to innovate and promote intellectual advancement within the profession.

Collaboration and Partnership
We seek and engage opportunities to meet, communicate, network, and partner with Communicable Disease Control and Prevention (CDCP) programs and other public agencies as well as the clinical community.

Excellence
We strive to be a center of expertise for the detection of agents of public health importance and serve as a model for others to emulate.

CERTIFICATIONS AND ACCREDITATIONS

- California Approved Public Health Laboratory #335637
- CLIA Certified High Complexity Laboratory #05D1066369
- CDPH Certified Public Health Microbiologist Training Program # PHMTP 003
- Environmental Laboratory Accreditation Program (ELAP) #1398
- FERN (Food Emergency Response Network)
- California Department of Food and Agriculture (CDFA)
- WHO Influenza Laboratory
- CDPH RLN Laboratory
- CDC/APHL Advanced Status LRN-B Laboratory
- CDC Level 2 LRN-C Laboratory
- CDC/APHIS Select Agent Program #C20170426-1899
- Biowatch Laboratory
- CDC PulseNET WGS
- CDC CaliciNET
- CDPH COVIDNet
- CDC Legionella ELITE
- CDC ARLN (Antibiotic Resistance Laboratory Network)
- CDC GISP (Gonorrhea Isolate Surveillance Project)
- CDC NARMS (National Antibiotic Monitoring Program)

LABORATORY DIRECTORY

12750 Erickson Avenue
Downey, CA 90242
(562) 658-1330 Phone
(562) 401-5999 Fax

http://publichealth.lacounty.gov/lab/

Business Hours
Monday – Friday
8:00 a.m. – 5:00 p.m.
Saturday
8:00 a.m. – 4:30 p.m.

LABORATORY ADMINISTRATION

Nicole Green, Ph.D., D(ABMM), Laboratory Director	(562) 658 - 1330
Vacant, Asst. Director	(562) 658 - 1330
Maureen Quraishi, Senior Staff Analyst, Special Projects	(562) 658 - 1330
Armen Tudjarian, MHA, MSc, MT(ASCP), Lab Manager	(562) 658 - 1330
Viviana Torres, MS, Lab Quality Control Coordinator	(562) 658 - 1344
Leo Busa, Finance and Client Services Director	(562) 658 - 1353

LABORATORY SUPPORT SERVICES

Laboratory Information Systems Help Desk	(562) 658 - 1340
Non-diagnostic General Health Assessment Licensing	(562) 658 - 1370
Laboratory Supply Warehouse	(562) 658 - 1446
Specimen Receiving/Courier Scheduling	(562) 658 - 1460

DIAGNOSTIC SERVICES

Lee Borenstein, Ph.D., D(ABMM), Public Health Microbiology Supervisor II
Serology, Virology, & Molecular Diagnostics Units
(562) 658-1493

David Jensen, M(ASCP)^{CM} Public Health Microbiology Supervisor II
Bacteriology, Parasitology, & Environmental Microbiology Units
(562) 658-1488

Hector Rivas, MPH, Public Health Microbiology Supervisor II
Mycobacteriology, Mycology, & Molecular Epidemiology Units
(562) 658-1351

Robert Tran, Ph.D., Public Health Microbiology Supervisor II
Blood Lead, Biological & Chemical Terrorism Response Units
(562) 658-1361

EMERGENCY RESPONSE AND PREPAREDNESS

- **BIOTERRORISM RESPONSE UNIT**
  Detection and identification by molecular and conventional methods
  - *Bacillus anthracis*
  - *Brucella species*
  - *Burkholderia pseudomallei* and *Burkholderia mallei*
  - *Clostridium botulinum*
  - *Coxiella burnetii*
  - Ebola
  - *Francisella tularensis*
  - MERS
  - Ricin (environmental testing only)
  - *Rickettsia*
  - Serology
    - *Brucella*
  - Vesicular rash/smallpox
  - Monkeypox
  - *Yersinia pestis*

  If any of the above organisms or conditions are suspected, please contact the laboratory for telephone consultation.

- **CHEMICAL TERRORISM RESPONSE UNIT**
  This unit tests urine and blood for analytes related to chemical agent exposure.

- **EMERGENCY RESPONSE CONTACT INFORMATION**
  Regular Business Hours—Monday thru Friday 8:00 a.m. – 5:00 p.m.
  Laboratory Administration (562) 658-1330 (1300)

  After hours including weekends and holidays, call the County Operator at (213) 974–1234 and request to be connected to the laboratory technical consultant on call.

SUPPORT SERVICES

CLIENT SERVICES

The Public Health Laboratory aims to continually deliver the best possible standard of services to our clients. Our staff strives to provide our clients with professional, high quality, and timely service. We are available to answer questions and resolve problems that our clients may have. Our hours of coverage are from 8:00 a.m. to 5:00 p.m. Monday through Friday, and by special arrangement on weekends. The Public Health Laboratory clerical staff is available to answer all non-technical questions or to forward your technical questions to the appropriate staff.

CLINICAL CONSULTATION

The Laboratory Director is available to answer questions regarding test procedures and interpretation of results.

PUBLIC HEALTH MICROBIOLOGIST TRAINING PROGRAM

Los Angeles County Public Health Laboratory has been approved as a training institution for Public Health Microbiologist per regulations specified at Title 17, CCR, §1079 and 1080 Public Health Training Program Standards.

QUALITY ASSESSMENT

The Los Angeles County Public Health Laboratory (PHL) adheres to a Quality Assessment Program that focuses on methods and standards that continuously monitor and improve the level of diagnostic testing services provided. The Los Angeles County Public Health Laboratory is a leader in the field of diagnostic laboratory testing. Our goal is to provide the foremost professional service by offering tests of high quality that effectively meet and exceed the needs of the physicians and patients who rely on our service.

The PHL Quality Assessment Program incorporates policies and practices to ensure that diagnostic testing results are reported in a timely manner and are monitored and verified to detect, control, and prevent the occurrence of errors.

Quality control of all media, reagents and equipment is performed for all test procedures. Standards and/or test controls ensure accuracy, reliability, and reproducibility of test results.

The PHL subscribes to CLIA approved proficiency testing programs for regulated analytes and, also implements internal proficiency testing as means of monitoring the quality and accuracy of test performance.

NON-DIAGNOSTIC GENERAL HEALTH ASSESSMENT

The Non-diagnostic General Health Assessment Office was established in 1991 to implement enforcement of Chapter 195, §1244, 1244.1, 1244.3 and 1244.4 of the California Business and Professions Code. This statute governs programs providing waived bioanalytical screening tests o asymptomatic individuals for a non-infectious chronic heath condition. Entities conducting a program within the County of Los Angeles must file an application form and all required documentation to the County NGHA office at lease thirty days prior to program operation.

Examples of NGHA programs:

- A cholesterol screening program held at a shopping mall and sponsored by a hospital, in which blood is collected by fingerstick and tested onsite using a portable machine.
- Glucose testing performed at a pharmacy in which bold is collected by fingerstick and tested onsite using a portable analyzer.
- Examination of stool for occult blood at a senior citizens' community center.

Programs that are not classified as NGHA programs:

- Collection of blood by venipuncture art a shopping mall which is subsequently tested for glucose (or other components) at a licensed medical laboratory.
- Blood pressure screening
- Estimation of body fat content

Important Forms and Documents:

NGHA Application
http://publichealth.lacounty.gov/lab/ngha/nghaapnew.pdf

NGHA Renewal Application
http://publichealth.lacounty.gov/lab/ngha/nghaap.pdf

NGHA Guidelines for Policy and Procedures Manual Preparation
http://publichealth.lacounty.gov/lab/ngha/nghaguide.pdf

SUPPORT SERVICES

SPECIMEN TRANSPORT

Specimens are delivered to the laboratory by private courier service. Submission requirements are listed in the test information section including instructions on packaging, temperature requirements for storage and transportation. Couriers are trained in bio-hazardous materials handling and spill clean-up, proper specimen handling procedures, labeling of containers, and transporting specimens per specified temperature requirements.

SPECIMEN TRACKING

A packing slip must be affixed to each bag of specimens submitted to the Public Health Laboratory. Central Accessioning staff compares the contents of the bag to the items listed on the packing slip to ensure that all items sent are received by the laboratory. All items received by the laboratory are scanned in the specimen tracking system.

REPORTING OF TEST RESULTS

Specimens are processed upon receipt and results are reported to the submitter when testing is completed. Turnaround times vary with the amount of time required to make the various test determinations.

Urgent reports are telephoned when the results are available. Other reports are electronically transmitted, faxed, or mailed as submitter requests.

SUPPLIES

Specimen collection kits, supplied by the Public Health Laboratory, including test requisition forms and biohazard specimen bags, may be obtained by submitting a Containers Supply Request Form.

http://www.publichealth.lacounty.gov/lab/docs/Laboratory_Supply_Request_Form.pdf

SPECIMEN COLLECTION SUPPLIES PROVIDED BY THE PHL

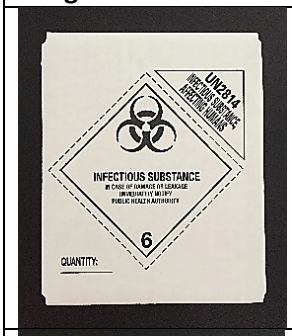
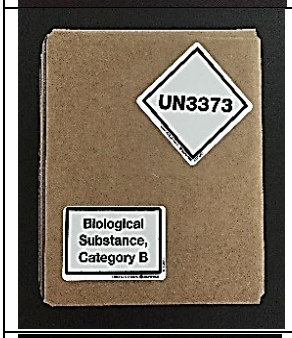
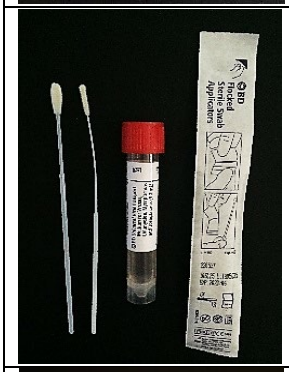
Image	Description	Common Tests/Usage
	**Mailer for Infectious Substance, Affecting Humans, Category A** Includes fibreboard box with UN2814 label, fibreboard coil, secondary pressure receptacle with lid, label for itemized list of contents, absorbent, and bubble wrap.	For submittal of Title 17, CCR, § 2505 Cultures for Identification (Examples: TB, STEC, select agent rule out)
	**Mailer for Biological Substance, Category B** Includes fibreboard box with UN3373 label, fibreboard coil, secondary pressure receptacle with lid, label for itemized list of contents, absorbent, and bubble wrap.	For submittal of Biological Substance, Category B (Examples: body fluids, blood, and its components, tissue for diagnostic or investigational purposes)
	**BD™ Universal Viral Transport Media** Includes 3 mL tube medium with flocked swabs (1-regular and 1- flex mini-tip) to collect and transport samples.	Culture of respiratory viral agents, HSV, VZV, Chlamydia. Also used for *Bordetella pertussis* and measles, mumps PCR test, Monkeypox, COVID, Influenza, CRE/ARLN Surveillance collection.
	**BBL™ Nutrient Agar Slants** Disposable and ready-to-use culture media for sample collection, transport, and culture for Carbapenemase-Producing Organisms (CPO) Surveillance.	For CARBA5 (CPO Surveillance)
	**Biohazard Specimen Bags, (5 x 8.5”), QTY. 50/Pack** A leak-proof 3-wall bag with a double compartment, one with zip-lock for specimen and one for test request form.	For safe transport of specimen to the laboratory

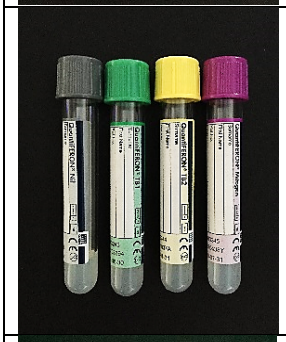
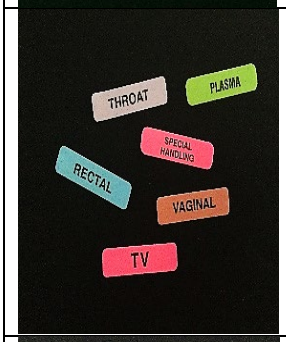
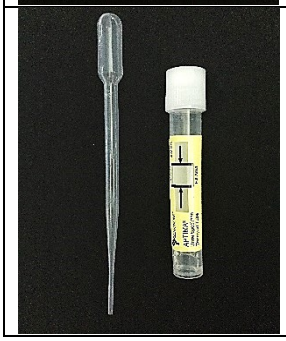
Image	Description	Common Tests/Usage
	**HIV-1 Viral Load Plasma Storage Tubes and Caps, QTY. 100/Bag** Green polyethylene screw cap, transport tube with etched fill lines in 1 mL increments up to 8 mL	For transport of frozen plasma for HCV and HIV-1 viral load detection
	**QuantiFERON® TB Gold Plus (QFT®- Plus) blood collection tubes, QTY. 25 /Pack** 1 set consists of 4 color coded tubes: gray cap, green cap, yellow cap, and purple cap.	QuantiFERON® - TB Gold Plus 4-tube*s*
	**Pinworm Paddle (Swube), QTY. 1/each:** For the collection of specimens from the anal region. Specimen collection "paddle" consists of a clear plastic surface with adhesive on one side.	Pinworm screening for presence of *Enterobius vermicularis* eggs.
	**Specimen Source Labels, QTY. 760/roll** Color coded labels: Vaginal (orange) Rectal (blue) Throat (purple) Plasma (green) Trichomonas (pink) Special handling (pink) Urethra (orange)	To distinguish specimen source
	**Hologic® Aptima® Urine Specimen Collection Kits, QTY. 50/box** To detect the presence of *C. trachomatis*, *N. gonorrhea* and *T. vaginalis* in female urine specimens. Yellow labeled collection kit.	Chlamydia/Gonorrhea NAAT and Trichomonas NAAT

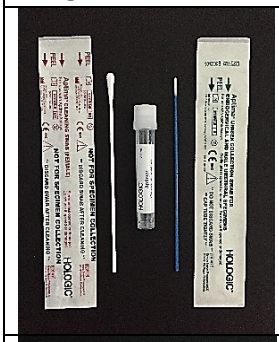
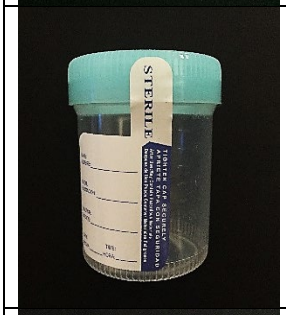
Image	Description	Common Tests/Usage
	**Hologic® Aptima® Unisex 2-Swab Specimen Collection Kits, QTY. 50/box** A unisex swab for both male and female specimens. Includes tube specimen transport medium and two swabs (1- cleaning (white shaft) and 1- specimen collection (blue shaft). White/purple labeled collection kit.	Chlamydia/Gonorrhea NAAT and Trichomonas NAAT for endocervical and urethral specimens.
	**Hologic® Aptima® Multitest Swab Specimen Collection Kits, QTY. 50/box** Includes specimen collection swab and tube specimen transport medium. Orange labeled collection kit.	Chlamydia/Gonorrhea NAAT in vaginal and rectal sources. Gonorrhea NAAT in throat and *Trichomonas vaginalis* NAAT for vaginal specimens.
	**Sputocol™ Sputum Collection System, QTY. 72/Case** Includes 50 mL tube with screw cap, funnel, base, base cover, label, and instructions for use.	*Mycobacterium tuberculosis* culture - sputum
	**90 ml Sterile Cup, 100/bag** Leak-proof, plastic screw cap sterile specimen cup without any preservative	Urine and stool collection
	**10% Formalin Vial, QTY. 1/Each** 10% formalin fixative for the collection of parasitology specimens.	For Ova and Parasite detection

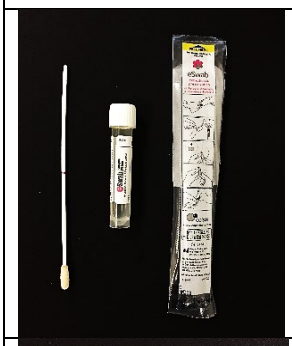
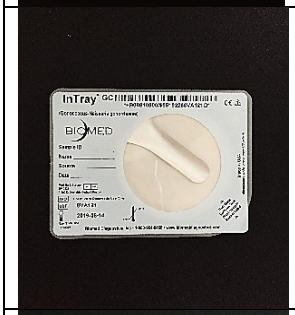
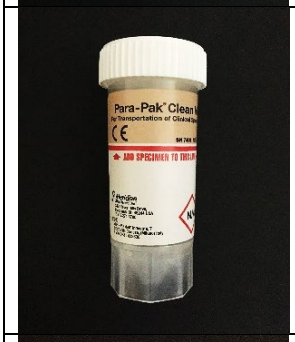
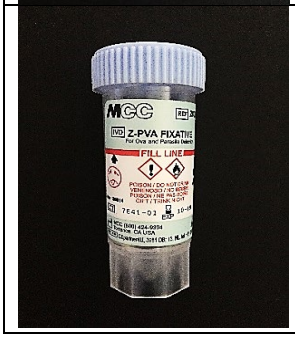
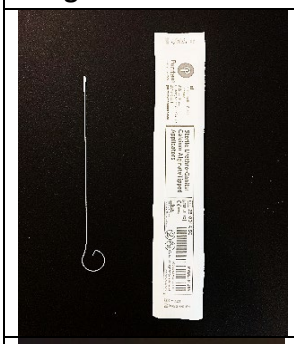
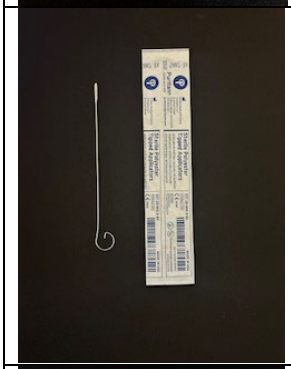
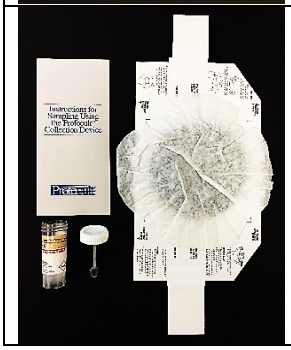
Image	Description	Common Tests/Usage
	**ESwab™ Collection and Transport System, QTY. 1/Each** Flocked swab with 1 mL of liquid Amies in a plastic, screw cap tube	Swab for throat or wound specimen collection for culture of Group A *Streptococcus*
	**Neisseria gonorrhoeae Culture Plate (InTray™ GC) QTY. 1/each** A fully enclosed system for sample collection, transport, culture, and identification of *Neisseria gonorrhoeae.*	*Neisseria gonorrhoeae* culture
	**Para-Pak® C&S, QTY. 20/Pack** (Culture and Sensitivity) Non-nutritive stool transport solution for enteric pathogens, 15 mL	Salmonella/Shigella, *E. coli* STEC, and other enteric pathogens culture
	**Para-Pak® Clean Vials, QTY. 20/Pack** Stool transport vial without preservative or transport medium. The leak-proof 30 mL vial contains a built-in spoon for safe and easy transfer of the specimen.	Norovirus NAAT
	**Z-PVA Parasitology Transport Media, QTY. 25/Pack** For the collection of stool for the identification of intestinal parasites.	Ova and Parasite Exam-Stool

Image	Description	Common Tests/Usage
	**Puritan® Calcium Alginate Swab, QTY. 50/Box** Sterile urethro-genital calcium alginate tipped swab with flexible 5.4 in., aluminum shaft.	For urethral specimen collection for *Neisseria gonorrhoeae* culture
	**Puritan® Sterile Polyester Tipped Applicators, QTY. 50/Box** Sterile urethro-genital polyester tipped swab with flexible 5.4 in., aluminum shaft.	For urethral specimen collection for *Neisseria gonorrhoeae* culture
	**Protocult™ Stool Collection Kit, QTY 1/Each** Kit contains one stool specimen collection device, patient instructions sheet.	For GI outbreaks

COLLECTION, STORAGE & TRANSPORT

Collection, storage, and transport of specimens are critical variables that affect the accuracy and usefulness of diagnostic test results. The pre-analytical phase of specimen management is initiated with the laboratory test request and includes appropriate selection, collection, handling, and transport to laboratory of specimen for diagnostic testing.

Careful selection and appropriate collection and handling of specimens provide test results that are meaningful to patient management. Criteria that profile specimen acceptability and rejection are available in the PHL test catalog under “Guidelines for Specimen Collection and Transport” by department or by specific type of test procedure requested. When appropriate, specific patient handling requirements are provided to assist the provider with specimen collection. Specimens received by the laboratory that do not meet specified testing criteria, are excluded from testing.

Test requests, written or electronic, must be submitted to the laboratory at the time specimen is received and must contain the minimal required information for the test to be performed. The test order must be appropriate to the type of specimen collected. Missing, incorrect, or discrepant information on a test request or specimen may result in an interruption or exclusion from the testing process.

Refer to specific testing requirements for information on collection, handling, and transport of specimens.

TEST REQUISITION, SPECIMEN LABELING & PACKAGING REQUIREMENTS

TEST REQUISITION FORMS

A test requisition form is the authorization that enables the laboratory to perform specified procedures. This form must accompany each specimen unless the submitting facility is electronically linked to the Laboratory. The following information must be provided:

- Patient full name or another unique identifier
- Patient sex
- Patient date of birth or age
- Medical record number
- Race and ethnicity
- Pregnancy status
- Patient address
- Date of specimen collection
- Type and/or source of specimen
- Complete submitter information (name, address, phone #)
- Test(s) requested
- Complete name of ordering clinician

Additional information such as disease suspected, and/or symptoms, may be required for some specific tests.

SPECIMEN LABELING & PACKAGING REQUIREMENTS

Specimen container lids must be tightly closed to prevent leakage of specimen. All primary specimen containers must be clearly labeled with at least two unique identifiers such as the patient's full name along with other unique identifier and date the specimen was collected. Place the specimen inside the pouch of the biohazard container and seal completely. Place the Public Health Lab test requisition form or the SUNQUEST label in the *outside* pocket of the biohazard bag. Please wear gloves while handling specimens.

SPECIAL TESTS

Any questions regarding special tests not listed in the test catalog may be referred to the Laboratory Director.

TESTING POLICIES

UNACCEPTABLE SPECIMENS

Examination of specimens with ambiguous patient or submitter identity can result in liability for the laboratory and the patient.

Specimens may be rejected for the following reasons and not limited to:

- Patient name or file number discrepancy between specimen label and test requisition
- No patient name or other unique identifier on specimen
- Specimen is too old when received
- Lack of specimen in container or insufficient quantity of specimen
- Expiration date of the transport medium has been exceeded
- Specimen collected in an inappropriate preservative or transport medium
- Inappropriate storage or transport conditions

Deviation from the test specific requirements listed in the test information section will lead to specimen rejection. The laboratory staff will make every effort to obtain information missing from the test requisition and/or to correct ordering errors. The specimens will be processed, and results held until information needed is acquired.

The laboratory will promptly phone or fax the submitter regarding unsatisfactory specimens.

Unsatisfactory specimens will be stored refrigerated or as required by testing unit specific protocol.

Unsatisfactory specimens will be disposed of as bio-hazardous waste after 14 days from receipt.

ANIMAL SPECIMENS

Except for rabies, *Salmonella spp.,* and plague surveillance testing animal specimens are generally not acceptable for laboratory testing and will not be tested.

General Test Listing By Department

Bacteriology

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Aerobic Bacterial Culture, Routine and Special

Other Name(s)	Aerobe
LIMS Code	ABCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	To be determined
Minimum Volume Required	To be determined
Storage/Transport Conditions **Transport Medium**	To be determined
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	To be determined
Test Methodology	To be determined
Turnaround Time	To be determined
Interferences & Limitations	To be determined
Additional Information	None
Reference Range	By report
CPT Code(s)	87070
LOINC Code	634-6

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Phone (562) 658-1300 Fax (562) 401-5999

Aerobic Bacterial Identification

Other Name(s)	Aerobe
LIMS Code	ABI
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	To be determined
Minimum Volume Required	To be determined
Storage/Transport Conditions **Transport Medium**	To be determined
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	To be determined
Test Methodology	30 days
Turnaround Time	To be determined
Interferences & Limitations	To be determined
Additional Information	None
Reference Range	By report
CPT Code(s)	87077
LOINC Code	6463-4

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Anaerobic Bacterial Culture, Routine and Special

Other Name(s)	Anaerobe
LIMS Code	ANCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	To be determined
Minimum Volume Required	To be determined
Storage/Transport Conditions **Transport Medium**	To be determined
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	To be determined
Test Methodology	To be determined
Turnaround Time	To be determined
Interferences & Limitations	Transport method must be suitable for anaerobic conditions or organisms may not be viable for testing.
Additional Information	Please indicate suspected organism(s) when submitting specimen.
Reference Range	By report
CPT Code(s)	87075
LOINC Code	635-3

Los Angeles County Public Health Laboratories
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Downey, CA 90242
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Anaerobic Bacterial Identification

Other Name(s)	Anaerobe
LIMS Code	ANBI
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Anaerobic bacteria from clinically relevant sources, pure culture isolate in anaerobic transport medium (e.g., Chopped Meat Glucose Broth). Prior approval from laboratory required for other sample/specimen types. Specimen from respiratory, vaginal, and fecal sources are not acceptable.
Minimum Volume Required	Not Applicable
Storage/Transport Conditions **Transport Medium**	Store anaerobically. Specimen stored at room temperature should be shipped at room temperature Frozen specimen should be shipped on dry ice. Pure culture isolates in chopped meat glucose broth, thioglycolate broth or frozen in TSB plus glycerol
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Ship specimen Monday -Thursday overnight to avoid weekend deliveries, as an etiologic agent.
Test Methodology	16S Sequencing, MALDI-TOF, Phenotypic Testing
Turnaround Time	30 days
Interferences & Limitations	Transport method must be suitable for anaerobic conditions or organisms may not be viable for testing.
Additional Information	Please indicate suspected organism(s) when submitting specimen.
Reference Range	By report
CPT Code(s)	87076
LOINC Code	20878-5

Los Angeles County Public Health Laboratories
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Bordetella species, Culture, and Identification

Other Name(s)	Whooping cough, *B. pertussis*, *B. parapertussis*, *B. holmesii*, *B. bronchiseptica*
LIMS Code	BPC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasopharyngeal (NP) swabs and aspirates; calcium alginate and cotton swabs are not acceptable.
Minimum Volume Required	0.5 mL aspirate
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Transport swabs in transport or isolates refrigerated on cold packs as soon as possible, between 24-48 hours, aspirates refrigerated on cold packs or frozen on dry ice (-20°C or lower), and frozen isolates on dry ice (-20°C or lower). Nasopharyngeal (NP) swabs should be collected on Dacron (polyester), rayon or nylon. Use plastic/glass screw cap, leak-proof vials. Regan-Lowe transport medium is recommended for specimens. Amies Charcoal transports are acceptable but may decrease the probability of isolation.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Please contact the laboratory by email or phone before submitting.
Test Methodology	Culture
Turnaround Time	2 weeks
Interferences & Limitations	Prior antibiotic treatment will adversely affect results. Patients coughing more than two weeks will likely not be culture positive.
Additional Information	None
Reference Range	By report
CPT Code(s)	87081, 87077
LOINC Code	6317-2

Los Angeles County Public Health Laboratories
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Phone (562) 658-1300 Fax (562) 401-5999

Campylobacter, Culture, and Identification

Other Name(s)	Campy
LIMS Code	CAMPY
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool; Rectal swab
Minimum Volume Required	5 mL of diarrheal stool, 1 g of material or a walnut-sized portion of stool
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 24 hours. Specimens should **NOT** be frozen. Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Please contact the laboratory by email or phone before submitting.
Test Methodology	MALDI-TOF MS
Turnaround Time	4 days for negative result
Interferences & Limitations	Specimens should be collected before antibiotic therapy is initiated.
Additional Information	If the initial stool culture is negative, then additional stool samples may be submitted for testing provided the patient collects them from different defecations on successive days.
Reference Range	No *Campylobacter* isolated
CPT Code(s)	87046, 87077
LOINC Code	6332-1

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Carbapenem Resistance Molecular Screening

Other Name(s)	Xpert CarbaR
LIMS Code	CARBR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure isolate (*Enterobacteriaceae*, *Acinetobacter baumanii*, or *Pseudomonas aeruginosa*) from blood/MacConkey agar **OR** Rectal swab collected using Cepheid collection kit #900-0370 or Copan equivalent (dual rayon swab with liquid Aimes transport media)
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store culture isolate at room temperature or refrigerated. Store rectal swab refrigerated 4-8°C or room temperature 15–28°C for up to five days. Transport as refrigerated specimen preferred. Isolates should be transported using nutrient agar slant. Rectal swabs should be transported using Cepheid collection kit.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-time PCR
Turnaround Time	4 business days
Interferences & Limitations	The Xpert Carba-R Assay detects blaKPC, blaNDM, blaVIM, blaOXA-48, and blaIMP from rectal and perirectal swab specimens and pure colonies and is not for bacterial identification. Detection of these gene sequences does not indicate the presence of viable organisms. The Xpert Carba-R Assay is not a sub-typing tool and does not report variants of the blaIMP, blaVIM, blaNDM, blaKPC, or blaOXA-48 genes.
Additional Information	The Xpert Carba-R Assay includes reagents for the detection of blaKPC, blaNDM, blaVIM, blaOXA-48, and blaIMP gene. Not all gene variants may be detected by the molecular assay.
Reference Range	Not Detected
CPT Code(s)	87150 X 5 (from culture) 87798 X 5 (from direct specimen)
LOINC Code	85502-3

Los Angeles County Public Health Laboratories
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Corynebacterium diphtheriae, Culture and Identification

Other Name(s)	Diphtheria
LIMS Code	CD
Pre-Approval Required	Consult with bacteriology unit and the Vaccine Preventable Disease Program prior to submission
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm Documentation that indicates the role of this isolate in clinical disease
Acceptable Specimen Type(s)	**Swabs:** nose, throat, or wound swabs. Use polyester, rayon, or nylon swabs. **Pseudomembrane:** Submit for culture. **Pure Isolates:** *C. diphtheriae* and *C. ulcerans* for confirmation and toxigenicity testing in the Elek assay.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	**Swabs/Pseudomembrane:** Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory overnight. **Pure isolates:** Store and transport at room temperature (15-25°C) overnight. Swabs should be placed in transport media such as Amies or Stuart. Dry swabs submitted in silica gel sachets are also acceptable. Pseudomembrane should be placed in sterile saline (not formalin). Pure isolates should be cultured on tryptic soy agar slants (TSA), blood agar slants, or other common agar slants. Verify purity before shipping. Confirmed isolates can be sent out for PCR and toxigenicity testing to CDC.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Please contact the laboratory by email or phone before submitting.
Test Methodology	As needed - Biochemical testing, and/or MALDI-TOF mass spectrometry. Referral to CDC if the isolate is confirmed as *C. diphtheriae* for PCR and Elek toxigenicity testing. **Please note that referral to the CDC for diphtheria toxin testing will only be performed if the isolate is confirmed as *C. diphtheriae***
Turnaround Time	7 days (negative); additional time if positive and sent to CDC for toxin testing.
Interferences & Limitations	Specimens should be taken prior to antimicrobial therapy. Organisms must be viable and pure for culture studies.

Additional Information	None
Reference Range	No *Corynebacterium diphtheria* isolated.
CPT Code(s)	87046, 87077
LOINC Code	16676-9

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Helicobacter pylori Stool Antigen Test

Other Name(s)	*H. pylori* Stool Antigen
LIMS Code	HPSAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool specimen in Cary-Blair transport media (Para-Pak C&S)
Minimum Volume Required	Do not fill commercial transport vials above indicator line. Overfilling of transport vial results in improper specimen preservation.
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C) within 36 hours. Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Lateral flow immunoassay
Turnaround Time	1 business day
Interferences & Limitations	Negative test results do not preclude the possibility of the presence of *H. pylori* antigen in the specimen which may occur if the level of antigen is below the detection limit of the test. False negative results may occur if a patient has used antibiotics, proton pump inhibitors, or bismuth compounds in the 14 days prior to fecal sample collection.
Additional Information	The TechLab *H. pylori* Quik check enzyme immunoassay is for qualitative detection of *Helicobacter pylori* specific antigen in fecal specimens. This test is used to aid in the diagnosis of *H. pylori* infection and to demonstrate loss of *H. pylori* antigen following treatment. Testing of patients to demonstrate loss of antigen following treatment should be performed no sooner than 4 weeks after completion of the treatment regimen.
Reference Range	Negative
CPT Code(s)	87338
LOINC Code	17780-8

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Legionella pneumophila, Culture and Identification

Other Name(s)	Legionnaires' disease, Legionellosis, Pontiac fever
LIMS Code	LCUL
Pre-Approval Required	For outbreak investigations only. Please contact the Acute Communicable Disease Control (ACDC) Unit at (213) 240-7941.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Isolates or culture. For specimen of human origin, the acceptable specimen types are sputum, bronchoalveolar lavage (BAL), lung tissue, and endotracheal tube (ETT). Specimens of environmental origin, isolates, swabs, and water are acceptable.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Clinical specimen should be frozen immediately. Isolates should be on appropriate slants Buffered Charcoal Yeast Extract (BCYE) and shipped refrigerated on cold packs. Transport culture isolates refrigerated on cold packs. Transport water and swabs at room temperature. Transport frozen specimens on dry ice (-20°C or lower). Water and swab samples should be kept at room temperature in containers containing sodium thiosulfate (obtained from the Environmental Microbiology Unit).
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Culture, Serogrouping, and MALDI-TOF
Turnaround Time	7 days (negative); additional time if positive.
Interferences & Limitations	Specimen should be acquired prior to antibiotic treatment. Improper specimen storage and handling may result in inconclusive or inaccurate results.
Additional Information	None
Reference Range	By report
CPT Code(s)	87040, 87205, 87206, 87147
LOINC Code	593-4

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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Legionella Urinary Antigen Test

Other Name(s)	Legionnaires' disease, Legionellosis
LIMS Code	LEIA
Pre-Approval Required	For outbreak investigations only. Please contact the Acute Communicable Disease Control (ACDC) Unit at (213) 240-7941.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25°C), refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower). Storage Stability: Ambient-24 hours; Refrigerated-2 weeks; Frozen-2 weeks. Urine should be collected in a sterile leak proof container. Boric acid may be used as a preservative.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Immunochromatography
Turnaround Time	1 day
Interferences & Limitations	This test will not detect infections caused by other *Legionella pneumophila* serogroups and by other *Legionella* species. A negative antigen result does not exclude infection with *L. pneumophila* serogroup 1. Culture is recommended for suspected pneumonia to detect causative agents other than *L. pneumophila* serogroup 1 and to recover *L. pneumophila* serogroup 1 when antigen is not detected in urine. Excretion of Legionella antigen in urine may vary depending on the individual patient. Antigen excretion may begin as early as 3 days after onset of symptoms and persist for up to 1 year afterwards. A positive Legionella result can occur due to current or past infection and therefore is not definitive for infection without other supporting evidence.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87899
LOINC Code	6447-7

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Neisseria gonorrhoeae, Culture and Identification

Other Name(s)	GC, Gonorrhea
LIMS Code	GCC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Cervical or urethral swab, rectal swab, throat swab directly inoculated to In-Tray™ GC system. Pure culture on chocolate agar slant.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Directly inoculated agar plate in a system which maintains CO_2 conditions during transport such as In-Tray™ GC system or Thayer-Martin plate with CO_2 atmosphere. It is best to incubate the inoculated plates right side up for 18 to 24 hours prior to transport. **DO NOT** refrigerate. In-Tray™ GC system, Thayer-Martin agar plate, or Chocolate agar slant with CO_2 atmosphere.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Please contact the laboratory by email or phone before submitting.
Test Methodology	Culture, biochemical identification, MALDI-TOF
Turnaround Time	3 business days (negative); additional time if positive.
Interferences & Limitations	Specimens should be collected with Dacron or rayon swabs. Cotton or calcium alginate swabs may be toxic or inhibitory to gonococci. Swabs should be taken from the cervix, urethra, rectum, or throat and applied to transport media immediately. Cultures must be viable and capable of growing on transport media.
Additional Information	For evaluating suspected cases of treatment failure and monitoring antimicrobial susceptibility.
Reference Range	No *Neisseria gonorrhoeae* isolated
CPT Code(s)	87040, 87076, 87077
LOINC Code	698-1

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

NG-Test CARBA 5

Other Name(s)	None
LIMS Code	CARBA5
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm Submitter's organism ID and AST report. A PCR report from the submitter may also be included.
Acceptable Specimen Type(s)	Pure isolate (*Enterobacterales*, and *Pseudomonas aeruginosa*) on a Nutrient Agar Slant or ESwabs.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25˚C) or refrigerated on cold packs via category B shipping container. Nutrient agar slant or ESwab
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Multiplex immunochromatographic assay Detection of one or more of the five common types of carbapenemase enzymes (KPC (K), OXA-48-like (O), IMP (I), VIM (V), NDM (N)) in bacterial colonies.
Turnaround Time	4 business days
Interferences & Limitations	Submission of mixed cultures. A negative result does not preclude the presence of carbapenemase producing organisms. False negative results may occur with multiple subcultures of a bacterial isolate without any selective pressure. This test is a qualitative assay and will not yield any quantitative results.
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87185
LOINC Code	74676-8

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Salmonella and *Shigella* Culture Screen

Other Name(s)	None
LIMS Code	SSC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool and/or enrichment broth, swab, or urine.
Minimum Volume Required	Do not fill commercial transport vials above indicator line. Overfilling of transport vial results in improper specimen preservation.
Storage/Transport Conditions	**Stool:** Store unpreserved stool refrigerated. If stored longer than 8 hours, freeze at < -70°C. Store preserved stool at room temperature within 4 days of collection. Refrigerate after 4 days. Transport refrigerated (cold packs), at room temperature, or on dry ice depending on storage conditions noted above. **Swabs:** Store and transport swabs at room temperature. Specimens should **NOT** be frozen. **Urine:** Store unpreserved urine refrigerated. Store preserved urine at room temperature within 4 hours. Transport unpreserved urine refrigerated (cold packs), and preserved urine at room temperature. Preserved urine must be submitted within 4 days.
Transport Medium	**Unpreserved stool:** Clean container with no soap or disinfectant residue. **Preserved Stool:** Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected. **Swabs including Environmental/Animal:** Para-Pak C&S container (modified Cary-Blair transport media) when a delay of ≥ 2 hours until plating is anticipated. **Urine** (*S. typhi* and other *Salmonella spp.)*: Para-Pak C&S container (modified Cary-Blair transport media) **OR** BD Vacutainer® Urine C&S. NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Isolation, MALDI-TOF MS, Phenotypic Identification Including Serotyping
Turnaround Time	4 days for negative. Additional time and testing required if positive.

Interferences & Limitations	Three (3) pairs of urine and stool specimens are required for clearance of typhoid. Each pair of stool and urine must be collected at least 24 hours apart. Don't mix the urine and stool specimens together. Keep each in a separate collection container.
Additional Information	None
Reference Range	No *Salmonella* or *Shigella spp.* isolated
CPT Code(s)	87045 (Salmonella/Shigella), 87046 (other pathogens), 87076 (MALDI-TOF), 87147 (grouping antisera)
LOINC Code	625-4

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Salmonella Serotyping

Other Name(s)	*Salmonella* Serogrouping
LIMS Code	SASE
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolate
Minimum Volume Required	Fresh, viable subculture
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Nonselective nutrient or similar agar (TSA, HIA, etc.) in tubes with leak-proof screw cap closures. Agar plates are not acceptable.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Phenotypic Identification, Phenotypic Serotyping
Turnaround Time	7 days. Turnaround times for routine isolates may be extended during major foodborne outbreak activities or due to limited availability of resources.
Interferences & Limitations	None
Additional Information	None
Reference Range	By report
CPT Code(s)	87077, 87147
LOINC Code	20951-0

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Shiga Toxin-producing *E. coli,* Culture Isolate

Other Name(s)	STEC
LIMS Code	O157C (culture isolate)
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolates
Minimum Volume Required	Fresh, viable subculture
Storage/Transport Conditions **Transport Medium**	Store at room temperature (15-25°C). Transport refrigerated on cold packs. Nonselective nutrient or similar agar (TSA, HIA, etc.) in tubes with leak-proof screw cap closures. If agar slants are not available at the submitting laboratory, an acceptable alternative might be a swab that is heavily inoculated with representative growth and placed in transport medium.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	*E. coli* verotoxigenic cultures should be shipped as Category A Infectious Substances in compliance with IATA, federal and local guidelines as soon as possible to ensure recovery of organisms. Please contact the laboratory by email or phone before submitting.
Test Methodology	Isolation, Lateral Flow Immunoassay, Phenotypic Identification Including Serotyping
Turnaround Time	4 days unless additional testing needs to be performed at CDPH or CDC.
Interferences & Limitations	Antibiotic therapy can decrease the chances of recovering organisms depending on when specimen was collected.
Additional Information	None
Reference Range	By report
CPT Code(s)	87046, 87147, 87335, stx 1 and stx 2: 87427 and 87427-59
LOINC Code	20789-4

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Phone (562) 658-1300 Fax (562) 401-5999

Shiga Toxin-producing *E. coli,* Screen

Other Name(s)	STEC
LIMS Code	O157 (screen)
Pre-Approval Required	None; Please contact the laboratory by email or phone before shipping.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool and/or enrichment broth
Minimum Volume Required	1 g (stool), swab or 5 mL (broth)
Storage/Transport Conditions **Transport Medium**	Store stool and/or enrichment broth refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected. Stool in Cary-Blair, Enrichment broth (GN or MacConkey)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Shiga toxin-positive broth cultures should be shipped as Category A Infectious Substances in compliance with IATA, federal and local guidelines as soon as possible to ensure recovery of organisms.
Test Methodology	Isolation, Lateral Flow Immunoassay, Phenotypic Identification Including Serotyping
Turnaround Time	4 days
Interferences & Limitations	Antibiotic therapy can decrease the chances of recovering organisms depending on when specimen was collected.
Additional Information	None
Reference Range	By report
CPT Code(s)	87046, 87147, 87335, stx 1 and stx 2: 87427 and 87427-59
LOINC Code	10851-4, 32777-5

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Shigella Serogrouping

Other Name(s)	*Shigella* Typing
LIMS Code	SHIG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolate
Minimum Volume Required	Fresh, viable subculture
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Nonselective nutrient or similar agar (TSA, HIA, etc.) in tubes with leak-proof screw cap closures. Agar plates are not acceptable.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Phenotypic Identification, Phenotypic Serotyping, Genetic Identification, Genetic Serotyping
Turnaround Time	7 days. Turnaround times for routine isolates may be extended during major foodborne outbreak activities or due to limited availability of resources.
Interferences & Limitations	Viable culture required.
Additional Information	None
Reference Range	By report
CPT Code(s)	87077, 87147
LOINC Code	17576-0

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Phone (562) 658-1300 Fax (562) 401-5999

Streptococcus Group A, PCR with Reflex

Other Name(s)	GAS, Group A Strep
LIMS Code	GASPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Throat swab collected using Copan ESwab (480C or 480CE)
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Copan ESwab (480C or 480CE)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-time PCR
Turnaround Time	2 business days
Interferences & Limitations	Additional follow-up testing by culture is required if PCR assay result is negative and clinical symptoms persist, or there is an outbreak of acute rheumatic fever.
Additional Information	Positive PCR specimens will be reflexed to throat culture for organism recovery.
Reference Range	Not Detected
CPT Code(s)	87651; reflex to 87070 if required
LOINC Code	60489-2

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Streptococcus pneumoniae Urinary Antigen Test

Other Name(s)	*S. pneumoniae* antigen in urine
LIMS Code	SEIA
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine (for diagnosis of pneumonia) Cerebral spinal fluid (for diagnosis of meningitis)
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25°C), refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower). **URINE** Stability: Ambient-24 hours; Refrigerated-2 weeks; Frozen-2 weeks **CSF** Stability: Ambient-24 hours; Refrigerated or Frozen-2 weeks Urine specimens should be collected in standard leak proof containers. Boric acid may be used as a preservative.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Note: surveillance studies may label specimens according to protocol. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Immunochromatography
Turnaround Time	1 day
Interferences & Limitations	*Streptococcus pneumoniae* vaccine may cause false positive results in urine with this test in the 48 hours following vaccination. The effect of vaccination has not been determined on persons with pneumococcal meningitis. Hence, it is recommended that this test not be administered within 5 days of receiving the *S. pneumoniae* vaccine. The accuracy of this test in urine has not been proven in young children. Performance on CSF in young children, on the other hand, is established.
Additional Information	None
Reference Range	Negative

CPT Code(s)	87899
LOINC Code	24027-5

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Vibrio species, Culture and Identification

Other Name(s)	None
LIMS Code	VSC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool
Minimum Volume Required	Do not fill commercial transport vials above indicator line. Overfilling of transport vial results in improper specimen preservation.
Storage/Transport Conditions **Transport Medium**	Store and transport stool at room temperature (15-25°C). Specimens should **NOT** be refrigerated nor frozen. Transport unpreserved stool within **8 hours** and Preserved stool within **3 days**. **Unpreserved stool:** Clean container with no soap or disinfectant residue. **Preserved Stool:** Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Screening for Isolation, MALDI-TOF MS, Phenotypic Identification Including Serotyping
Turnaround Time	4 days for negative. Additional time and testing required if positive.
Interferences & Limitations	Buffered glycerol saline is an unacceptable transport media for Vibrio culture.
Additional Information	None
Reference Range	By report
CPT Code(s)	87046, 87076 (MALDI-TOF), 87147 (grouping antisera)
LOINC Code	6581-3

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Yersinia species, Culture, and Identification

Other Name(s)	None
LIMS Code	YEC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool
Minimum Volume Required	Do not fill commercial transport vials above indicator line. Overfilling of transport vial results in improper specimen preservation.
Storage/Transport Conditions **Transport Medium**	Store and transport stool at room temperature (15-25°C). Specimens should **NOT** be refrigerated nor frozen. Transport unpreserved stool within **8 hours** and preserved stool within **4 days**. **Unpreserved Stool:** Clean container with no soap or disinfectant residue. **Preserved Stool:** Para-Pak C&S container (modified Cary-Blair transport media) NOTE: Do not fill commercial transport vials above indicator line. Overfilling of transport vial will be rejected.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Isolation, MALDI-TOF MS, Phenotypic Identification Including Serotyping
Turnaround Time	4 days for negative. Additional time and testing required if positive.
Interferences & Limitations	None
Additional Information	None
Reference Range	By report
CPT Code(s)	87046, 87076 (MALDI-TOF), 87147 (grouping antisera)
LOINC Code	28549-4

Bioterrorism Response

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Bacillus anthracis, Rule-out or Detection in Clinical Specimens

Common Name(s)	Anthrax
LIMS Code	Not available
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	- Pure culture/isolated colony (presumptive for *B. anthracis* if referred) - Cutaneous-Vesicular (early) stage, Eschar (late) stage - Gastrointestinal-Stool specimen - Blood-Collect blood (late stage of infection) directly into an appropriate blood culture bottle (aerobic and anaerobic) - Inhalational- Sputum - Cerebral spinal fluid - only if signs of meningitis occur. - Postmortem Tissue
Minimum Volume Required	**Stool:** ≥ 5 g **Blood and Body Fluids:** ≥ 0.5 mL
Storage/Transport Conditions **Transport Medium**	Cultures may be stored at room temperature or at 2-8°C. Agar slants preferred for shipping isolates
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemicals
Turnaround Time	7 days
Interferences & Limitations	Blood specimens should be collected in EDTA or Sodium Citrate tubes (not heparin).

Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87077 (aerobic culture ID): 87801 (PCR)
LOINC Code	11469-4

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Botulinum Toxin Testing (excluding Infant Botulism)

Other Name(s)	Botulism, *Clostridium botulinum* Toxin, Mouse Bioassay
LIMS Code	CBNT
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. All suspected botulism cases should be reported immediately by telephone to the Local Health Department (CA Code of Regulations, Title 17, Section 2500). In Los Angeles County, call Acute Communicable Disease Control (ACDC) (213) 240-7941 or the County Emergency Operator (213) 974-1234 after-hours and on weekends and holidays to report the suspect case and to obtain botulinum antitoxin. Suspect cases residing in Long Beach (562) 570-4302 or Pasadena (626) 744-6000 should be reported to the respective public health department.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm Brief medical/clinical history including a list of medications the patient has recently received. Anticholinergics, such as ambenonium (Mytelase), neostigmine (Prostigmine), and pyridostigmine (Regonol, Mestinon) are of special concern.
Acceptable Specimen Type(s)	– **PRE-ANTITOXIN SERUM** • Draw three 10 cc red-top or serum-separating vacutainer tubes. Refrigerate tubes until well clotted. • Spin down cells and ship all tubes without removing serum. • Note: Testing the patient post-treatment is no longer indicated, according to the Centers for Disease Control and Prevention (CDC) and California public health officials. – **FECAL SAMPLE – for both foodborne AND wound botulism** • Submit at least 25 g feces in a clean, dry container without transport media. If an enema is needed, use only sterile, non-bacteriostatic water. Submit approximately 50 mL of enema effluent. • Stool can be collected EITHER pre- or post-antitoxin administration. – **GASTRIC CONTENTS, ASPIRATE or VOMITUS – for both foodborne AND wound botulism** • Submit 25-50 mL of gastric material taken before lavage in a clean, dry container without transport media. Only samples taken within 48 hours of collection will be accepted.
Minimum Volume Required	– **Serum:** Three 10 mL red-top or gold top serum separator tubes (SST). – **Stool:** 25 g feces in a clean, dry container without transport media or 50 mL of enema effluent – **Gastric Contents:** 25-50 mL of gastric material
Storage/Transport Conditions Transport Medium	All specimens submitted to the PHL should be submitted with adequate gel-type cold packs at 4°C, not frozen. Place specimens into biohazard-labeled zip lock specimen bags to contain any leakage. The submitter must complete a separate test requisition form for each type of sample (serum, fecal, gastric).
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.

Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Mouse Bioassay
Turnaround Time	12 days
Interferences & Limitations	Atypical results may result from interfering substances (e.g., drugs, food additives/components) and toxins not neutralized by antitoxin (e.g., botulinum C, D, or G).
Additional Information	**The Infant Botulism Reporting Hotline** of the California Department of Public Health is (**510) 231-7600.** See http://www.infantbotulism.org/ for infant botulism specimen collection guidelines, diagnostics, and treatment specific to infant botulism.
Reference Range	Not Detected
CPT Code(s)	87001 (animal inoculation); 87076 (anaerobic culture ID); 87999 (mouse bioassay)
LOINC Code	33704-8

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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Brucella Serology, BMAT

Other Name(s)	Brucella antibody
LIMS Code	Not available
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Paired (acute- and convalescent-preferred) serum collected at least 14 days apart. Sequential serologic testing at 0, 6-, 12-, 18- and 24-weeks post exposure.
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store at < -20°C until both samples can be shipped together. Ship specimens cold or frozen. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Brucella Micro Agglutination Test (BMAT)
Turnaround Time	5 days
Interferences & Limitations	Hemolyzed, lipemic and contaminated serum can produce erroneous results. No serology available for *RB51* and *B. canis*. May have poor sensitivity for chronic or complicated brucellosis.
Additional Information	None
Reference Range	<1:20, Negative

CPT Code(s)	86622
LOINC Code	86459-5

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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Brucella species, Rule-out or Detection in Clinical Specimens

Other Name(s)	*B. abortus; B. melitensis; B. suis;* Brucellosis
LIMS Code	BRID
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– Culture/isolated colony (presumptive for *Brucella spp.* if referred) – Blood/Serum – Body fluids (bone marrow, joint, CSF or abscess fluid) – Tissue (spleen, liver)
Minimum Volume Required	Blood and Body Fluids: 0.5 mL
Storage/Transport Conditions **Transport Medium**	– Cultures should be sent on an agar slant at ambient temperature. – Blood and body fluids should be shipped on cold packs (wet ice if necessary). – Tissues should be sent frozen on dry ice. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	PCR, Culture, Conventional Biochemicals
Turnaround Time	21 days
Interferences & Limitations	Blood specimens for PCR should be collected in EDTA or Sodium Citrate tubes (not heparin)
Additional Information	None
Reference Range	Not Detected

CPT Code(s)	87077 (aerobic culture ID); 87801 (confirm by PCR)
LOINC Code	552-0 (culture); 41626-3 (PCR)

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Burkholderia, Rule-out or Detection in Clinical Specimens

Other Name(s)	Glanders; Melioidosis; *B. pseudomallei*; *B. mallei*
LIMS Code	Not available
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– Pure culture/isolated colony (presumptive for *B. mallei/pseudomallei* if referred) – **Bone marrow or whole blood:** Considered the best specimen for culture. Collect directly into an appropriate blood culture bottle. – **Sputum or Bronchoscopically obtained specimens:** Collect expectorated specimen into sterile transport cup or collect during bronchoscopy procedure. – **Tissue specimens (biopsies, abscess aspirates) and wound swabs:** Tissue pieces (at least the size of a pea) should be collected and kept moist. Alternatively, a swab from a tissue sample can be submitted in a hospital transport tube with medium to stabilize specimen (e.g., Amies charcoal). – **Urine:** Collect at least 1 mL into leak-proof container.
Minimum Volume Required	**Urine:** ≥ 1 mL **Tissue Specimens:** at least the size of a pea **Blood and Body Fluids:** ≥ 0.5 mL
Storage/Transport Conditions	– Agar slants preferred for shipping isolates. – **Cultures** may be stored at room temperature or at 2-8°C. – **Tissue** specimens should be transported in sterile containers at room temperature within 1 hour of collection. – **Urine** should be transported at room temperature up to 2 hours. Refrigerate up to 24 hours until culture inoculation. – **Sputum** is to be transported at room temperature up to 2 hours. If it is known that material will be transported from 2-24 hours after collection, then store & transport at 2-8°C. – **Bone marrow or whole blood** should be transported room temperature as soon as possible to obtain the diagnosis.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234.

	For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemical
Turnaround Time	7 days
Interferences & Limitations	Blood specimens should be collected in EDTA or Sodium Citrate tubes (not heparin).
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87081, 87077, 87150
LOINC Code	41628-9

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12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Clostridium botulinum Rule-out or Detection in Clinical Specimens

Other Name(s)	Botulism
LIMS Code	CCN
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. All suspected botulism cases should be reported immediately by telephone to the Local Health Department (CA Code of Regulations, Title 17, and Section 2500). In Los Angeles County, call Acute Communicable Disease Control (ACDC) (213) 240-7941 or the County Emergency Operator (213) 974-1234 after-hours and on weekends and holidays to report the suspect case and to obtain botulinum antitoxin. Suspect cases residing in Long Beach (562) 570-4302 or Pasadena (626) 744-6000 should be reported to the respective public health department.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– Clinical – Postmortem – Culture/isolate – Stool – Vomitus/gastric contents – Food/drink (solid or liquid) – Environmental: soil, water
Minimum Volume Required	**Stool:** 25 g feces in a clean, dry container without transport media or 50 mL of enema effluent **Gastric Contents:** 25-50 mL of gastric material
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (4˚C). Transport refrigerated on cold packs to the laboratory as soon as possible. Submit samples ASAP for anaerobic culture to the public health laboratory. Anaerobic transport device/vial
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.

Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemical, Mouse Bioassay
Turnaround Time	18 days
Interferences & Limitations	A swab is not considered satisfactory for anaerobic culture and may only be used as a last resort. If submitted, obtain as much material as possible and utilize an aerobic culturette device. Special collection procedures are essential to recovery of anaerobic bacteria since brief exposure to oxygen may be detrimental to their survival.
Additional Information	If the excised specimen is too large to fit inside the anaerobic transport device, a sterile screw cap cup may be used. A piece of gauze with a small amount of physiologic saline can be used to keep the specimen moist. Large tissue samples will maintain a sufficient internal anaerobic environment during transport. If incision and drainage is performed, lavage the open site with sterile, non-bacteriostatic, normal saline and submit washings for culture using an anaerobic transport device/vial. For needle aspirates, aseptically clean site and perform the aspiration from the deepest part of the lesion with 3-5 mL syringe and a 22- to 23-gauge needle. Disinfect rubber stopper of anaerobic transport device/vial with 70% alcohol. Expel all air from the syringe before collecting sample. Inject sample slowly and directly through the rubber stopper of the anaerobic transport device/vial. Never send capped needle syringes containing specimens to the laboratory. Needle transport is unsafe because there is a risk of needle stick injury; also, the sample may be expelled accidentally during transport and ruined. Always transfer aspirated material to an anaerobic transport device.
Reference Range	Not Detected
CPT Code(s)	87149 and 87150 (PCR); 87076 (anaerobic culture ID); 87001 (animal inoculation), 87999 (mouse bioassay)
LOINC Code	33694-1, 46705-0, 33704-8

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Ebola Zaire virus RNA, Qualitative Real-time PCR

Other Name(s)	Ebola
LIMS Code	EZPCA
Pre-Approval Required	For Los Angeles County, prior approval is required from the Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist in consultation with the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC). ACDC can be contacted by calling (213) 240-7941 during business hours. After-hours, weekends, or holidays contact the county operator and ask for the administrator on duty (AOD) at (213) 974-1234. For outside jurisdictions, approval is required from the local health department in consultation with CDPH and CDC.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm CDC Infectious Disease (CDC Form 50.34) http://www.cdc.gov/laboratory/specimen-submission/form.html CDC Viral Special Pathogens Branch (VSPB) Diagnostic Specimen Submission Form https://www.cdc.gov/ncezid/dhcpp/vspb/pdf/specimen-submission-508.pdf
Acceptable Specimen Type(s)	Blood and serum
Minimum Volume Required	8 mL
Storage/Transport Conditions **Transport Medium**	Store samples at 4-8°C using double biohazard specimen bags in a secondary container. Specimen should be sent on cold packs using a Category A shipper. Two (2) EDTA (lavender-top) **plastic** vacutainer tubes
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory. One sample is sent to Los Angeles County Public Health Laboratory and the other sample is sent to CDC.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov

Test Methodology	Real-Time PCR
Turnaround Time	24 hours
Interferences & Limitations	This test is specific for Ebola Zaire virus and does not detect other Ebola species or hemorrhagic fever viruses. Specimens from patients who have received therapeutics or vaccines based on nucleic acid sequences derived from Ebola Zaire virus may exhibit false positive or other confounding test results. If fever or symptoms have been present for less than 72 hours, a repeat test may be required to rule out Ebola virus infection.
Additional Information	Ebola Real-Time RT-PCR method developed by the Department of Defense and approved by the U.S. Food and Drug Administration under emergency use authorization.
Reference Range	Not Detected
CPT Code(s)	87798
LOINC Code	75411-9

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Francisella tularensis, Rule-out or Detection in Clinical Specimens

Other Name(s)	Tularemia; Rabbit Fever
LIMS Code	Not available
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– Culture Isolate (presumptive for *F. tularensis* if referred) – Blood culture – Biopsied tissue or scraping of an ulcer is preferable; a swab of the ulcer is an acceptable alternative. – Bronchial/tracheal wash, pleural fluid, or sputum if pneumonic tularemia is suspected. – Autopsy/necropsy specimens: abscess material or sections of lymph node, lung, liver, spleen, or bone marrow scrapings – Aspirate of involved tissue
Minimum Volume Required	**Tissue:** > 2 g (or 0.5-1 cm^3) **Blood and Body Fluids:** ≥ 0.5 mL
Storage/Transport Conditions	Agar slants preferred for shipping isolates. **Cultures** may be stored at room temperature or at 2-8°C. **Blood:** Transport directly to laboratory at room temperature. Hold at room temperature until placed onto the blood culture instrument or incubator. Do not refrigerate. Follow established laboratory protocol for processing blood cultures. **Biopsy:** Submit tissue, scraping, or aspirate in a sterile container. For small tissue samples, add several drops of sterile normal saline to keep the tissue moist. Transport at room temperature for immediate processing. If processing of specimen is delayed, keep specimen chilled (2-8°C). **Swabs:** Obtain a firm sample of the advancing margin of the lesion. If using a swab transport carrier, the swab should be reinserted into the transport package and the swab fabric moistened with the transport medium inside the packet. Transport at 2-8°C; room temperature is acceptable. If processing of specimen is delayed, keep specimen chilled (2-8°C). **Transport Medium** Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.**

	In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemical, DFA
Turnaround Time	7 days
Interferences & Limitations	Process samples/specimens as rapidly as possible for isolation and testing.
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87077 (aerobic culture ID); 87801 (confirm by PCR)
LOINC Code	33676-8, 33677-6

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Malaria, Rapid Antigen Test

Other Names(s)	*Plasmodium falciparum, Plasmodium vivax, Plasmodium malariae, Plasmodium ovale*
LIMS Code	MATST
Pre-Approval Required	For Los Angeles County, prior approval is required from the Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist in consultation with the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC). ACDC can be contacted by calling (213) 240-7941 during business hours. After-hours, weekends, or holidays contact the county operator and ask for the administrator on duty (AOD) at (213) 974-1234. For outside jurisdictions, approval is required from the local health department in consultation with CDPH and CDC.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.html CDC Infectious Disease (CDC Form 50.34) http://www.cdc.gov/laboratory/specimen-submission/form.html CDC Viral Special Pathogens Branch (VSPB) Diagnostic Specimen Submission Form http://www.cdc.gov/ncezid/dhcpp/vspb/pdf/specimen-submission.pdf
Acceptable Specimen Type(s)	Two (2) EDTA (lavender-top) tube blood specimens in **plastic** vacutainer tubes
Minimum Volume Required	4 mL x 2
Storage/Transport Conditions **Transport Medium**	Store samples at 4-8°C and transport on cold packs using a Category A shipper. EDTA (lavender-top) tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory. One sample is sent to Los Angeles County Public Health Laboratory and the other sample is sent to CDC.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov

Test Methodology	Immunochromatographic Membrane assay
Turnaround Time	24 hours
Interferences & Limitations	Performance of the BinaxNOW® Malaria test has not been established for monitoring treatment of malaria. The test is not intended for use in screening asymptomatic populations.
Additional Information	The BinaxNOW® Malaria test is an *in vitro* immunochromatographic assay for the qualitative detection of *Plasmodium* antigens circulating in human venous and capillary EDTA whole blood of individuals with signs and symptoms of malarial infection.
Reference Range	Negative
CPT Code(s)	87207
LOINC Code	76772-3

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Marburg Virus Warrior Multiplex Panel, Qualitative Real-time PCR

Other Name(s)	Biofire Next Generation Diagnostic System (NGDS) Warrior Panel, Multiplex PCR
LIMS Code	WARPCR
Pre-Approval Required	For Los Angeles County, prior approval is required from the Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist in consultation with the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC). ACDC can be contacted by calling (213) 240-7941 during business hours. After-hours, weekends, or holidays contact the county operator and ask for the administrator on duty (AOD) at (213) 974-1234. For outside jurisdictions, approval is required from the local health department in consultation with CDPH and CDC.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm CDC Infectious Disease (CDC Form 50.34) http://www.cdc.gov/laboratory/specimen-submission/form.html CDC Viral Special Pathogens Branch (VSPB) Diagnostic Specimen Submission Form https://www.cdc.gov/ncezid/dhcpp/vspb/pdf/specimen-submission-508.pdf
Acceptable Specimen Type(s)	– Two (2) lavender top EDTA blood specimens in plastic vacutainer tubes.
Minimum Volume Required	– **Whole Blood (EDTA):** 4 mL each
Storage/Transport Conditions **Transport Medium**	Store samples at 4-8°C using double biohazard specimen bags in a secondary container. Specimen should be sent on cold packs using a Category A shipper. Two (2) EDTA (lavender-top) **plastic** vacutainer tubes
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory. One sample is sent to Los Angeles County Public Health Laboratory and the other sample is sent to CDC.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov

Test Methodology	Multiplex Qualitative PCR
Turnaround Time	24 hours
Interferences & Limitations	Process samples/specimens as rapidly as possible for isolation and testing. The detection of organism nucleic acid is dependent upon proper sample collection, handling, transportation, storage, and preparation.
Additional Information	Marburg virus nucleic acids directly from human whole blood (EDTA).
Reference Range	Not Detected
CPT Code(s)	87154
LOINC Code	Bioterorrism agent Panel (101359-8), Marburg virus in blood (101367-1)

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Downey, CA 90242
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MERS-CoV RNA, Qualitative Real-time PCR

Other Name(s)	Middle East Respiratory Syndrome Coronavirus
LIMS Code	MERPCR
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s) *(Collect all three specimen types:* *Lower respiratory and Upper respiratory specimens)*	– **Lower Respiratory Tract Specimens** ○ **Broncheoalveolar lavage, tracheal aspirate, pleural fluid:** Collect 2-3 mL into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. ○ **Sputum:** Have the patient rinse the mouth with water and then expectorate deep cough sputum directly into a sterile, leak-proof, screw-cap sputum collection cup or sterile dry container. – **Upper Respiratory Tract Specimens** ○ **Nasopharyngeal AND oropharyngeal swabs** (NP/OP swabs): Use only synthetic fiber swabs with plastic shafts. Do not use calcium alginate swabs or swabs with wooden shafts, as they may contain substances that inactivate some viruses and inhibit PCR testing. Place swabs immediately into sterile tubes containing 2-3 mL of viral transport media. NP/OP specimens can be combined, placing both swabs in the same vial. ○ **Nasopharyngeal swabs:** Insert a swab into the nostril parallel to the palate. Leave the swab in place for a few seconds to absorb secretions. Swab both nasopharyngeal areas. ○ **Oropharyngeal swabs:** Swab the posterior pharynx, avoiding the tongue.
Minimum Volume Required	**Broncheoalveolar lavage, tracheal aspirate, pleural fluid:** 3-5 mL
Storage/Transport Conditions **Transport Medium**	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. Swabs may be shipped in commercial viral transport media.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234.

	For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Real-Time Polymerase Chain Reaction (RT-PCR)
Turnaround Time	24 hours
Interferences & Limitations	Process samples/specimens as rapidly as possible for isolation and testing. 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	Novel Coronavirus 2012 Real-time RT-PCR method developed by the Department of Defense and approved by the U.S. Food and Drug Administration under emergency use authorization.
Reference Range	Not Detected
CPT Code(s)	87798
LOINC Code	74472-2 (N3 gene RNA), 74474-8 (up E gene RNA)

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Multi-Agent Screen (MAS), Detection in Environmental Samples

Other Name(s)	LRN Bio-threat Multi-Agent Screening, MAS
LIMS Code	EBAS - *Not currently built in Sunquest*
Pre-Approval Required	Contact BTRU (562) 658-1360 prior to submission of samples for approval. Contact the administrator on duty (AOD) afterhours at 213-974-1234.
Supplemental Information and Required Form(s)	Los Angeles County Chain of Custody Form
Acceptable Specimen Type(s)	Swabs Wipes Powders Liquids Plant Material (e.g., leaf, flower, stalk) Seeds or beans Envelope/letter/paper Packages
Minimum Volume Required	Bulk sampling of visible materials (e.g., powders, liquids, etc.) and/or sampling from contaminated surfaces (e.g., with polyester swabs).
Storage/Transport Conditions **Transport Medium**	Dry swabs or powders can be stored and shipped at room temperature. Liquid samples should be held and shipped at 4°C. Not applicable
Sample Labeling	Completed Chain of Custody Form
Shipping Instructions and Sample Handling Requirements	**Do not send samples using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for sample notification. After hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at 213-974-1234.
Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemical, Time-resolved Fluorescence
Turnaround Time	7 days
Interferences & Limitations	None
Additional Information	Screening for *Bacillus anthracis, Brucella spp., Burkholderia mallei, Burkholderia pseudomallei, Francisella tularensis, Yersinia pestis,* Orthopoxvirus, and ricin toxin
Reference Range	Not Detected
CPT Code(s)	Not Applicable
LOINC Code	14325-5

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Non-variola *Orthopoxvirus* Real-time PCR

Other Name(s)	Monkeypox virus
LIMS Code	NVOPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Lesion Material:** - Touch prep (slide) of dried vesicular or pustular lesion fluid - Fresh biopsy of pustule or vesicle (no formalin) - Skin or crust from roof of vesicle - Dry or wet swab of lesion (dry swab is preferred). Wet swabs include swabs in transport media.
Minimum Volume Required	Not applicable
Storage/Transport Conditions	If transported within 24 hours of collection, package specimens from a single patient on refrigerated (2°C to 8°C) gel packs. If specimens will be transported **after 24 hours of collection**, all samples should be stored on dry ice or at -20°C to -70°C.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-Time Polymerase Chain Reaction (PCR)
Turnaround Time	24 hours
Interferences & Limitations	Cross contamination may occur if gloves are not changed between obtaining samples, or if samples are not packaged individually. If specimens are not stored and transported at the correct temperatures, samples may not yield reliable results.
Additional Information	Not applicable
Reference Range	Not Detected
CPT Code(s)	87593
LOINC Code	140230

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Orthopoxvirus (Rash Panel) Real-time PCR

Other Name(s)	None
LIMS Code	OPXPCR
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Lesion Material:** – Skin or crust from roof of vesicle or pustule – Vesicular or pustular fluid o Slide (touch prep) or EM grid o Swab – Punch Biopsy **Ocular impressions or swabs** (if conjunctivitis is present) **Serum** (serum alone should never be used to diagnose an *Orthopoxvirus* infection if the rash is still present)
Minimum Volume Required	**Serum:** 1 mL
Storage/Transport Conditions	If transported within 24 hours of collection, package specimens from a single patient on refrigerated (2°C to 8°C) gel packs. If specimens will be transported **after 24 hours of collection**, all samples (EXCEPT for EM grids, slides and formalin fixed tissues) should be stored on dry ice or at -20°C to -70°C. Serum may be frozen if aliquoted, otherwise it should remain at 2°C to 8°C. EM grids, slides and formalin-fixed biopsies should be shipped at room temperature or with refrigerated specimens. **DO NOT FREEZE EM grids, slides or formalin-fixed biopsies.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Real-Time Polymerase Chain Reaction (PCR)

Turnaround Time	24 hours
Interferences & Limitations	Cross contamination may occur if gloves are not changed between obtaining samples, or if samples are not packaged individually. If specimens are not stored and transported at the correct temperatures, samples may not yield reliable results.
Additional Information	Real-time RT-PCR assay to rule out *variola virus*
Reference Range	Not Detected
CPT Code(s)	87801
LOINC Code	41853-3

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Ricin Toxin, Detection in Environmental Samples

Other Name(s)	*Ricinus communis* (ricin) toxin testing in environmental samples
LIMS Code	None
Pre-Approval Required	Contact BTRU (562) 658-1360 prior to submission of samples for approval. Contact the administrator on duty (AOD) afterhours at 213-974-1234.
Supplemental Information and Required Form(s)	Los Angeles County Chain of Custody Form
Acceptable Specimen Type(s)	Swabs Wipes Powders Liquids Plant Material (e.g., leaf, flower, stalk) Seeds or beans Envelope/letter/paper Packages
Minimum Volume Required	Bulk sampling of visible materials (e.g., powders, liquids, etc.) and/or sampling from contaminated surfaces (e.g., with polyester swabs).
Storage/Transport Conditions **Transport Medium**	Dry swabs or powders can be stored and shipped at room temperature. Liquid samples should be held and shipped at 4°C. Not applicable
Sample Labeling	Completed Chain of Custody form
Shipping Instructions and Sample Handling Requirements	**Do not send samples using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for sample notification. After hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at 213-974-1234.
Test Methodology	Time-Resolved Fluorescence
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	Not Applicable
LOINC Code	41641-2

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Rickettsia Real-time PCR

Other Name(s)	*Rickettsia* RT-PCR assay for clinical samples
LIMS Code	RICPCR
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Whole blood preserved with EDTA (lavender-top) tube or acid citrate dextrose Solution A (ACD-A)
Minimum Volume Required	4 mL
Storage/Transport Conditions **Transport Medium**	Store samples at 4-8°C using double biohazard specimen bags in a secondary container. Specimen should be sent on cold packs. EDTA (lavender-top) tube or acid citrate dextrose Solution A (ACD-A)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Real-Time PCR
Turnaround Time	2 days
Interferences & Limitations	None
Additional Information	This test was developed by the CDC Laboratory Response Network.
Reference Range	Not Detected
CPT Code(s)	87798 x 5
LOINC Code	7996-2; 53608-6; 48868-4

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Warrior Multiplex Panel, Qualitative Real-time PCR

Other Name(s)	Biofire Next Generation Diagnostic System (NGDS) Warrior Panel, Multiplex PCR
LIMS Code	WARPCR
Pre-Approval Required	Contact Bioterrorism Response Unit (BTRU) (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– **Whole Blood:** collected via venipuncture in EDTA (lavender-top) tube. – **Positive Blood Culture (PBC):** collected directly into Blood Culture Bottle via venipuncture. **PBC Gram Stain –** PBC specimens tested with the FilmArray NGDS Warrior Panel should also be evaluated by Gram stain. – **Sputum:** collected according to standard technique and does not require preprocessing.
Minimum Volume Required	– **Whole Blood (EDTA):** 0.5 mL – **Positive Blood Culture:** 0.5 mL – **Sputum:** 0.5 mL
Storage/Transport Conditions **Transport Medium**	Specimens should be processed and tested as soon as possible. I If storage is required, **whole blood** and **sputum** specimens can be held at room temperature (approximately 23°C) for up to 1 day or refrigerated (2 to 8°C) for up to 7 days. **PBC specimens** should be processed and tested within 24 hours of blood culture showing positivity: by automated system indicators, by turbidity, or by daily Gram stain (without turbidity). Storage of PBC samples for greater than 24 hours prior to testing is **not recommended.** EDTA (lavender-top) tube, blood culture bottle
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.

Test Methodology	Multiplex Qualitative PCR
Turnaround Time	24 hours
Interferences & Limitations	Process samples/specimens as rapidly as possible for isolation and testing. The detection of organism nucleic acid is dependent upon proper sample collection, handling, transportation, storage, and preparation.
Additional Information	*Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis*, *Coxiella burnetii*, Ebola and Marburg virus nucleic acids directly from human whole blood (EDTA). *Bacillus anthracis* or *Yersinia pestis* nucleic acids in blood cultures that are determined to be positive either by an automated system, by turbidity, or by daily Gram stain. *Yersinia pestis* and *Francisella tularensis* nucleic acids directly from sputum specimens.
Reference Range	Not Detected
CPT Code(s)	87154
LOINC Code	Bioterorrism agent Panel (101359-8), *Bacillus anthracis* in blood (101362-2), *Bacillus anthracis* plasmid pXO1 in blood (101360-6), *Bacillus anthracis* plasmid pXO2 in blood (101362-4), *Yersinia pestis* in blood (101363-0), *Francisella tularensis* in blood (101364-8), *Coxiella burnetii* in blood (101365-5), Ebola virus in blood (101366-3), Marburg virus in blood (101367-1), *Bacillus anthracis* in positive blood culture (101368-9), *Bacillus anthracis* plasmid pXO1 in positive blood culture (101369-7), *Bacillus anthracis* plasmid pXO2 in positive blood culture (101370-5), *Yersinia pestis* in positive blood culture (101371-3), *Yersinia pestis* in sputum (101372-1), *Francisella tularensis* in sputum (101373-9)

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Yersinia pestis, Rule-out or Detection in Clinical Specimens

Other Name(s)	Plague
LIMS Code	Not available
Pre-Approval Required	Contact BTRU (562) 658-1360 prior to submission of samples for approval. Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist can be contacted by calling (213) 240-7941 during business hours or by contacting the administrator on duty (AOD) after-hours at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	- Pure culture/isolated colony (presumptive for *Y. pestis* if referred) - Tissue: biopsy of affected area (e.g., lymph node, lung) - Lymph node (bubo) aspirate or lymphoid tissue smears - Sputum, bronchial wash, or tracheal aspirate - Blood, blood culture bottle or tube - Autopsy/necropsy specimens: abscess material, lymph node, lung, liver, spleen, and/or bone marrow scrapings
Minimum Volume Required	**Blood , Aspirates, Fluids:** ≥ 0.3 mL **Tissues:** ≥ 2 g (or 0.5-1 cm^3)
Storage/Transport Conditions **Transport Medium**	Agar slants preferred for shipping isolates. Cultures may be stored at room temperature or at 2-8°C. Store samples at 2-8°C. If processing is delayed store specimens (except tissue samples) for culture in glycerol containing solutions (10% final concentration) at ≤ -70°C and ship on dry ice. Tissue samples can be directly frozen at ≤ -70°C and shipped on dry ice. Agar Slants
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens using regular courier or without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact the Bioterrorism Response Unit at (562) 658-1360 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the county operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC using World Courier. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Polymerase Chain Reaction (PCR), Culture, Conventional Biochemical
Turnaround Time	7 days
Interferences & Limitations	None
Additional Information	None

Reference Range	Not Detected
CPT Code(s)	86793
LOINC Code	33691-7

Chemical Terrorism Response

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Phone (562) 658-1300 Fax (562) 401-5999

Abrine

Other Name(s)	None
LIMS Code	ABRC
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Urine - clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Liquid Chromatography Mass Spectrometry (LC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	L-abrine (N-methyl tryptophan) shares a common plant source with abrin, and its presence can be used as a marker for abrin exposure.
Reference Range	Not Detected

CPT Code(s)	Not applicable
LOINC Code	54933-7

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Abrine and Ricinine Panel

Other Name(s)	None
LIMS Code	ABRC
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Urine - clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide appropriate shipping manifest. Follow standard chain-of-custody protocols. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Liquid Chromatography Mass Spectrometry (LC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None

Additional Information	L-abrine (N-methyl tryptophan) shares a common plant source with abrin, and its presence can be used as a marker for abrin exposure. Ricinine is a small molecule (164 g/mol, 3-cyano-4-methoxy-N-methyl-2-pyridone) that shares a common plant source with ricin, and its presence can be used as a marker for ricin exposure.
Reference Range	Not Detected
CPT Code(s)	Not applicable
LOINC Code	54932-9

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Blood Metals Screen

Other Name(s)	Blood Metals
LIMS Code	BM
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Blood Collect specimens only from adults unless otherwise specified.
Minimum Volume Required	12 mL each tube type
Storage/Transport Conditions **Transport Medium**	Store samples at 2-8°C. Transport on cold packs. Three (3) EDTA (lavender-top) tubes and three (3) Sodium Heparin (green-top) tubes. **Provide two (2) empty EDTA (lavender-top) tubes and two (2) Sodium Heparin (green-top) tubes from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1328 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Inductively coupled Plasma/Mass Spectrometry (ICP/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Determination of Mercury (Hg), Lead (Pb), and Cadmium (Cd) in whole blood.

Reference Range	Mercury < 10 ng/mL; Cadmium < 5 ng/mL; Lead < 3.5 mcg/dL
CPT Code(s)	Not applicable
LOINC Code	5685-3 (Mercury); 5609-3 (Cadmium); 5671-3 (Lead)

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Cyanide, Blood

Other Name(s)	Cyanide in Blood, CN
LIMS Code	CYN
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Blood Collect specimens only from adults unless otherwise specified.
Minimum Volume Required	12 mL each tube type
Storage/Transport Conditions **Transport Medium**	Store samples at 2-8°C. Transport on cold packs. Three (3) EDTA (lavender-top) tubes and three (3) Sodium Heparin (green-top) tubes **Provide (2) empty EDTA (lavender-top) tubes and (2) Sodium Heparin (green-top) tubes from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Gas Chromatography/Mass Spectrometry (GC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Cyanide is measured in whole blood using static headspace sampling and chromatography with mass selective detection in mass spectrometry.
Reference Range	< 0.2 mcg/mL

CPT Code(s)	Not applicable
LOINC Code	5634-1

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Organophosphate Nerve Agents, Serum

Other Name(s)	organophosphorus nerve agents, sarin (GB), soman (GD), cyclosarin (GF), Russian VX (rVX) and VX
LIMS Code	OPNAS
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Serum collected in gold top serum separator tube (SST)
Minimum Volume Required	0.5 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C (or lower) as soon as possible. Ship frozen on dry ice unless otherwise directed. Provide 2 empty collection devices from same lot number used in the specimen collection.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide appropriate shipping manifest. Follow standard chain-of-custody protocols. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Liquid Chromatography/Mass Spectrometry (LC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Stable breakdown products of organophosphate nerve agents appear in serum and can be identified using mass spectrometry to identify the original nerve agent.
Reference Range	Not Detected

CPT Code(s)	Not applicable
LOINC Code	

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Organophosphate Nerve Agents, Urine

Other Name(s)	organophosphorus nerve agents, sarin (GB), soman (GD), cyclosarin (GF), Russian VX (rVX) and VX
LIMS Code	OPNA
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Urine - clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives. **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide appropriate shipping manifest. Follow standard chain-of-custody protocols. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Liquid Chromatography/Mass Spectrometry (LC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Stable breakdown products of organophosphate nerve agents appear in urine and can be identified using mass spectrometry to identify the original nerve agent.
Reference Range	Not Detected

CPT Code(s)	Not applicable
LOINC Code	28042-0

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Tetramine in Urine

Other Name(s)	Tetramethylene Disulfotetramine in Urine
LIMS Code	TETU
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine - Clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives. **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1300 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide appropriate shipping manifest. Follow standard chain-of-custody protocols. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Gas Chromatography Mass Spectrometry (GCMS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	The method described here is applied to measure Tetramine in human urine samples. Ideally urine samples are collected within 48 hours post-exposure. However, it has been reported that Tetramine is slowly excreted in urine and can be monitored for more than 100 hours post exposure
Reference Range	Not Detected

CPT Code(s)	Not applicable
LOINC Code	

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Tetranitromethane

Other Name(s)	4-Hydroxy-3-Nitrophenylacetic Acid (HNPAA) in Urine
LIMS Code	TNM
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Urine - Clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives. **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1330 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Liquid Chromatography/Mass Spectrometry (LC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Tetranitromethane (TNM) produces a stable breakdown product of 4-hydroxy-3-nitrophenylacetic acid (HNPAA) in urine that can be detected using mass spectrometry to assess exposure to TNM.
Reference Range	Not Detected

CPT Code(s)	Not applicable
LOINC Code	80663-8

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Urine Metals Screen

Other Name(s)	Trace Element Screen
LIMS Code	TES
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Urine - clean-catch collected midstream.
Minimum Volume Required	40-60 mL
Storage/Transport Conditions **Transport Medium**	Samples should be frozen at -20°C as soon as possible. Ship frozen on dry ice unless otherwise directed. Sterile, screw-cap collection cup without additives **Provide 2 empty collection cups from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1330 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide appropriate shipping manifest. Follow standard chain-of-custody protocols. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	The ICP-MS method is used to measure the following elements in urine: Arsenic (As), Barium (Ba), Beryllium (Be), Cadmium (Ca), Lead (Pb), Thallium (Ti), and Uranium (U)
Reference Range	Test results are for epidemiological surveillance use only.

CPT Code(s)	Not applicable
LOINC Code	

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Volatile Organic Compounds, Blood

Other Name(s)	None
LIMS Code	VOC
Pre-Approval Required	Approval is required from Emergency Preparedness and Response TAG coordinator. Use the PH emergency desk phone number (213) 989-7140. After-hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm LAC PHL Receipt of Property Chain of Custody form
Acceptable Specimen Type(s)	Blood Collect specimens only from adults unless otherwise specified.
Minimum Volume Required	12 mL each tube type
Storage/Transport Conditions **Transport Medium**	Store samples at 2-8°C. Transport on cold packs. Three (3) EDTA (lavender-top) tubes and three (3) Sodium Heparin (green-top) tubes **Provide (2) empty EDTA (lavender-top) tubes and (2) Sodium Heparin (green-top) tubes from same lot number used in the specimen collection.**
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	In Los Angeles County, contact the Chemical Terrorism Response Unit at (562) 658-1330 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After-hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at (213) 974-1234. For outside jurisdictions, work with your local public health department to arrange for transport to the Los Angeles County Public Health Laboratory and CDC. Provide package tracking number and notification of sample shipment to your local public health laboratory director and to Dr. Nicole Green, Los Angeles County Public Health Laboratory Director, at nicgreen@ph.lacounty.gov.
Test Methodology	Gas Chromatography/Mass Spectrometry (GC/MS)
Turnaround Time	24 hours
Interferences & Limitations	None
Additional Information	Measurement of Volatile Organic Compounds (VOC) in whole blood by Solid Phase Microextraction (SPME) gas chromatography with mass selective detection. VOCs: 1,1,1-Trichloroethane, 1,4-Dichlorobenzene, 2-Butanone, Acetone, Benzene, Ethylbenzene, Styrene, Tetrachloroethene, Toluene, m-/p-Xylene, o-Xylene.

Reference Range	Reference range has not been determined. Percentile ranges for most VOCs in blood are as follows: 5th Percentile (low end) is ND – 1.9 ppm, acetone is 640 ppm; 95th Percentile (high end) is 0.25 – 17 ppm, acetone is > 6000 ppm. The health effects from exposure to low levels of VOCs are currently unclear.
CPT Code(s)	Not applicable
LOINC Code	

Environmental Microbiology

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Aerobic Count, 3M Petrifilm

Other Name(s)	None
LIMS Code	PAC - *Not currently built in Sunquest*
Pre-Approval Required	Pre-Approval required.
Supplemental Information and Required Form(s)	Los Angeles County Department of Public Health, Environmental Health, Food and Milk Program Form *H-1480 (Rev 12/09)*
Acceptable Specimen Type(s)	All dairy products including raw milk and liquid milk products, dried milk products, cheese, processed cheese, butter, margarine, frozen milk products, custard, desserts, and cream.
Minimum Volume Required	25 g
Storage/Transport Conditions **Transport Medium**	**Refrigerated:** 0°- 4.4°C for miscellaneous samples such as process samples (see SMEDP 3.076) or refrigerated mixes. Tests for microbiological counts in all samples must begin within 48 hours of initial collection (not from pickup at a transfer location). Protect samples from contamination. It is recommended that samples be placed in waterproof bags so that the samples can be submerged in the ice without concern for contamination from the ice. Laboratories may refuse to officially analyze samples that are received submerged in ice water unless they are protected by a sealed plastic bag. **Frozen**: Routine samples. Use an appropriate refrigerant, preferably dry ice, to maintain samples in a frozen state (preferably –18°C or 0°F if not colder) until they are delivered to the laboratory. These samples must be promptly delivered to the laboratory. **Dry samples:** These samples may be shipped without refrigeration; however, they should be protected from moisture and temperature extremes.
Specimen Labeling	Sample ID, Date & Time of sample collection, Test requested
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	SMEDP 6.040
Turnaround Time	3 days
Interferences & Limitations	Samples not received at the Public Health Laboratory within the “holding times” and temperatures listed above cannot be tested.
Additional Information	This method is used by the dairy industry for estimating the microbial populations in most types of dairy products and samples and for determining quality and sources of contamination at successive stages of processing.
Reference Range	The maximum standard allowable count for these samples is 75,000/g. Any counts exceeding 75,000/g are considered illegal.
CPT Code(s)	Not Applicable
LOINC Code	

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Coliform Count High-Sensitivity, 3M Petrifilm

Other Name(s)	None
LIMS Code	HSCC - *Not currently built in Sunquest*
Pre-Approval Required	Pre-Approval required.
Supplemental Information and Required Form(s)	Los Angeles County Department of Public Health, Environmental Health, Food and Milk Program Form *H-1480 (Rev 12/09)*
Acceptable Specimen Type(s)	• Frozen yogurt • Non-Dairy Desserts, Powder, and Mixes • Dairy Desserts, Powder, and Mixes
Minimum Volume Required	25 g
Storage/Transport Conditions **Transport Medium**	**Refrigerated:** 0°- 4.4°C for miscellaneous samples such as process samples (see SMEDP 3.076) or refrigerated mixes. Tests for microbiological counts in all samples must begin within 48 hours of initial collection (not from pickup at a transfer location). Protect samples from contamination. It is recommended that samples be placed in waterproof bags so that the samples can be submerged in the ice without concern for contamination from the ice. Laboratories may refuse to officially analyze samples that are received submerged in ice water unless they are protected by a sealed plastic bag. **Frozen**: Routine samples. Use an appropriate refrigerant, preferably dry ice, to maintain samples in a frozen state (preferably –18°C or 0°F if not colder) until they are delivered to the laboratory. These samples must be promptly delivered to the laboratory. **Dry samples:** These samples may be shipped without refrigeration; however, they should be protected from moisture and temperature extremes.
Specimen Labeling	Sample ID, Date & Time of sample collection, Test requested
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	SMEDP 7.072
Turnaround Time	2 days
Interferences & Limitations	Samples not received at the Public Health Laboratory within the “holding times” and temperatures listed above cannot be tested.
Additional Information	Coliforms isolated from pasteurized products suggest improper pasteurization and/or post-pasteurization contamination, indicating the presence of defective equipment or a need for improved equipment sanitation. This method is a ready-made plating procedure that consists of a culture medium made of two plastic films coated with modified Violet Red Bile (VRB) nutrients, a dehydrated cold water-soluble gelling agent, and a tetrazolium indicator that facilitates colony enumeration.
Reference Range	The maximum standard allowable count for these samples is 10/g. Any counts exceeding 10/g are considered illegal.
CPT Code(s)	Not Applicable
LOINC Code	

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Enterococci, *E.coli* and Total Coliforms Quantitation in Water

Other Name(s)	None
LIMS Code	QNTT
Pre-Approval Required	Pre-Approval required.
Supplemental Information and Required Form(s)	Los Angeles County PHL Form *LAC-PHL-ENV-WTR-QC-002: BACTERIOLOGICAL EXAMINATION OF WATERS*
Acceptable Specimen Type(s)	Water
Minimum Volume Required	Drinking/ Potable: 100 mL Recreational (marine & fresh), Wastewater, Reclaimed water: 250 mL
Storage/Transport Conditions	"Holding time" is defined by the duration of time it takes from sampling of the water, to completing the initial analysis at the testing lab. This is the total time it takes to sample, transport, receive in the lab, and analyze. Please prepare in advance to allow enough time for processing the samples. All regulated samples must be completed within 2-hours of receipt at the laboratory, so PLEASE NOTIFY THE LAB IN ADVANCE. • Holding time for Recreational Water is 8 hours. Temp 1-10°C • Holding time for Drinking Water is 30 hours. Samples that take one hour or longer to be received at the lab (after sampling) must be chilled to <10°C. Temperature on receipt for these samples must be <10°C. • Holding time for Wastewater is 6 hours.
Transport Medium	Sodium Thiosulfate if sample is chlorinated
Specimen Labeling	Sample ID, Date and Time of sample collection, if applicable
Shipping Instructions and Specimen Handling Requirements	All samples must be sealed or capped to keep them from contamination prior to analysis. They are to be inserted in a Ziploc® bag for protection and containment of any spillage. Temperature controls must accompany the samples. All transport containers must be Public Health Laboratory (PHL) and State Water Board's Environmental Laboratory Accreditation Program (ELAP) approved.
Test Methodology	IDEXX Quanti-Tray Most Probable Number (MPN)
Turnaround Time	24 hours
Interferences & Limitations	Samples not received at the Lab within the "holding times" listed above cannot be tested. Sample with Temp >10°C cannot be tested.
Additional Information	Quantitative enzyme substrate test for the presence of Enterococci, total coliforms, and *E.coli* (fecal coliforms) in drinking, wastewater, and recreation water.
Reference Range	Beach water is considered Recreational water and should be monitored for bacteria levels. Specifically, coliforms, *E. coli*, and enterococcus (fecal streptococci) have limits that are cited by EPA code AB 411, and are as follows: • Coliforms: 10,000/100 mL • *E. coli*: 400/100 mL • Enterococcus: 104/100 mL
CPT Code(s)	Not Applicable
LOINC Code	

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Food Poisoning

Other Name(s)	None
LIMS Code	FP
Pre-Approval Required	Pre-Approval required. Food sample submissions must be approved by the Acute Communicable Disease Control Program (213) 240-7941. Food specimens must be submitted with a Test Request Form. Food specimens may be tested for enteric pathogens such as *Salmonella*, *Shigella*, STEC, *Listeria*, *Vibrio* spp. *Clostridium perfringens*, etc.…or for foodborne toxins such as staphylococcal enterotoxin toxin and botulism toxin. To report a suspected food related illness: https://www.visualcmr.net/webvcmr/pages/public/pub_FBI_Report.aspx or call the number listed above.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Food Samples: Consult needed
Minimum Volume Required	25-100 g (depending on the food sample); Consult needed
Storage/Transport Conditions **Transport Medium**	Consult needed
Specimen Labeling	Sample ID, Date & Time collected, and specimen type, if applicable.
Shipping Instructions and Specimen Handling Requirements	Consult needed
Test Methodology	Conventional culture, MALDI-TOF, ELFA, Serological methods, PCR, Immunoassays
Turnaround Time	30 days
Interferences & Limitations	Not Applicable
Additional Information	Food Poisoning (outbreak investigation)
Reference Range	Not Applicable
CPT Code(s)	Not Applicable
LOINC Code	

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Legionella, Environmental Samples

Other Name(s)	None
LIMS Code	LCH20
Pre-Approval Required	Pre-Approval required. Submission of samples are prearranged with the PH Laboratory to ensure available testing staff and testing media. David Jensen, Section Chief – Clinical, Food & Environmental Bacteriology & Parasitology (562) 658-1488 djensen@ph.lacounty.gov
Supplemental Information and Required Form(s)	-Submit samples with test request using the *Los Angeles County PHL Test Request Form (H 3021):* http://www.publichealth.lacounty.gov/lab/labforms.htm - Chain of Custody form (*LAC-PHL-ENV-LEG-S005 Appendix 3*) and collection list(s) should accompany PHL Test Requisition Form. - If no Chain of Custody Form is received with samples, initiate a form within the PHL at time of receipt to document samples received. - Collection lists (*LAC-PHL-ENV-LEG-S005 Appendix 2*) are often used to coordinate multiple samples for submission associated with a site investigation.
Acceptable Specimen Type(s)	• 1 L of water • Swab (Dacron swab with non-wooded shaft)
Minimum Volume Required	1 L water sample in sterile container with 0.5 mL of 0.1N sodium thiosulfate. For drinking or potable water, such as water fountains, faucets, and showerheads, collect two samples if possible. Collect the "pre-flush" sample by draining the first 1000 mL of water from the faucets or flush drains into a bottle. Allow the water to run for approximately 60 seconds (or longer) and collect the second draw of 1000 mL of water. The second sample is also called "post-flush" sample. Collect culture swabs of internal surfaces of faucets, aerators, and shower heads in a sterile, screw-top container (e.g., 50 mL plastic centrifuge tube). Submerge each swab in approximately 5 mL of sample water taken from the same device from which the sample was obtained.
Storage/Transport Conditions **Transport Medium**	Transport to the laboratory as soon as possible. Samples may be transported at room temperature but must be protected from temperature extremes. Samples not processed with 24 hours of collection should be refrigerated. Transfer in insulated container.
Specimen Labeling	Sample ID, Date and Time of sample collection, if applicable
Shipping Instructions and Specimen Handling Requirements	Schedule delivery during regular business hours M-F 8:00 a.m.-5:00 p.m. Personal safety and precautions should be observed during sampling. Avoid breathing aerosols that may be contaminated with Legionella bacteria. Avoid generating aerosols or water mists during sampling of the water system. Turn off the cooling tower fan during sampling, or wear a respirator equipped with a HEPA cartridge. Tightly cap the bottles. Make sure that water does not leak out during shipping and transporting. Place taped bottles in a clean plastic bag.
Test Methodology	Conventional culture, Gram stain, MALDI-TOF, Latex Agglutination
Turnaround Time	7 Days for negative, positives will require more time
Interferences & Limitations	Without the addition of sodium thiosulfate oxidizing biocides (chlorine, chlorine dioxide, bromine, ozone, iodine) will decrease the viability of Legionella in the water sample. If high amounts out silver or copper are known to be present, notify the lab as EDTA may need to be added.

Additional Information	Culture and Identification of *Legionella spp.* from Water and Environmental Samples
Reference Range	By Report
CPT Code(s)	Not Applicable
LOINC Code	TBD

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Legionella Screening and Confirmation

Other Name(s)	Legionella, Water
LIMS Code	LCHWT
Pre-Approval Required	Pre-Approval required. Contact Environmental Microbiology unit (562) 658-1488 prior to submission of samples. *This test is only available to Acute Communicable Disease Control (ACDC) for investigational purposes.*
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm *Environmental Sample Line List* (Appendix 2) *Environmental Chain-of-Custody Form* (Appendix 3)
Acceptable Specimen Type(s)	Environmental: Water sample (potable and non-potable), swab
Minimum Volume Required	Refer to: *CDC Sampling Procedures and Potential Sampling Sites for Legionella spp.*
Storage/Transport Conditions **Transport Medium**	• Submit samples to PHL within 24 hours. • Transport water samples and swabs, as soon after collection as possible, in insulated coolers at room temperature to the PH Laboratory. • Avoid exposing samples to temperature extremes. • If unable to ship within 24 hours, store refrigerated at 4°C. • Samples arriving at PHL and not processed same day of receipt should be at stored at 4°C until initiation of testing Refer to: *PHL Environmental Legionella Sampling, Transport, Receiving and Shipping procedure.*
Specimen Labeling	See: *Environmental Sample Line List* (Appendix 2)
Shipping Instructions and Specimen Handling Requirements	Consultation regarding lab support for *Legionella* testing is required prior to initiation of shipments of non-clinical isolates. Please contact the Environmental microbiology Unit at djensen@ph.lacounty.gov
Test Methodology	Enzyme substrate, Culture, MALDI-TOF-MS, Latex Agglutination
Turnaround Time	8 day for negatives, up to 2 weeks for positives to confirm
Interferences & Limitations	High background level of non-target organisms, high levels of chlorine and brown colored water.
Additional Information	None
Reference Range	Not detected
CPT Code(s)	IDEXX Legiolert (N/A), Legionella species Culture (87070), Ident by MALDI-TOF mass spec (if appropriate) (87077), Serologic Agglut Method 1 Ident (if appropriate) (87147 x 3)
LOINC Code	Various, 87957-7 *Legionella spp.* identified in Water by Organism specific culture, 71377-6 *Legionella spp.* [Identifier] in Isolate by Agglutination, LP17705-2 *Legionella pneumophila* 1, etc..

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Yeast and Mold Rapid Count, 3M Petrifilm

Other Name(s)	None
LIMS Code	Not currently built in Sunquest
Pre-Approval Required	Pre-Approval required.
Supplemental Information and Required Form(s)	Los Angeles County Department of Public Health, Environmental Health, Food and Milk Program Form *H-1480 (Rev 12/09)*
Acceptable Specimen Type(s)	Frozen yogurts (This method is suitable for use with all dairy products)
Minimum Volume Required	25 g
Storage/Transport Conditions **Transport Medium**	**Refrigerated:** 0°- 4.4°C for miscellaneous samples such as process samples (see SMEDP 3.076) or refrigerated mixes. Tests for microbiological counts in all samples must begin within 48 hours of initial collection (not from pickup at a transfer location). Protect samples from contamination. It is recommended that samples be placed in waterproof bags so that the samples can be submerged in the ice without concern for contamination from the ice. Laboratories may refuse to officially analyze samples that are received submerged in ice water unless they are protected by a sealed plastic bag. **Frozen**: Routine samples. Use an appropriate refrigerant, preferably dry ice, to maintain samples in a frozen state (preferably –18°C or 0°F if not colder) until they are delivered to the laboratory. These samples must be promptly delivered to the laboratory. **Dry samples:** These samples may be shipped without refrigeration; however, they should be protected from moisture and temperature extremes.
Specimen Labeling	Sample ID, Date & Time of sample collection, Test requested
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	SMEDP 8.112
Turnaround Time	5 days
Interferences & Limitations	Samples not received at the Public Health Laboratory within the “holding times” and temperatures listed above cannot be tested.
Additional Information	In cultured Dairy products, such as Yogurts, the finding of Yeast or Molds may indicate poor sanitary practices in handling these products. The presence of these organisms in cultured dairy products is usually interpreted as the result of contamination introduced by equipment and/or processing downstream of the pasteurizer. This method is a ready-made plating procedure that consists of a culture medium made of two plastic films coated with nutrients, antibiotics, a cold water-soluble gelling agent, and an indicator system that facilitates yeast and mold enumeration.
Reference Range	The maximum standard allowable count for these samples is 10/g. Any counts exceeding 10/g are considered illegal.
CPT Code(s)	Not Applicable
LOINC Code	

Molecular Diagnostics

Los Angeles County Public Health Laboratories
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Phone (562) 658-1300 Fax (562) 401-5999

C. trachomatis/N. gonorrhoeae NAAT for Endocervical Swab

Other Name(s)	*Chlamydia trachomatis*/*Neisseria gonorrhoeae* (CT/GC) assay for **Endocervical swab**, APTIMA® Combo 2 Qualitative Assay
LIMS Code	ACCVX
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Endocervical swab
Minimum Volume Required	One swab in transport medium tube.
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Unisex Swab Specimen Transport Tube for Endocervical and Male Urethral Swab Specimens (white label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Use the white swab to clean the area and discard swab. Only the blue swab should be used to collect specimen. After collecting specimen insert blue swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Adhere to product insert of APTIMA® Specimen Collection Kit for detailed instructions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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Chlamydia trachomatis/Neisseria gonorrhoeae NAAT for Rectal Swab

Other Name(s)	Chlamydia/Gonorrhea (CT/GC) assay from **Rectal Swab**, APTIMA® Combo 2 Qualitative Assay
LIMS Code	ACRCT
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Rectal swab
Minimum Volume Required	One swab in transport medium tube.
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Multitest Swab Transport Media (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	After collecting specimen insert swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Adhere to product insert of APTIMA® Specimen Collection Kit for detailed instructions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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Chlamydia trachomatis/Neisseria gonorrhoeae NAAT for Throat Swab

Other Name(s)	Chlamydia/Gonorrhea (CT/GC) assay from **Throat**, APTIMA® COMBO 2 Qualitative Assay
LIMS Code	ACTH
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Throat swab
Minimum Volume Required	One swab in transport medium tube.
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Multitest Swab Transport Media (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	After collecting specimen insert swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	None
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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C. trachomatis/N. gonorrhoeae NAAT for Urethral Swab

Other Name(s)	Chlamydia/Gonorrhea (CT/GC) assay for male **Urethral**, APTIMA® Combo 2 Qualitative Assay
LIMS Code	ACURT
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urethral swab
Minimum Volume Required	One swab in transport medium and tube
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Unisex Swab Specimen Transport Tube (white label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Only the blue swab should be used to collect specimen. After collecting specimen insert swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil top cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Adhere to product insert of APTIMA® Specimen Collection Kit for detailed instructions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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Chlamydia trachomatis/Neisseria gonorrhoeae NAAT for Urine

Other Name(s)	Chlamydia/Gonorrhea (CT/GC) assay for **Urine**, APTIMA® Combo 2 Qualitative Assay
LIMS Code	ACURN
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine
Minimum Volume Required	2 mL
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 30 days at 2-30˚C. APTIMA® Urine Specimen Transport Tube (yellow label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Collect first void urine in urine collection cup. Mix urine. Transfer 2 mL urine into Aptima® urine collection kit (approximately 4 mL total volume) within 24 hours of collection. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil of cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Adhere to product insert of APTIMA® Specimen Collection Kit for detailed instructions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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C. trachomatis/N. gonorrhoeae NAAT for Vaginal Swab

Other Name(s)	Chlamydia/Gonorrhea (CT/GC) assay, **Vaginal**, APTIMA® Combo 2 Qualitative Assay
LIMS Code	ACVAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vaginal swab
Minimum Volume Required	One swab in transport medium tube
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. Aptima® Multitest Swab Transport Media (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	After collecting specimen insert swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil of cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Adhere to product insert of APTIMA® Specimen Collection Kit for detailed instructions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87491, 87591
LOINC Code	43304-5, 43305-2

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Hepatitis C Viral RNA, Qualitative, TMA

Other Name(s)	APTIMA HCV RNA Qualitative, Transcription Mediated Amplification (TMA)
Test Code	HCVNAT
Pre-Approval Required	Documentation of positive Hepatitis C antibody screen is required. Testing performed as a manual reflex test when the HCVABT is either Reactive or Equivocal.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	EDTA (lavender-top) tube plasma or (red-top, **plastic**) tube serum specimens
Minimum Volume Required	2 mL
Storage/Transport Condition **Transport Medium**	Freshly drawn whole blood may be held at 2-30°C for up to 24 hours. Once centrifuged, store at 2-8°C up to 5 days. Do not freeze. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	2-3 business days
Interferences & Limitations	This assay has not been FDA-approved for the screening of blood or plasma donors. Detection of HCV RNA does not discriminate between acute and chronic states of infection. A negative result does not exclude active HCV replication. This test should not be used for monitoring HCV infected patients.
Additional Information	Ordered after Hepatitis C positive antibody screen and used to differentiate active from resolved infection in HCV-antibody positive individuals. This is also a reflex test for Hepatitis C antibody screen (CPT 86803) for specimens tested at the Public Health Laboratories.
Reference Range	Not Detected
CPT Code(s)	87521
LOINC Code	11259-9

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Hepatitis C Virus, Quantitative, NAAT

Other Name(s)	APTIMA® Hepatitis C Quant Dx, Hepatitis C Viral RNA Detection and Quantitation
LIMS Code	HCVQDX
Pre-Approval Required	Documentation of primary tube centrifugation within 6 hours of collection
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Required Specimen Type(s)	**Serum:** Collect in (gold-top, plastic) serum separator tube or (red-top, plastic) serum separator tube. **Plasma:** Collect in K2 EDTA plasma preparation tube (pearl top) or K2 EDTA (lavender-top) tube
Minimum Volume Required	2 mL processed serum or plasma
Storage/Transport Conditions	Whole blood specimens should be centrifuged within 6 hours after collection, if lavender top tube is used, transfer plasma, to a screw-cap polypropylene tube. Store specimens at room temperature (15-25˚C), refrigerated at (2-8˚C) or frozen. See storage conditions below. Transport refrigerated on cold packs, or frozen on dry ice (-20˚C or lower) if the specimens were previously frozen. If needed, separated plasma or serum may be stored: – At 2-25°C for up to 24 hours – At 2-8°C for up to 5 days – At -20°C for up to 60 days
Transport Medium	Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Detection of HCV RNA does not discriminate between acute and chronic states of infection.
Additional Information	The quantitative range of this assay is 1.0-8.0 log IU/mL (10-100,000,000 IU/mL) with limit of detection (LOD) at 3.9 IU/mL for plasma and 3.4 IU/mL for serum. This test can be used for both detection and quantitation of HCV RNA.
Reference Range	Not Detected
CPT Code(s)	87521, 87522
LOINC Code	11259-9; 11011-4; 38180-6

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HIV-1 RNA, Qualitative, Transcription Mediated Amplification

Other Name(s)	APTIMA HIV-1 RNA Qualitative Assay
LIMS Code	HIVNAA
Pre-Approval Required	None. However, this is a reflex order as part of the HIV Multi-test Screening Algorithm
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	EDTA (lavender-top) plasma tube or (red-top, gold top plastic) serum tube specimens
Minimum Volume Required	2 mL
Storage/Transport Conditions **Transport Medium**	Freshly drawn whole blood may be held at 2-30°C for up to 24 hours prior to centrifugation. Centrifuged whole blood may be held at room temperature up to 24 hours. Do not freeze. After centrifugation, processed serum or plasma may be held at 2-8°C for up to 5 days. To store for longer periods, keep frozen at or below -20°C (preferred). Transport refrigerated on cold packs, or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	2-3 business days
Interferences & Limitations	This assay has not been FDA-approved for the screening of blood or plasma donors. A negative result does not exclude HIV infection. Specimen that are nonreactive in the APTIMA® HIV-1 RNA Qualitative Assay and repeatedly reactive in a test for HIV-1 antibodies should be tested by additional methods to confirm the presence of HIV-1 antibodies. The individual should be referred for medical follow-up and additional testing. This test should not be used for monitoring HIV-1 infected patients. Exposure of plasma or serum samples to elevated room temperature for more than 6 hours or longer should be avoided. Multiple freeze/thaw cycles should be avoided.
Additional Information	Ordered after HIV-1 positive antibody screen and used to diagnose HIV-1 before seroconversion, confirm HIV-1 infection in antibody positive patients, or resolve indeterminate HIV-1 antibody test results. This is also a reflex test for indeterminate HIV 1/2 differentiation assay (CPT 86701, 86702) for specimens tested at the Public Health Laboratories.
Reference Range	Not Detected
CPT Code(s)	87535

LOINC Code	25835-0

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Mycoplasma genitalium NAAT for Penile Meatal Swab

Other Name(s)	*Mycoplasma genitalium* RNA, Qualitative, Transcription Mediated Amplification
LIMS Code	MGPEN
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Penile meatal swab
Minimum Volume Required	One swab in transport medium and tube.
Storage/Transport Condition **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Multitest Swab Specimen Transport Tube (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription –Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Refer to package insert of APTIMA® Specimen Collection Kit for detailed directions.
Additional Information	Tightly screw cap onto the tube to avoid leaking of specimen. avoid touching or puncturing the foiled of the cap.
Reference Range	Negative
CPT Code(s)	87563
LOINC Code	23300-7

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Mycoplasma genitalium NAAT for Urine

Other Name(s)	*Mycoplasma genitalium* RNA, Qualitative, Transcription Mediated Amplification
LIMS Code	MGURN
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine
Minimum Volume Required	2 mL
Storage/Transport Condition **Transport Medium**	Store processed specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 30 days at 2-30˚C. Aptima® Urine Specimen Transport Tube (yellow label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Collect first void urine in sterile urine collection cup. Mix and transfer 2 mL of urine to the Aptima® urine specimen transport tube within 24 hours of collection. Processed specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription –Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Refer to package insert of APTIMA® Specimen Collection Kit for detailed directions.
Additional Information	For females, a vaginal swab is the preferred specimen type due to higher clinical sensitivity for detecting *M. genitalium* than other specimen types; however, female urine or endocervical swabs may be used as alternative specimens when vaginal swab specimens are not available. If female urine or endocervical swab specimens test negative, testing with a vaginal swab may be indicated, if *M. genitalium* infection is suspected.
Reference Range	Negative
CPT Code(s)	87798
LOINC Code	23300-7

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Mycoplasma genitalium NAAT for Vaginal Swab

Other Name(s)	*Mycoplasma genitalium* RNA, Qualitative Transcription Mediated Amplification
LIMS Code	MGVAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vaginal swab in Aptima Multitest swab transport medium
Minimum Volume Required	One swab in transport medium tube.
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Muiti-test Swab Specimen Transport Tube (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Using the pink swab, carefully insert the swab into the vagina about 2 inches past the introitus and gently rotate the swab for 10 to 30 seconds. Make sure the swab touches the walls of the vagina so that moisture is absorbed by the swab. Withdraw the swab without touching the skin. Immediately place the swab in the transport tube so that the score line is at the top of the tube and carefully break the swab shaft at the score line against the side of the tube. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Refer to package insert of APTIMA® Specimen Collection Kit for detailed directions
Additional Information	Collect the specimen using only the APTIMA Multitest Swab Collection Kit when requesting APTIMA *Mycoplasma genitalium* NAAT testing. Other swabs are not acceptable for use with this assay when testing a vaginal specimen. For females, a vaginal swab is the preferred specimen type due to higher clinical sensitivity for detecting *M. genitalium* than other specimen types; however, female urine or endocervical swabs may be used as alternative specimens when vaginal swab specimens are not available. If female urine or endocervical swab specimens test negative, testing with a vaginal swab may be indicated, if *M. genitalium* infection is suspected.
Reference Range	Negative
CPT Code(s)	87798
LOINC Code	23300-7

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Trichomonas vaginalis NAAT, Endocervical Swab

Other Name(s)	*Trichomonas vaginalis* RNA, Qualitative Transcription Mediated Amplification
LIMS Code	TVCVX
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Endocervical swab
Minimum Volume Required	One swab in transport medium and tube.
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Unisex Swab Specimen Transport Tube (white label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Use the white swab to clean the area and discard swab. Only the blue swab should be used to collect specimen. After collecting specimen insert blue swab into collection tube (with buffer solution) and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Refer to package insert of APTIMA® Specimen Collection Kit for detailed directions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87661
LOINC Code	70166-4

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Trichomonas vaginalis NAAT, Male Urine

Other Name(s)	Xpert TV
LIMS Code	TVMALE
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Unpreserved first-catch urine collected in the Xpert urine collection kit (Cepheid catalog # URINE/A-50)
Minimum Volume Required	10 mL
Storage/Transport Conditions **Transport Medium**	Store and transport processed urine in Xpert urine collection kit at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport specimens refrigerated on cold packs or at room temperature. Processed urine specimens can be stored up to 28 days when stored at 2-8°C or up to 14 days when stored at 15-30°C. Xpert urine collection kit (Cepheid catalog # URINE/A-50)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-time PCR
Turnaround Time	4 business days
Interferences & Limitations	A negative test result does not exclude the possibility of infection because test results may be affected by improper specimen collection, technical error, sample mix-up, or because the number of organisms in the sample is below the limit of detection of the test. *Trichomonas tenax* may cross-react with the Xpert TV Test at levels above 1.0 x 10^2 cells/mL.
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87661
LOINC Code	69937-1

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Trichomonas vaginalis NAAT, Vaginal Swab

Other Name(s)	*Trichomonas vaginalis* RNA, Qualitative, Transcription Mediated Amplification
LIMS Code	TVVAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vaginal swab
Minimum Volume Required	One swab in transport medium and tube
Storage/Transport Conditions **Transport Medium**	Store specimens at room temperature (15-25˚C) or refrigerated at (2-8˚C). Transport refrigerated or at room temperature (15-25˚C). Specimens are stable up to 60 days at 2-30˚C. APTIMA® Multitest Swab Transport Media (orange label)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	After collecting specimen insert swab into collection tube (with buffer solution) and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags. Do not touch the foil cap.
Test Methodology	Transcription-Mediated Amplification (TMA)
Turnaround Time	4 business days
Interferences & Limitations	Refer to package insert of APTIMA® Specimen Collection Kit for detailed directions.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87661
LOINC Code	70165-6

Molecular Epidemiology

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CDC Dengue Virus 1-4, Qualitative Real-time RT-PCR

Other Name(s)	None
LIMS Code	DNVPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Plasma (Sodium Citrate) or Serum (gold top SST, red top, or tiger top)
Minimum Volume Required	2.5 mL serum or plasma
Storage/Transport Conditions **Transport Medium**	Serum or plasma should be separated and stored refrigerated no longer than 2 hours before it is frozen at -20˚C or below. Store and transport specimens frozen. Transport frozen specimens on dry ice (-70˚C or lower). Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	PCR
Turnaround Time	3 days
Interferences & Limitations	None
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87798 x 4
LOINC Code	88189-6

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CDC Influenza SARS-CoV-2 Multiplex Assay with reflex

Other Name(s)	CDC Flu-SC2
LIMS Code	FLUSC2
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Upper or lower respiratory specimens (such as nasopharyngeal, oropharyngeal, and nasal swabs, sputum, lower respiratory tract aspirates, bronchoalveolar lavage, and nasopharyngeal wash/aspirate or nasal aspirate).
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C). Transport refrigerated on cold packs or, if the specimens were previously frozen, ship to the laboratory on dry ice (-70°C). Submit within 24-48 hours after collection. Freeze specimens -70°C if transport is expected to be delayed. Swab specimens must be collected in Viral Transport Media (VTM). Aspirates, washes, and lavage must be submitted in a sterile container.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-time RT-PCR
Turnaround Time	2 business days
Interferences & Limitations	Negative Flu SC2 Multiplex Assay results do not preclude SARS-CoV-2, influenza A, and/or influenza B infection and should not be used as the sole basis for diagnosis, treatment, or other patient management decisions. Negative results must be combined with clinical observations, patient history, and/or epidemiological information. Negative results obtained from individuals who are not exhibiting clinical signs and symptoms associated with respiratory viral infection at the time of specimen collections should be interpreted with caution. Negative results in asymptomatic individuals cannot be used as definitive evidence that an individual has not been exposed to SARS-CoV-2 or influenza viruses and has not been infected with any of these viruses.
Additional Information	This test has been granted Emergency Use Authorization by the U.S. Food and Drug Administration. Specimens that are positive for SARS-COV2, Influenza A, or Influenza B will be further characterized for epidemiology purposes by real-time PCR or whole genome sequencing as applicable.
Reference Range	Not Detected

CPT Code(s)	87636
LOINC Code	95423-0, 92142-9, 92141-1, 94500-6, 95417-2, 95419-8, 11368-8, 77974-4, 95420-6, 82810-3, 95418-0, 95421-4

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Foodborne Disease Surveillance

Other Name(s)	Whole genome sequencing, WGS, Sequencing and Analysis
LIMS Code	None
Pre-Approval Required	Pre-approval required.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolates
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25˚C) to the laboratory as soon as possible within 24 hours. Agar slant. Do not submit an agar plate.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Whole genome sequencing
Turnaround Time	7 days
Interferences & Limitations	The methods used, and the results reported are for surveillance purposes only.
Additional Information	WGS surveillance is used for the following foodborne disease organisms: *Salmonella*, *Shigella*, *Escherichia coli*, *Listeria,* and *Campylobacter.*
Reference Range	By report
CPT Code(s)	TBD
LOINC Code	TBD

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Gastrointestinal Multiplex Panel, Qualitative Real-time PCR

Other Name(s)	BioFire GI Panel, Multiplex PCR
LIMS Code	MGIP
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	2 stool types are required: Stool in Cary-Blair transport media and stool in a clean container, no preservative.
Minimum Volume Required	1 g
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C). Transport refrigerated on cold packs to the laboratory as soon as possible within 48 hours. Cary-Blair transport media and clean container with no preservatives
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Multiplex Qualitative PCR
Turnaround Time	1-2 days
Interferences & Limitations	Only use specimen collection tubes provided by the Public Health Laboratory. For supplies contact the Shipping and Receiving department at (562) 658-1341.
Additional Information	Bacteria tested: *Campylobacter, C. difficile, P. shigelloides, Salmonella, Vibrio, Y. enterocolitica,* Diarrheagenic *E. coli/Shigella,* Enteroaggregative *E. coli,* Enteropathogenic *E. coli,* Enterotoxigenic *E. coli,* Shiga-like toxin producing *E. coli* (STEC), *Shigella/*Entroinvasive *E. coli.* Parasites tested: *Cryptosporidium, Cyclospora cayetanensis, Entamoeba histolytica, Giardia lamblia.* Viruses tested: *Adenovirus, Astrovirus, Norovirus, Rotavirus A, Sapovirus* For outbreaks, please alert the laboratory as additional forms are needed. Special staffing arrangements may need to be established.
Reference Range	Not Detected
CPT Code(s)	87507
LOINC Code	82195-9

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Influenza A/B/RSV, Qualitative Real-time RT-PCR with Reflex

Other Name(s)	Panther Fusion Influenza A/B/RSV PCR with Reflex to Influenza Virus Subtype or Lineage Differentiation
LIMS Code	ABRSV
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasopharyngeal swab in viral transport medium
Minimum Volume Required	3 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C). Transport refrigerated on cold packs to the laboratory as soon as possible within 24 hours. Viral Transport Media (VTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-Time Reverse-Transcriptase-PCR
Turnaround Time	2 days
Interferences & Limitations	This test should only be performed on specimens collected from patients exhibiting signs and symptoms of respiratory tract infection. Negative results do not preclude infection with Influenza A virus, Influenza B virus or RSV. Positive results indicate detection of nucleic acid from the relevant virus. Nucleic acid may persist even after the virus is no longer viable. Test results should be taken under consideration with clinical history and physical examination.
Additional Information	If Influenza A is detected, Influenza virus subtype A/H1, A/H3, A/H5, and A/ 2009 H1 Real-Time RT-PCR will be performed. If Influenza B is detected, Influenza B/Yamagata or Influenza B/Victoria lineage will be performed.
Reference Range	Not Detected
CPT Code(s)	87631
LOINC Code	85476-0, 85477-8, 85479-4, 85478-6

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Influenza Type A and B, Qualitative Real-time RT-PCR with Reflex

Other Name(s)	Influenza A and B RNA, Real-Time Reverse-Transcriptase PCR, with Reflex to Influenza Virus Subtype or Lineage Differentiation, Flu
LIMS Code	FLUPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasopharyngeal Swab
Minimum Volume Required	3 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C) or frozen (≤-70°C). Transport refrigerated or frozen. Submit within 24-48 hours after collection. Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Ship specimens refrigerated on cold packs or frozen on dry ice (-70˚C or lower) if the specimens were previously frozen.
Test Methodology	Real-time Reverse Transcriptase PCR
Turnaround Time	4 days
Interferences & Limitations	None
Additional Information	If Influenza A RNA, PCR result is detected, Influenza virus subtype A/H1, A/H3, A/H5, and A/ 2009 H1 Real-Time RT-PCR will be performed. If Influenza B RNA, PCR result is detected, Influenza B/Yamagata or Influenza B/Victoria lineage will be performed.
Reference Range	Not Detected
CPT Code(s)	Influenza A (87502); Influenza B (87502)
LOINC Code	48509-4

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Norovirus Genotyping

Other Name(s)	Norovirus genogroups I and II RNA panel-stool by NAA with probe detection
LIMS Code	Not applicable
Pre-Approval Required	Pre-approval required.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Raw stool collected in the acute phase of illness, 48-72 hours after symptoms start. Samples must be positive by Norovirus PCR.
Minimum Volume Required	1 mL or 1 g
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C). Transport refrigerated on cold packs to the laboratory as soon as possible. Specimens can be stored refrigerated for 24-48 hours. Sterile container (no preservative)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Viral RNA Genetic Sequencing Analysis, Polymerase Chain Reaction
Turnaround Time	14 days
Interferences & Limitations	None
Additional Information	Testing only done on outbreak samples when there are 2 or more positives for Norovirus.
Reference Range	Not Detected
CPT Code(s)	87798
LOINC Code	88701-8

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Norovirus Real-time PCR

Other Name(s)	Cepheid Xpert Norovirus Assay
LIMS Code	NORPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool collected during the acute phase of illness, within 48-72 hours after onset. Raw stool in sterile container.
Minimum Volume Required	1 mL or 1 g
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C). Transport refrigerated on cold packs to the laboratory as soon as possible within 24 hours. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Reverse Transcriptase Real-time Polymerase Chain Reaction (RT-PCR)
Turnaround Time	2 business days
Interferences & Limitations	Assay interference may be observed in the presence of barium sulfate and benzalkonium chloride.
Additional Information	For outbreaks, please alert the laboratory as additional forms are needed. Special staffing arrangements may need to be established.
Reference Range	Not Detected
CPT Code(s)	87798 x 2
LOINC Code	88701-8, 54905-5, 54906-3

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Respiratory Multiplex Panel, Qualitative Real-time PCR

Other Name(s)	Multiplex Respiratory Panel PCR w/Reflex BioFire Respiratory Panel, Multiplex PCR
LIMS Code	MRPP2
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasopharyngeal Swab
Minimum Volume Required	3 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8˚C) or frozen (-70˚C). Transport refrigerated on cold packs or frozen on dry ice (-70˚C) if the specimens were previously frozen within 72 hours. Universal Transport Media (UTM) or Viral Transport Media (VTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Multiplex Qualitative PCR
Turnaround Time	1-2 days
Interferences & Limitations	Only use specimen collection tubes provided by the Public Health Laboratory. For supplies contact the Shipping and Receiving department at (562) 658-1341.
Additional Information	Respiratory viruses include Adenovirus, Coronavirus 229E, Coronavirus HKU1, Coronavirus NL63, Coronavirus OC43, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), Human Metapneumovirus, Influenza A, Influenza A/H1, Influenza A/H3, Influenza A/H1-2009, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Parainfluenza 4, Respiratory Syncytial Virus, Human Rhinovirus, Enterovirus. Bacteria include *Bordetella parapertussis, Bordetella pertussis*, *Chlamydophila pneumoniae* and *Mycoplasma pneumoniae*.
Reference Range	Not Detected
CPT Code(s)	87633, 87798, 87486, 87581
LOINC Code	Respiratory Panel (82159-5), Adenovirus (82160-3), Coronavirus HKU1 (82161-1), Coronavirus NL63 (82162-9), Coronavirus 229E (82163-7), Coronavirus OC43 (82164-5), SARS-CoV-2 (94565-9), Human Metapneumovirus (82165-2), Influenza A (82166-0), Influenza A/H1 (49521-8), Influenza A/H3 (49524-2), Influenza A/H1-2009 (60494-2), Influenza B (82170-2), Parainfluenza virus 1 (82171-0), Parainfluenza virus 2 (82172-8), Parainfluenza Virus 3 (82173-6), Parainfluenza Virus 4 (82174-4), Human Rhinovirus/Enterovirus (82175-1), Respiratory Syncytial Virus (82176-9), *Mycoplasma*

	pneumoniae (82177-7), *Chlamydophila pneumoniae* (82178-5), *Bordetella parapertussis* (87621-9), *Bordetella pertussis* (82179-3).

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SARS-CoV-2 RNA, Qualitative Real-time PCR

Other Name(s)	2019 Novel Coronavirus, COVID-19
LIMS Code	COVID
Pre-Approval Required	This test is to be performed only using respiratory specimens collected from individuals who meet CDC criteria for COVID-19 testing. For Los Angeles County, prior approval is required from the Los Angeles County Acute Communicable Disease Control (ACDC) medical epidemiologist in consultation with the California Department of Public Health (CDPH) and Centers for Disease Control and Prevention (CDC). ACDC can be contacted by calling (213) 240-7941 during business hours. After hours, weekends, or holidays contact the County Operator and ask for the administrator on duty (AOD) at (213) 974-1234.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form: http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Upper Respiratory Tract Swab Specimens** - Nasopharyngeal (NP) swab - Oropharyngeal (OP) swab - Nasal swab - Combination of upper respiratory swabs
Minimum Volume Required	For all specimens: 1-3 mL
Storage/Transport Conditions **Transport Medium**	Refrigerate specimens at 2-8°C and transport to PHL on cold packs as soon as possible within 72 hours after collection. Freeze specimens -70°C if shipment is expected to be delayed >72 hours from collection. Swabs must be in viral transport media, ESwab Liquid Amies media, saline.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Reverse-Transcriptase Real-Time Polymerase Chain Reaction (RT-PCR)
Turnaround Time	2 days
Interferences & Limitations	Use polyester-, rayon-, or nylon-tipped swab 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. Negative results do not preclude COVID-19 infection and should not be used as the sole basis for treatment or other patient management decisions. Negative results must be combined with clinical observations, patient history, and epidemiological information.
Additional Information	Panther Fusion® SARS-CoV-2 Assay is a real-time RT-PCR developed by Hologic Inc. for the qualitative detection of RNA from SARS-CoV-2 isolated and purified from respiratory specimens obtained from individuals who meet COVID-19 clinical and/or epidemiological criteria. It is for use only under EUA.
Reference Range	Not Detected
CPT Code(s)	87635
LOINC Code	94559-2

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Zika, Chikungunya, Dengue, Qualitative Real-time PCR

Other Name(s)	Trioplex Real-time PCR
LIMS Code	TRPCR
Pre-Approval Required	Pre-approval required. Submit request for approval.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Zika, Chikungunya and Dengue testing:** Serum (preferred specimen) Cerebrospinal Fluid (only tested alongside a patient matched serum specimen) **Zika testing only:** Urine (only tested alongside a patient matched serum specimen) Amniotic fluid (only tested alongside a patient matched serum specimen)
Minimum Volume Required	0.5 mL
Storage/Transport Conditions **Transport Medium**	Centrifuge prior to shipping. Store CSF, urine, and amniotic fluid refrigerated at (2-8˚C) or freeze specimens at ≤ 20°C. Transport refrigerated on cold packs or frozen on dry ice if the specimens were previously frozen. Transport/ship human whole blood (EDTA) specimens on cold packs. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-time Reverse Transcriptase PCR
Turnaround Time	4 days
Interferences & Limitations	Must meet testing criteria and approved prior to testing.
Additional Information	For emergency authorization use only
Reference Range	Negative
CPT Code(s)	87662 (Zika); 87798 (Chikungunya); 87798 (Dengue)
LOINC Code	81154-7

Mycobacteriology

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Acid-Fast Bacillus Smear and Culture

Other Name (s)	*Mycobacterial* Culture; Concentration; Acid-Fast Bacilli Stain for pulmonary and extrapulmonary specimens
LIMS Code	AFBN, AFBS
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm

Acceptable Specimen Type(s)

Specimen Type	Container	Specimen Volume	Collection Instructions
Sputum (Expectorated)	Sputocol™ sputum collection kit (preferred)	5-10 mL	For initial diagnosis of pulmonary TB, collect three consecutive sputum specimens, before chemotherapy is begun, in 8- to 24-hours intervals, with at least one being an early morning specimen. The sample collected should be exudative material brought up from the lungs after a deep productive cough to produce a lower respiratory secretion with minimal saliva.
Sputum (Induced)	Sputocol™ sputum collection kit (preferred)	5-10 mL	Sputum induction may be considered for patients that have a difficulty producing a sputum specimen. The inhalation of warm aerosolized hypertonic (5%-10%) irritates the lungs enough to induce, both coughing and the production of a thin watery, specimen. The specimen should be a clearly labeled “Induced” on the request form or on-line since due to its watery appearance it could be mistaken for saliva.
Abscess: closed or open, cellulitis, eye exudate, tissue, skin lesion	Sterile 50 mL conical tube Polypropylene	1 g or 1mL	-Closed abscess o Remove surface exudate by wiping with sterile saline or 70% alcohol. o Collect fluid with abscess material with a Luer tip syringe and remove tissue aseptically. o Transport in a sterile 50 mL container. -Open abscess o Aspirate material from under the lesion or abscess margin, if possible o Transport tissue in 2-3 mL of nonbacteriostatic saline in a 50 mL container.
Swab (abscess, cellulitis, eye exudate, tissue skin lesion)	Sterile 50 mL conical tube Polypropylene Swabs transport device or in transport gel-based medium	2-3 mL of nonbacteriostatic saline	A swab is strongly discouraged unless it’s the only specimen available. Submit swab in 2 to 3 mL of nonbacteriostatic saline.

	Lower bronchoalveolar lavage, brush or wash, endotracheal aspirate, transtracheal aspirate	Sterile 50 mL conical tube Polypropylene	5-10 mL	Collect washing or aspirate in a sputum trap and place brush in a sterile properly capped leak-proof container with up to 5 mL of sterile saline.
	Body fluid (abdominal, amniotic, ascites, bile, joint, paracentesis, pericardial, peritoneal, pleural, synovial, thoracentesis)	Sterile 50 mL conical tube (Polypropylene)	≥ 10 mL	Aseptically collect fluid in a sterile container. Always submit as much fluid as possible; never submit a swab dipped in fluid.
	Tissue/lymph node	Sterile 50 mL conical tube Polypropylene	As much tissue as possible, Add 2 to 3 mL of sterile saline.	Aseptically collect during surgery or cutaneous biopsy procedure.
	Urine, including collections from a catheter	Sterile 50 mL conical tube Polypropylene	40 mL.	A first morning midstream specimen is preferred. Do not pool urine specimens or use preservatives.
	Gastric wash or lavage	Sterile 50 mL conical tube Polypropylene	10-15 mL. Promptly neutralize with 100 mg of sodium carbonate	Collect early in the morning before patients eat and while they are still in bed. Perform lavage with 25 to 50 mL of chilled, sterile distilled water.
	Blood	10-mL yellow-top collector tube containing sodium polyanetholsulfonate (SPS), green-top collector tube containing heparin, or ACD (yellow top).	≥ 10 mL. Minimum is 5 mL for adults: 1 mL for child.	Aseptically collect 10-mL yellow-top collector tube containing SPS, or green-top collector tube containing heparin; do not collect in a red-top tube, EDTA (purple top), or ACD (yellow top).
	Bone marrow aspirate	10-mL yellow top collector tube containing SPS	10-mL yellow top collectors containing SPS are preferred	Prepare the puncture site as for surgical incision. Use a blood collector tube and mix contents of the tube after collection.
	CSF	Sterile 50 mL conical tube (Polypropylene)	≥ 10 mL	Aseptically collect cerebrospinal fluid in a properly capped sterile container.
	Feces (not encouraged)	Sterile 50 mL conical tube (Polypropylene)	≥ 10 mL	Do not use holding or transport medium or preservatives.
Minimum Volume Required	– **For sputum, and other respiratory specimens:** 3 mL – **Abscess**: Tissue 1 g if possible or 1mL fluid is preferred – **Swabs**: 2 mL – **Body fluids:** 2 mL – **Tissue:** 1 g – **Urine:** 40 mL – **Gastric wash or lavage:** 10 mL – **Blood:** 5 mL – **CSF:** 2 mL – **Stool:** 1 g			
Storage/Transport Conditions	Store all specimens except for CSF, tissues, blood, and bone marrow refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible.			
Transport Medium	Store and transport CSF, tissues, blood, and bone marrow specimens at room temperature (15-25°C).			

Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Culture for the recovery of Mycobacteria and fluorochrome smear
Turnaround Time	**Acid-fast bacilli stain:** 24 Hours **Culture:** 64 days
Interferences & Limitations	Package and Transport specimens as rapidly as possible at 2-8°C to avoid bacterial overgrowth of specimen. Samples greater than 3 days old are unreliable specimens for testing.
Additional Information	None
Reference Range	**Acid-fast bacilli stain:** No AFB observed. **Culture:** No mycobacteria isolated.
CPT Code(s)	***Mycobacteria* Culture; Concentration; Acid-Fast Bacilli Stain** CPT Codes: 87015, 87116, 87206 **Identification CPT codes for each organism identified:** CPT code(s) 87118: *Mycobacterium spp.* by MALDI-TOF **or** CPT code 87150: Mycobacterium tuberculosis by PCR **If TB is isolated for the first time or three months after last drug susceptibility tests were performed, a 4-drug susceptibility test panel will be performed:** CPT code(s): 87190 per drug.
LOINC Code	543-9, 94576-6

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Mycobacteria Identification

Other Name(s)	None
LIMS Code	SCI (solid culture for identification)
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure isolate on appropriate slant agar with screw cap tightened and taped.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C) or refrigerated (2-8 °C). Lowenstein-Jensen or Middlebrook 7H10/7H11 agar slant
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Do not submit plate or broth. Ship pure culture in a screw cap tube as UN2814 Category A Infectious Substance Affecting Humans.
Test Methodology	MALDI-TOF
Turnaround Time	7-14 days
Interferences & Limitations	Mixed cultures (TB culture mixed with other mycobacteria or mixed with a non-acid-fast contaminant), non-viable organism, or cultures submitted on a plate are unacceptable.
Additional Information	None
Reference Range	By report
CPT Code(s)	MALDI-TOF (87118)
LOINC Code	45335-7

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Mycobacterium TB complex, Susceptibility, Primary Drug Panel

Other Name(s)	TB, Tuberculosis
LIMS Code	SCS (Solid Culture for Susceptibility)
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure isolate on appropriate slant agar with screw cap tightened and taped.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C) or refrigerated (2-8 °C). Lowenstein-Jensen or Middlebrook 7H10/7H11 agar slant
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Do not submit plate or broth. Ship pure culture in a screw cap tube as UN2814 Category A Infectious Substance Affecting Humans.
Test Methodology	Drug tested by MGIT 960: Isoniazid 0.1 µg/mL; Rifampin 1.0 µg/mL; Ethambutol 5.0 µg/mL; and Pyrazinamide 100 µg/mL
Turnaround Time	7-14 days
Interferences & Limitations	Mixed cultures (TB culture mixed with other mycobacteria or mixed with a non-acid-fast contaminant), non-viable organism, or cultures submitted on a plate are unacceptable.
Additional Information	None
Reference Range	Susceptible
CPT Code(s)	87188 x 4
LOINC Code	29579-0

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Mycobacterium TB complex, Susceptibility, Secondary Drug Panel

Other Name(s)	TB, Tuberculosis
LIMS Code	SCS (solid culture for susceptibility)
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm First-line drug test results should be provided.
Acceptable Specimen Type(s)	Pure isolate on tubed solid medium
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport specimen at room temperature (15-25°C) or refrigerated (2-8 °C). *Mycobacterium tuberculosis* growth medium
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Do not submit plate or broth. Ship as UN2814 Category A Infectious Substance Affecting Humans.
Test Methodology	Drug tested by liquid-based method: Capreomycin 2.5 ug/mL, Amikacin 1.0 ug/mL, Moxifloxacin 0.25, 0.5, 1.0, 1.5 and 2.0 ug/mL, Ethionamide 5.0 ug/mL, Rifabutin 0.5 ug/mL and Streptomycin 1.0 ug/mL.
Turnaround Time	7-14 days for liquid-based method
Interferences & Limitations	Mixed cultures, non-viable organism, or cultures submitted on a plate are unacceptable
Additional Information	None
Reference Range	Susceptible
CPT Code(s)	87190 x 10
LOINC Code	29579-0

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Mycobacterium tuberculosis complex and Rifampin-resistance panel

Other Name(s)	Xpert® MTB / RIF Assay; MTB complex DNA and rpoB RIF resistance mutation panel
LIMS Code	MTBNAT
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Sputum Sputocol™ sputum collection kit (recommended) or sterile 50 mL conical polypropylene tube.
Minimum Volume Required	3 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Nested RT-PCR
Turnaround Time	2 days
Interferences & Limitations	The MTB/RIF assay should always be performed in conjunction with mycobacterial culture. The assay *does not* replace the need for smear with microscopy for acid-fast bacilli, culture for mycobacteria, and growth-based drug susceptibility testing, in addition to genotyping for early discovery of outbreaks. The performance of this test has not been evaluated for samples from patients being treated with anti-tuberculous agents. It should not be used to monitor response to therapy. Test should be requested prior to anti-TB treatment. A negative result does not rule out the presence of *Mycobacterium tuberculosis* complex or active disease because the organism may be present at levels below the limit of detection for this assay.
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87556, 87798
LOINC Code	89371-9; 88874-3; 89372-7

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Mycobacterium tuberculosis DNA, Qualitative Real-time PCR

Other Name(s)	*M. tuberculosis* Real-time PCR assay for clinical samples
LIMS Code	MTBPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Upper Respiratory Specimens** - Expectorated or Induced Sputum - Bronchial or Tracheal Aspirates - Bronchoalveolar Lavage **Extra Pulmonary Specimens** - **Body fluids:** ascitic fluid, pericardial fluid, pleural fluid - **Biopsy specimens:** fine needle aspirates, lung, lymph node, bone marrow, thoracentesis, and trans-bronchial biopsies - **Abscess and lesion material** Refer to Acid-Fast Smear and Culture Test for specimen criteria
Minimum Volume Required	3 mL for Upper Respiratory Specimens 1 mL for Extra Pulmonary Specimens
Storage/Transport Conditions	Store specimens refrigerated at (2-8˚C). For processed specimens, transport refrigerated on cold packs or frozen on dry ice (-70˚C or lower) if the specimens were previously frozen.
Transport Medium	Sputocol sputum collection kit for upper respiratory specimens. 50 mL sterile conical tube for all other specimen types.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Ship specimens triple contained. Sterile, leak-proof, 50 mL conical tube preferred for primary container.
Test Methodology	Real-time Polymerase Chain Reaction (PCR)
Turnaround Time	2-4 days
Interferences & Limitations	This test should always be performed in conjunction with mycobacterial culture. The performance of this test has not been evaluated for samples from patients being treated with anti-tuberculous agents. It should not be used to monitor response to therapy. Test should be requested prior to anti-TB treatment. A negative result does not rule out the presence of *Mycobacterium tuberculosis* complex or active disease because the organism may be present at levels below the limit of detection for this assay.

Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87556
LOINC Code	38379-4

Mycology

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Fungal Culture Identification

Other Name(s)	Mold Identification, Yeast Identification
LIMS Code	FCI
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolate
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport specimen at room temperature (15-25°C). Isolates should be on a suitable agar slant.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	MALDI-TOF mass spectrometry, phenotypic testing
Turnaround Time	Yeast identification is 4 weeks or less and mold identification 6 weeks or less.
Interferences & Limitations	None
Additional Information	None
Reference Range	By report
CPT Code(s)	87106 (yeast); 81707 (mold)
LOINC Code	580-1

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Fungal Screen, Respiratory

Other Name(s)	None
LIMS Code	SMOLD
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Sputum, bronchoalveolar lavage, bronchial washes/aspirates Sputum collected early in the morning
Minimum Volume Required	3 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs as soon as possible, between 24-48 hours. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Conventional culture
Turnaround Time	4-8 weeks
Interferences & Limitations	Saliva and 24-hour collections are unacceptable.
Additional Information	If available, please provide appropriate clinical information and suspected pathogen.
Reference Range	No fungal organism isolated
CPT Code(s)	87102-culture, fungus; isolation other 87106- culture fungus, definitive identification, yeast 87107-culture fungus, definitive identification, mold
LOINC Code	580-1

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Nocardia Identification

Other Name(s)	None
LIMS Code	NOCD
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Pure culture isolates on a suitable agar slant medium.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Suitable agar slant medium
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Biochemical and phenotypic analysis
Turnaround Time	5 weeks
Interferences & Limitations	Mixed cultures, non-viable organism, or cultures submitted on a plate are unacceptable.
Additional Information	If available, please provide patient history including if the patient has used a catheter and/or if the patient is immunocompromised.
Reference Range	No Nocardia Isolated
CPT Code(s)	87077
LOINC Code	55096-2

Parasitology

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Coccidia, Intestinal – Modified Acid-Fast Stain

Other Name(s)	Modified acid-fast stain for intestinal Coccidian *(Cryptosporidium, Cystoisospora, and Cyclospora)*
LIMS Code	PMAF
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool preserved in 10% formalin, SAF (sodium acetate-acetic acid-formalin) or Para-Pak EcoFix
Minimum Volume Required	3 parts 10% formalin to 1-part stool
Storage/Transport Conditions **Transport Medium**	Store and transport stool at room temperature (15-25°C). Specimens should **NOT** be incubated nor frozen. 10% formalin, SAF (sodium acetate-acetic acid-formalin) or Para-Pak EcoFix
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	Polyvinyl alcohol-preserved stool is not recommended.
Additional Information	Three specimens are recommended for collection: one every other day or within a period of ten days.
Reference Range	None Detected
CPT Code(s)	87177, 87207
LOINC Code	10656-7

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Cryptosporidium/Giardia - Stool

Other Name(s)	None
LIMS Code	PDFA
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool-preserved
Minimum Volume Required	The vial should contain 3 parts 10% formalin to 1-part stool
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Specimens should **NOT** be incubated nor frozen. 10% formalin, SAF (sodium acetate-acetic acid-formalin) or Para-Pak EcoFix
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Direct Immunofluorescent detection (DFA)
Turnaround Time	2-5 days
Interferences & Limitations	While the presence of *Cryptosporidium* or *Giardia* is often associated with diarrhea and vomiting, shedding of oocysts or cysts by asymptomatic individuals has been observed. In addition, the presence of oocysts or cysts in a stool specimen does not preclude the existence of other microorganisms or another underlying condition as the causative agent of a patient's symptoms. For these reasons appropriate concurrent testing for other etiologic agents should be considered.
Additional Information	Three specimens are recommended for collection: one every other day or within a period of ten days. *Cryptosporidium* is a significant pathogen in HIV positive patients.
Reference Range	None Detected
CPT Code(s)	87272 (*Cryptosporidium*); 87269 (*Giardia*)
LOINC Code	21233-2

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Ectoparasite Identification

Other Name(s)	None
LIMS Code	PMIS
Pre-Approval Required	Pre-approval from Communicable Disease Control or Lab Director as part of an investigation.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Ectoparasites:** deliver live if possible and do not use preservatives. **Skin Scrapings (Scabies):** scrapings from burrows in skin in mineral oil in a sealed container All specimens should be fresh and submitted as soon as possible. Please call for guidance on processing specimens before submission.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	Use of preservatives or severely damaged parasites may cause the specimen to be rejected.
Additional Information	Macroscopic and/or wet mount examination of arthropods of public health importance and skin for scabies.
Reference Range	None Detected
CPT Code(s)	87168 (macroscopic-arthropod), 87210 (wet mount-arthropod), 87220 (skin, scabies)
LOINC Code	673-4

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Examination of Blood, Tissue, and Exudate Smears for Parasites

Other Name(s)	None
LIMS Code	POPB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm Confirmation of *Plasmodium spp*. require a travel history and test method of identification.
Acceptable Specimen Type(s)	**Slides:** Original slides from which the submitting laboratory made a diagnosis (thick and thin) for confirmation. Stained or unstained pretreatment blood films (if unstained, fix thin smears in methanol) as soon as possible after making the smear. **Whole Blood:** Whole blood containing EDTA (0.020 g/10 mL of blood) that was collected by venipuncture.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport stained and unstained blood films at room temperature (15-25°C) overnight. Place slides in protective shipping holders to prevent breakage. Store whole blood (< 72 hours old) refrigerated at (2-8°C) on cold packs overnight. Transport refrigerated on cold packs to the laboratory as soon as possible within 1 hour of collection for detection of stippling. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	1 day
Interferences & Limitations	Identification to the species level, may be impossible without the stained thin blood film and may allow the detection of the infection, with a low parasitemia. Also, *Trypanosoma cruzi* trypomastigotes are frequently distorted in thick films.
Additional Information	For a malaria diagnosis, after the first set of negative smears, samples should be taken at intervals of 8 to 12 hours for at least 3 successive days. Optimal collection time for demonstrating microfilariae is: – *Loa loa:* midday (10 a.m. to 2 p.m.) – *Brugia or Wuchereria:* at night (after 8 p.m.) – *Mansonella:* any time

	– *Onchocerca:* any time
Reference Range	None Detected
CPT Code(s)	87177, 87211, 87206
LOINC Code	17784-0

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Microsporidia, Modified Trichrome Stain

Other Name(s)	Microsporidia detection, direct stain
LIMS Code	PMTR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Fresh stool** **Preserved stool:** in 5 or 10% formalin, SAF (sodium acetate-acetic acid-formalin) Three specimens are recommended for collection (two are acceptable): one every other day or within a period of 10 days.
Minimum Volume Required	3 parts 5 or 10% formalin to 1-part specimen in vial.
Storage/Transport Conditions **Transport Medium**	Store and transport stool at room temperature (15-25°C). Specimens should **NOT** be incubated nor frozen. 5 or 10% formalin, SAF (sodium acetate-acetic acid-formalin), or some of the newer single vial system fixatives.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	Lack of specificity (other organisms, including bacteria and small yeasts, often stain pink/reddish pink, as do the microsporidia spores). Polyvinyl alcohol-preserved stool is not recommended.
Additional Information	Modified trichrome on concentration sediment; includes concentration and modified trichrome stain. Microsporidia spores will not be seen on a trichrome-stained smear (modified trichrome stains are recommended).
Reference Range	None Detected
CPT Code(s)	87015, 87207
LOINC Code	32701-5

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Ova and Parasite Exam for Sputum

Other Name(s)	Expectorated Sputum: Direct-Mount and Stained Preparations
LIMS Code	POPS
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimens Type(s)	Sputum should be a "deep sputum" from the lower respiratory passages. • **Ova and larvae detection:** submit specimen unpreserved. • ***Crypotosporidium parvum* detection:** submit specimen in 10% Formalin (3 parts 10% Formalin to 1-part specimen) in vial. • **Protozoa detection:** submit specimen in PVA (3 parts PVA to 1-part specimen) in vial.
Minimum Volume Required	3 parts PVA or 10% formalin to 1-part specimen in vial. The fixative used is determined by the organism suspected.
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C) to laboratory within 2 hours. If delay in transport, fix in 10% formalin or PVA. Specimens should **NOT** be incubated nor frozen. PVA or 10% formalin
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 business days
Interferences & Limitations	Expectorated sputum specimens are generally considered unacceptable for the recovery of *Pneumocystis carinii.*
Additional Information	Parasites which can be detected and may cause pneumonia, pneumonitis, or Loeffler's syndrome include *Entamoeba histolytica*, *Paragonimus* spp., *Strongyloides stercoralis*, *Ascaris lumbricoides*, and hookworm.
Reference Range	None Detected
CPT Code(s)	87177, 87211, 88312
LOINC Code	673-4

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Ova and Parasite Exam for Stool

Other Name(s)	Trichrome stain, Wet-prep concentrate
LIMS Code	SPOVA
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Stool. Preferably the bloody, slimy, watery area of the stool.
Minimum Volume Required	Approximately 5 mL to "Fill to Here" line of the Para-Pak Zn-PVA transport container.
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Specimens should **NOT** be incubated nor frozen. Para-Pak Zn-PVA transport container
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	None
Additional Information	Use the collection spoons provided in the caps of the vials of the Para-Pak Zn-PVA Fixative.
Reference Range	None Detected
CPT Code(s)	87177, 87209
LOINC Code	10704-5

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Ova and Parasite Exam for Urine

Other Name(s)	None
LIMS Code	POPU
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Midday urine or a 24-h collection. Peak egg excretion occurs between noon and 3 p.m. In patients with hematuria, eggs may be found trapped in the blood and mucus in the terminal portion (last-voided portion) of the urine specimen.
Minimum Volume Required	15 mL
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Specimens should **NOT** be incubated nor frozen. Container without preservatives.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	None
Additional Information	The definitive diagnosis of urinary schistosomiasis (*Schistosoma haematobium*) is established by demonstration of *S. haematobium* eggs in urine. A concentrated wet preparation is examined. Also, *Trichomonas vaginalis* motile trophozoites may also be found in the urine, especially in infected male patients.
Reference Range	None Detected
CPT Code(s)	87177
LOINC Code	673-4

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Downey, CA 90242
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Pinworm Exam, Microscopic - Direct

Other Name(s)	*Enterobius vermicularis* eggs
LIMS Code	PPIN
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Falcon™ SWUBE™ Pinworm Paddle. Collected first thing in the morning.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport at room temperature (15-25°C). Refrigerate specimens if examination is to be delayed for more than one day. Falcon™ SWUBE™ Pinworm Paddle
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	None
Additional Information	Screening procedure for presence of *Enterobius vermicularis* eggs. Single cellophane tape/paddle/other device examination. The specimen is collected from the skin of the perianal area first thing in the morning, before the patient has bathed or used the toilet. Preparations should be taken for at least 4 to 6 consecutive days with negative results before a patient is considered free of the infection.
Reference Range	None Detected
CPT Code(s)	87172
LOINC Code	675-9

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Tapeworm Proglottid Identification, Microscopic

Other Name(s)	Helminth
LIMS Code	PPRO
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Worm, tapeworm proglottid or scolex
Minimum Volume Required	Not Applicable
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs. Clean, leak-proof container. Cover with tap water or 0.85% saline in clean, leak-proof container.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	*Taenia solium* eggs are infective (cysticercosis), as are the eggs of *Hymenolepis nana*. Standard safety precautions should be followed.
Test Methodology	Microscopy
Turnaround Time	2-5 days
Interferences & Limitations	Do not use formalin or alcohol as a preservative. The proglottid of *Taenia solium* must be gravid, containing the fully developed uterine branches. If the proglottid is not fully developed (gravid), the branches may not be visible; when the uterine branches cannot be seen and/or counted, the proglottid cannot be accurately identified to the species level.
Additional Information	Examination of portions of helminths may be recovered and seen with the naked eye. Speciation is attempted using a staining procedure of tapeworm Proglottids.
Reference Range	None Detected
CPT Code(s)	87169
LOINC Code	14789-2

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Worm Identification, Macroscopic Exam of Stool

Other Name(s)	None
LIMS Code	PWOR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Fresh stool Worm Place stool in clean, leak-proof container. Cover worm with tap water or 0.85% saline in clean, leak-proof container.
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs. Leak-proof container
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	*Taenia solium* eggs are infective (cysticercosis), as are the eggs of *Hymenolepis nana*. Standard safety precautions should be followed.
Test Methodology	Macroscopic Exam
Turnaround Time	2-5 days
Interferences & Limitations	Occasionally, other helminths may be recovered (hookworm, *Strongyloides stercoralis*), but identification requires the use of the microscope.
Additional Information	Adult helminths or portions of helminths may be recovered and seen with the naked eye. Examples include *Enterobius vermicularis* adult worms, *Ascaris lumbricoides* adult worms, and tapeworm proglottids.
Reference Range	None Detected
CPT Code(s)	87169
LOINC Code	14789-2

Sequencing

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SARS-CoV-2 Sequencing

Other Name(s)	COVID Sequencing, COVID Whole Genome Sequencing
LIMS Code	COVWGS
Pre-Approval Required	Yes
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Upper Respiratory specimens that have previously tested positive for SARS-CoV-2 including NP swab, nasal swab, OP swab, NP/OP combo swab, AND - Has a Ct or RLU value of ≤ 28 or > 1150, respectively if previously tested by a molecular assay that provides such values. OR - Tested positive using the Abbott BinaxNOW COVID-19 antigen test.
Minimum Volume Required	For all specimens: 1-3mL
Storage/Transport Conditions **Transport Medium**	Freeze specimens at -70°C and transport to PHL on dry ice. Avoid repeat freeze/thaw cycles. Viral transport medium (VTM/UTM), saline, Liquid Amies, or specimen transport medium (STM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Do not send specimens without prior consultation, approval, and notification to the Los Angeles County Public Health Laboratory.** In Los Angeles County, contact PHL at (562) 658-1330 during business hours for specimen notification, sample pick up, and assistance with packing specimens. After hours, weekends, or holidays contact the County Operator and ask for the public health laboratory director at 213-974-1234.
Test Methodology	Next generation sequencing
Turnaround Time	14 Days
Interferences & Limitations	The methods used, and the results reported are for surveillance purposes only. The ability to generate whole genome sequences relies primarily on specimen quality and the viral load.
Additional Information	
Reference Range	
CPT Code(s)	87913
LOINC Code	100157-7

Serology

Los Angeles County Public Health Laboratories
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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Arbovirus IgG and IgM Antibody Panel, IFA (CSF)

Other Name(s)	St. Louis Encephalitis (SLE), Western Equine Encephalitis (WEE)
LIMS Code	ARBOC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	CSF
Minimum Volume Required	0.2 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Not applicable
Test Methodology	Indirect immunofluorescent assay (IFA)
Turnaround Time	3 business days
Interferences & Limitations	False positive results may be produced if the patient has been immunized against yellow fever or if the patient has had previous infections that produce similar, cross-reacting antibodies.
Additional Information	This test is performed by non-standard methods. CSF is not an FDA cleared specimen source for this test.
Reference Range	< 1, No Antibody Detected
CPT Code(s)	86653 x 2; 86654 x 2
LOINC Code	36895-1

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Arbovirus IgG and IgM Antibody Panel, IFA (Serum)

Other Name(s)	St. Louis Encephalitis (SLE), Western Equine Encephalitis (WEE)
LIMS Code	ARBOS
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Ship specimens in sterile plastic screw-cap tubes.
Test Methodology	Indirect immunofluorescent assay (IFA)
Turnaround Time	3 business days
Interferences & Limitations	Samples obtained too early during primary infection within 2 weeks after onset may not contain detectable antibodies. If Arboviral infection is suspected, a second (convalescent) sample should be obtained 10 to 21 days later and tested in parallel with the original (acute) sample. Due to serological cross-reactivity among flaviviruses, a history of previous exposure to or infection with dengue or yellow fever vaccination must be considered in interpreting serologic results.
Additional Information	All results from this and other serologies must be correlated with clinical history and other data available to the attending physician.
Reference Range	< 16, No Antibody Detected
CPT Code(s)	86653 x 2; 86654 x 2
LOINC Code	36895-1

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Dengue IgM Antibody w/ Reflex

Other Name(s)	Dengue Virus, Dengue Fever IgM Antibodies w/ reflex to PRNT Confirmation
LIMS Code	DENGMB
Pre-Approval Required	No pre-approval required. Testing performed in accordance with most recent clinical and epidemiological criteria and guidance by the CDC for Zika virus or as stand-alone. https://www.cdc.gov/dengue/healthcare-providers/testing/testing-guidance.html https://www.cdc.gov/zika/hc-providers/testing-guidance.html During the first 1-7 days of illness, a nucleic acid amplification test (NAAT) is recommended in addition to Dengue IgM test.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Blood collected in one (1) SST® (gold-top, plastic) tube
Minimum Volume Required	2 mL of serum
Storage/Transport Conditions **Transport Medium**	Separate serum by centrifugation as soon as possible. Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	ELISA
Turnaround Time	5 business days
Interferences & Limitations	Due to serological cross reactivity with other flaviviruses, the presence of false positive or false negative results must be considered. Assay performance with matrices other than patient sera have not been established. For patients with negative Dengue IgM results before day 8 of illness, a second sample should be obtained after day 7 of symptoms for additional serologic testing.
Additional Information	All reactive samples must be confirmed by Plaque Reduction Neutralization Test or the latest CDC guideline for diagnosis of disease. Review the latest information on testing for Zika virus disease and Dengue virus infection at the CDC website: https://www.cdc.gov/zika/hc-providers/testing-guidance.html
Reference Range	Negative
CPT Code(s)	86790
LOINC Code	29663-2

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Hepatitis A IgG Antibody

Other Name(s)	Hep A IgG Antibody
LIMS Code	HAVABG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, lipemic or contaminated specimens are unacceptable.
Additional Information	None
Reference Range	Non-reactive
CPT Code(s)	86708
LOINC Code	40724-7

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Hepatitis A IgM Antibody

Other Name(s)	Hep A IgM Antibody
LIMS Code	HAVABM
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimens 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, grossly lipemic or contaminated specimens are unacceptable.
Additional Information	None
Reference Range	Non-reactive
CPT Code(s)	86709
LOINC Code	13950-1

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Hepatitis B Core IgM Antibody

Other Name(s)	Hep B Core IgM Antibody
LIMS Code	HBVCAM
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimens 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, grossly lipemic or contaminated specimens are unacceptable.
Additional Information	None
Reference Range	Non-reactive
CPT Code(s)	86705
LOINC Code	24113-3

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Hepatitis B Core Total Antibody

Other Name(s)	Hep B Core AB
LIMS Code	HBVCAB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, lipemic or contaminated specimens are unacceptable
Additional Information	None
Reference Range	Non-reactive
CPT Code(s)	86704
LOINC Code	83100-8

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Hepatitis B Surface Antibody

Other Name(s)	Hep B Surface AB
LIMS Code	HBVSAB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, grossly lipemic or contaminated specimens are unacceptable.
Additional Information	None
Reference Range	Non-reactive
CPT Code(s)	86706
LOINC Code	22322-2

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Hepatitis B Surface Antigen Confirmation by Neutralization

Other Name(s)	HBsAg Confirmatory
LIMS Code	HBVAGC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Neutralization
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, lipemic or contaminated specimens are unacceptable
Additional Information	The neutralization assay is used to confirm a reactive Hepatitis B surface antigen result.
Reference Range	Not confirmed
CPT Code(s)	87341
LOINC Code	65633-0

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Hepatitis B Surface Antigen with Reflex to Confirmation

Other Name(s)	Hep B Surface Ag with reflex to HBsAg confirmatory
LIMS Code	HBVSAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, lipemic or contaminated specimens are unacceptable
Additional Information	Test performed on Abbott Architect
Reference Range	Non-reactive; Not confirmed
CPT Code(s)	87340; 87341
LOINC Code	5196-1; 65633-0

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Phone (562) 658-1300 Fax (562) 401-5999

Hepatitis C Virus Total Antibody with Reflex to HCV Qualitative NAAT

Other Name(s)	Hep C Antibody
LIMS Code	HCVABT
Pre-Approval Required	None
Supplemental Information and Required Form(s)	For non-interfaced clients use the Los Angeles County PHL Test Requisition Form http://www.publichealth.lacounty.gov/lab/labforms.htm For DHSP contracted clients use the DHSP Provider Test Request Form
Acceptable Specimen Type(s)	Serum collected in SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube. Plasma collected in a K2 EDTA (lavender-top) tube is also acceptable.
Minimum Volume Required	5-7 mL for vacutainer specimen 2-3 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Qualitative Chemiluminescent Immunoassay
Turnaround Time	3 business days
Interferences & Limitations	Grossly hemolyzed, lipemic or contaminated specimens are unacceptable.
Additional Information	Specimens that are either Equivocal or Reactive for HCV total antibodies will be tested by TMA to detect HCV RNA to rule out active infection.
Reference Range	Non-reactive
CPT Code(s)	86803,
LOINC Code	13955-0, 11011-4

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Herpes simplex Virus Type 2 IgG Antibody

Other Name(s)	LIAISON® HSV-2 IgG Assay
LIMS Code	HSV2G
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	1 mL serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	8 business days
Interferences & Limitations	The performance of this assay has not been established for monitoring of HSV-2 therapy
Additional Information	None
Reference Range	Negative (> 0.90 Index)
CPT Code(s)	86696
LOINC Code	43180-9

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HIV-1/2 Antibody Differentiation Assay

Other Name(s)	Bio-Rad Geenius Supplemental Test
LIMS Code	HIVSA
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Serum Separator Tube (SST)® Preferred **Plasma**: K2 EDTA (lavender-top) tube plastic
Minimum Volume Required	2 mL of serum 2 mL of plasma
Storage/Transport Conditions **Transport Medium**	Centrifuge and remove from clot or cellular material. Store specimens at room temperature (15-25°C) up to 2 days , refrigerated at (2-8°C) for 5 days, or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	ImmunoConcentration™
Turnaround Time	3 days
Interferences & Limitations	A nonreactive result for an individual subject indicates absence of detectable HIV antibodies. However, a nonreactive test result does not preclude the possibility of exposure to or infection with HIV-1 and/or HIV-2. As part of a multi-test screening algorithm, specimens with a nonreactive or indeterminate result will be reflexed to an HIV-1 qualitative RNA NAAT (HIVNAA) at an additional charge. A person who has antibodies to HIV-1 is presumed to be infected with the virus, However, a person who has participated in an HIV vaccine study may develop antibodies to the vaccine and may or may not be infected with HIV. Clinical correlation is indicated with appropriate counseling, medical evaluation, and possibly additional testing to decide whether a diagnosis of HIV infection is accurate.
Additional Information	None
Reference Range	Negative
CPT Code(s)	86701, 86702
LOINC Code	68961-2, 81641-3

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HIV Antigen/Antibody Screening Assay with reflex

Other Name(s)	HIV Antigen/Antibody Multitest Algorithm (4th generation screen)
LIMS Code	HIVAGB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** Serum Separator Tube (SST)® Preferred **Plasma:** K2 EDTA (lavender-top) tube, or green screw cap tubes
Minimum Volume Required	**Serum:** 2 mL **Plasma:** 2 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) up to 5 days, or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescent Microparticle Immunoassay (CMIA)
Turnaround Time	2 business days
Interferences & Limitations	A nonreactive result for an individual subject indicates absence of detectable HIV antibodies and HIV-1 antigen. However, a nonreactive test result does not preclude the possibility of exposure to or infection with HIV-1 and/or HIV-2. Repeatedly reactive specimens will be reflexed to supplemental testing by the HIV-1/ HIV-2 antibody differentiation assay (HIVASA) and as needed to the HIV-1 Qualitative RNA Nucleic Acid Amplification Test (HIVNAA) to rule-out Acute HIV-1 infection. Both the HIVASA (CPT 86701 and 86702) and HIVNAA (CPT87636) assays will be performed at an additional charge. A person who has antibodies to HIV-1 or HIV-2 is presumed to be infected with the virus, however, a person who has participated in an HIV vaccine study may develop antibodies to the vaccine and may or may not be infected with HIV. Clinical correlation is indicated with appropriate counseling, medical evaluation, and possibly additional testing to decide whether a diagnosis of HIV infection is accurate.
Additional Information	The HIV Ag/Ab Combo Assay is intended for use as part of a multi-test algorithm to aid in the diagnosis of HIV-1/HIV-2 infection, including acute or primary HIV-1 infection. The assay does not distinguish between the detection of HIV p24 antigen, HIV-1 antibody, or HIV-2 antibody.
Reference Range	Non-reactive
CPT Code(s)	87389

LOINC Code	56888-1

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HIV-1/2 Antibody Differentiation Assay w/reflex to HIV-1 Qual. NAAT

Other Name(s)	None
LIMS Code	HIVASA
Pre-Approval Required	Test requisition forms must be submitted and screened prior to testing.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** Serum Separator Tube (SST)® Preferred **Plasma:** K2 EDTA (lavender-top) tube, or green screw cap tubes
Minimum Volume Required	2 mL of serum 2 mL of plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C) up to 5 days, or frozen. Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen. Avoid repeat freeze/thaw cycles. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Immunochromatographic Lateral Flow
Turnaround Time	2 business days
Interferences & Limitations	A nonreactive result for an individual subject indicates absence of detectable HIV antibodies. However, a nonreactive test result does not preclude the possibility of exposure to or infection with HIV-1 and/or HIV-2. Negative, indeterminate, or invalid results will be reflex tested in HIV-1 qualitative RNA NAAT to rule-out acute HIV-1 infection when circulating HIV-1 antigen and antibodies are not detectable. A person who has antibodies to HIV-1 is presumed to be infected with the virus, except a person who has participated in an HIV vaccine study may develop antibodies to the vaccine and may or may not be infected with HIV. Clinical correlation is indicated with appropriate counseling, medical evaluation, and possibly additional testing to decide whether a diagnosis of HIV infection is accurate.
Additional Information	None
Reference Range	Negative
CPT Code(s)	86701, 86702
LOINC Code	68961-2 (HIV-1); 81641-3 (HIV-2); 25835-0 (NAT)

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Measles IgG and IgM Panel, IFA

Other Name(s)	Rubeola
LIMS Code	MEGIS, MEMIS
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for diagnostic measles laboratory testing. Immunity screen requires IgG determination only. To report suspect measles, the Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. During non-business hours (before 7:30 a.m., after 5:00 p.m., or weekends) call (213) 974-1234 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** Collect in SST® (red-top, plastic) tube or SST® (gold-top, plastic) tube. Separate serum by centrifugation if possible. Aseptically transfer serum to a screw cap, sterile, leak proof container. **For Infants:** Capillary tubes may be used. Collect 3 tubes to assure adequate specimen volume. See special instructions from CDPH-VRDL located at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHMeaslesLAbTesting2011-01.pdf To confirm acute infection, paired samples are required. The first sample (**acute**) should be taken as soon as possible after the clinical signs of infection. The second (**convalescent**) sample should be taken within 10-14 days of the first.
Minimum Volume Required	2 mL of serum
Storage/Transport Conditions **Transport Medium**	Blood specimens should be stored at 4-8°C. If testing is to be delayed longer than 5 days, the samples should be frozen at -20°C or colder. Specimens should be submitted in a biohazard specimen bag with absorbent material. Transport specimens in an insulated container on cold pack. Capillary tubes should be capped and placed in another larger tube for protection before transport. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect fluorescent antibody (IFA) test
Turnaround Time	1-3 business days after specimen receipt at the Public Health Laboratory

Interferences & Limitations	Lack of significant rise in antibody titer does not exclude the possibility of measles infection. When measuring IgG antibody levels, positive results in neonates must be interpreted with caution since maternal antibody is transferred passively from the mother to the fetus before birth. IgM assays are generally more useful indicators of infection children below the age of six months. Results of this test should be interpreted in the light of other clinical findings and diagnostic procedures.
Additional Information	Providers are encouraged to collect acute serum specimens in conjunction with respiratory and urine specimens, when possible, to assist with the diagnosis of measles. In recently vaccinated persons (6-45 days prior to rash onset), neither IgM nor IgG responses can distinguish measles disease from a vaccination response. A separate specimen (urine, NP, or throat) must be submitted for Measles PCR and genotyping to distinguish between vaccine and wild-type strains.
Reference Range	IgG <8, No Antibody Detected; IgM <10, No Antibody Detected
CPT Code(s)	86765 x 2
LOINC Code	21501-2; 5245-6

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Measles IgG Antibody

Other Name(s)	Rubeola, LIAISON® Measles IgG assay
LIMS Code	MEAG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Collect blood in SST® (red-top, plastic) tube or SST® (gold-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	1 mL of serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	2 business days
Interferences & Limitations	False negative results may occur if samples are collected early in the disease. Specimens from patients receiving preparations of mouse monoclonal antibodies for therapy or diagnosis may have interference with this assay and their results should be evaluated with care. Grossly hemolyzed, lipemic or contaminated samples are unacceptable.
Additional Information	Immunity screen requires IgG determination only.
Reference Range	Vaccinated: Positive (≥ 16.5 AU/mL), Unvaccinated: Negative (< 13.5 AU/mL)
CPT Code(s)	86765
LOINC Code	35275-7

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Measles IgG Antibody, IFA

Other Name(s)	Rubeola
LIMS Code	MEGIS
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for diagnostic measles laboratory testing. Immunity screen requires IgG determination only. To report suspect measles, the Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. During non-business hours (before 7:30 a.m., after 5:00 p.m., or weekends) call (213) 974-1234 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** Collect in SST® (red-top, plastic) tube or SST® (gold-top, plastic) tube. Separate serum by centrifugation if possible. Aseptically transfer serum to a screw cap, sterile, leak proof container. **For Infants:** capillary tubes may be used for specimen collection. See special instructions from CDPH-VRDL located at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHMeaslesLAbTesting2011-01.pdf To confirm acute infection, paired samples are required. The first sample (**acute**) should be taken as soon as possible after the clinical signs of infection. The second (**convalescent**) sample should be taken within 10-14 days of the first.
Minimum Volume Required	1 mL serum
Storage/Transport Conditions **Transport Medium**	Blood specimens should be stored at 4-8°C. If testing is to be delayed longer than 5 days, the samples should be frozen at -20°C or colder. Specimens should be submitted in a biohazard specimen bag with absorbent material. Transport specimens in an insulated container on cold pack. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect fluorescent antibody (IFA) test
Turnaround Time	2 business days
Interferences & Limitations	Lack of significant rise in antibody titer does not exclude the possibility of measles infection.

	When measuring IgG antibody levels, positive results in neonates must be interpreted with caution since maternal antibody is transferred passively from the mother to the fetus before birth. IgM assays are generally more useful indicators of infection children below the age of six months. Results of this test should be interpreted in the light of other clinical findings and diagnostic procedures.
Additional Information	For the detection of IgG antibodies
Reference Range	< 8, No Antibody Detected
CPT Code(s)	86765
LOINC Code	21501-2

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Measles IgM Antibody, IFA

Other Name(s)	Rubeola
LIMS Code	MEMIS
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for diagnostic measles laboratory testing. Immunity screen requires IgG determination only. To report suspect measles, the Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. During non-business hours (before 7:30 a.m., after 5:00 p.m., or weekends) call (213) 974-1234 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** Collect in SST® (red-top, plastic) tube or SST® (gold-top, plastic) tube. Separate serum by centrifugation if possible. Aseptically transfer serum to a screw cap, sterile, leak proof container. **For Infants:** Capillary tubes may be used for specimen collection. Collect 3 tubes to assure adequate specimen volume. See special instructions from CDPH-VRDL located at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/CDPHMeaslesLAbTesting2011-01.pdf To confirm acute infection, paired samples are required. The first sample (**acute**) should be taken as soon as possible after the clinical signs of infection. The second (**convalescent**) sample should be taken within 10-14 says of the first.
Minimum Volume Required	1 mL serum (minimum 0.25 mL)
Storage/Transport Conditions	Blood specimens should be stored at 4-8°C. If testing is to be delayed longer than 5 days, the specimens should be frozen at -20°C or colder. Specimens should be submitted in a biohazard specimen bag with absorbent material. Transport specimens in an insulated container on cold pack. Capillary tubes should be capped and placed in another larger tube for protection before transport.
Transport Medium	Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect fluorescent antibody (IFA) test
Turnaround Time	2 business days

Interferences & Limitations	Lack of significant rise in antibody titer does not exclude the possibility of measles infection. When measuring IgG antibody levels, positive results in neonates must be interpreted with caution since maternal antibody is transferred passively from the mother to the fetus before birth. IgM assays are generally more useful indicators of infection children below the age of six months. Results of this test should be interpreted in the light of other clinical findings and diagnostic procedures.
Additional Information	For the detection of IgM antibodies
Reference Range	< 10, No Antibody Detected
CPT Code(s)	86765
LOINC Code	5245-6

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Mumps IgG Antibody

Other Name(s)	LIAISON® Mumps IgG assay
LIMS Code	MUMG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Collect blood in SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	1 mL serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	2 business days
Interferences & Limitations	Specimens from patients receiving preparations of mouse monoclonal antibodies for therapy or diagnosis may have interference with this assay and their results should be evaluated with care. Grossly hemolyzed, lipemic or contaminated samples will not be tested.
Additional Information	Immunity screen requires IgG determination only.
Reference Range	Vaccinated: Positive (≥ 11.0 AU/mL), Unvaccinated: Negative (< 9.0 AU/mL).
CPT Code(s)	86735
LOINC Code	6476-6

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Rickettsia IgG & IgM Antibody, Spotted/Typhus Fever Grp, IFA (CSF)

Other Name(s)	Rocky Mountain Spotted Fever (*Rickettsia rickettsii*); Murine typhus (*Rickettsia typhi*); Louse-borne typhus *(Rickettsia prowazekii)*
LIMS Code	RICC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	CSF
Minimum Volume Required	0.25 mL CSF
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Sterile, screw cap tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect immunofluorescent assay (IFA)
Turnaround Time	2 business days
Interferences & Limitations	Cross-reactivity within the Spotted Fever group or the Typhus Fever group precludes the speciation of the infecting Rickettsia by this procedure.
Additional Information	This test is performed by non-standard methods. CSF is not an FDA cleared specimen source for this test.
Reference Range	CSF < 1, No Antibody Detected
CPT Code(s)	86757 x 4
LOINC Code	35740-0

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Rickettsia IgG & IgM Antibody, Spotted/Typhus Fever Grp, IFA(Serum)

Other Name(s)	Rocky Mountain Spotted Fever (*Rickettsia rickettsii*); Murine typhus (*Rickettsia typhi*); Louse-borne typhus *(Rickettsia prowazekii)*
LIMS Code	RIC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen to the laboratory as soon as possible. If submission is to be delayed longer than 5 days, store at -20°C or colder and transport on dry ice. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect immunofluorescent assay (IFA)
Turnaround Time	2 business days
Interferences & Limitations	Cross-reactivity within the Spotted Fever group or the Typhus Fever group precludes the speciation of the infecting Rickettsia by this procedure. Antibody is variably absent for 1 to 2 weeks after onset of symptoms and an initial negative titer should not be used to exclude the diagnosis of Rickettsial disease. A second (convalescent) serum specimen should be obtained 1 to 2 weeks later to establish the diagnosis in such patients.
Additional Information	The assay is for the detection and semi-quantitation of antibodies to Spotted Fever and Typhus Fever group Rickettsia.
Reference Range	Serum < 64, No Antibody Detected
CPT Code(s)	86757 x 4
LOINC Code	35740-0

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Rubella IgG Antibody

Other Name(s)	German measles, LIAISON® Rubella IgG assay
LIMS Code	RUBG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Collect blood in SST® (red-top, plastic) tube or SST® (gold-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	2 mL of whole blood 1 mL of serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	2 business days.
Interferences & Limitations	Cross reactivity with HBsAg, measles IgG, mumps IgG, anti-HCV, anti-HIV1/2, parvovirus IgG, gamma globulin, rheumatoid factor, and *Treponema pallidum* has not been determined by this assay. The performance characteristics of human anti-mouse antibodies and other heterophile antibodies has not been established and results should be carefully evaluated. Grossly hemolyzed, lipemic or contaminated samples are unacceptable and will not be tested.
Additional Information	Immunity screen requires IgG determination only.
Reference Range	Vaccinated: Positive (≥ 1.0 Index), Unvaccinated: Negative (< 0.9 Index).
CPT Code(s)	86762
LOINC Code	40667-8

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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Rubella IgM Antibody, EIA

Other Name(s)	German measles,
LIMS Code	RUBME
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for diagnostic rubella lab testing. Immunity screen requires IgG determination only. To report suspect rubella, the Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. During non-business hours (before 7:30 a.m., after 5:00 p.m., or weekends) call (213) 974-1234 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum
Minimum Volume Required	1 mL of serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Enzyme-linked Immunosorbent Assay (ELISA)
Turnaround Time	2 business days
Interferences & Limitations	Rheumatoid factor, if present along with specific IgG, can cause false positive results. False positive or negative results may occur in patients infected with Epstein-Barr virus, and sera from patients with infectious mononucleosis. The Rubella IgM ELISA has not been validated using neonatal samples.
Additional Information	To confirm acute infection, paired samples are required. The first sample (acute) should be taken as soon as possible after the clinical signs of infection. The second (convalescent) sample should be taken within 10-14 days of the first.
Reference Range	≤ 0.90, No Antibody Detected
CPT Code(s)	86762
LOINC Code	5335-5

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SARS-CoV-2 Antigen Immunoassay

Other Name(s)	SARS-CoV-2 Antigen
LIMS Code	SC2AGI
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasal swab processed in Liaison SARS-CoV-2 inactivation buffer tube
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store samples at room temperature during 2-hour inactivation. Inactivated processed samples are transported at room temperature. Once inactivated, samples can be stored at 2-8°C for up to 6 days. Swab specimens must be collected in Liaison SARS-CoV-2 sample inactivation buffer. Liaison SARS-CoV-2 sample inactivation buffer must be stored at 2-8°C and brought to room temperature before use.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Specimens must incubate in Liaison SARS-CoV-2 sample inactivation buffer for at least 2 hours before testing.
Test Methodology	Qualitative chemiluminescent immunoassay
Turnaround Time	1 business day
Interferences & Limitations	Negative results should be treated as presumptive. Confirmation with a molecular assay may be performed, if necessary, for patient management. Negative results do not rule out SARS-CoV-2 infection and should not be used as the sole basis for treatment or patient management decisions, including infection control decisions. Negative results should be considered in the context of a patient's recent exposures, history, and the presence of clinical signs and symptoms consistent with COVID-19. Positive results do not rule out co-infections with other pathogens. Results do not differentiate between SARS-CoV-2, SARS-CoV, or MERS-CoV. Test performance depends on the amount of viral antigen in the sample. Antigen results may or may not correlate with culture or molecular results. This test detects both viable (live) and non-viable SARS-CoV-2 virus.
Additional Information	This test has been granted Emergency Use Authorization by the U.S. Food and Drug Administration.
Reference Range	Negative

CPT Code(s)	87426
LOINC Code	96119-3

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SARS-CoV-2 IgG, Qualitative with Reflex

Other Name(s)	2019 Novel Coronavirus Antibody, COVID-19 Antibody
LIMS Code	COV2GA, COV2GD
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Blood collected in one (1) SST® (gold-top, plastic) tube
Minimum Volume Required	2 mL of serum or plasma
Storage/Transport Conditions **Transport Medium**	Separate serum by centrifugation as soon as possible. Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescent Microparticle Immunoassay Assay (CMIA), Chemiluminescent Immunoassay (CLIA)
Turnaround Time	2 business days
Interferences & Limitations	Negative results for IgG antibodies do not preclude SARS-CoV-2 infection. SARS-CoV-2 serology should not be used as the sole basis to diagnose or exclude infection, to screen for asymptomatic infections, for determination of protective antibodies, returning to congregate settings, or decisions about employment. SARS-CoV-2 serology is best used when paired with molecular testing. Results obtained with SARS-CoV-2 serology should be interpreted in conjunction with patient history, clinical findings, and the results from other laboratory tests and evaluations. Negative results indicate a person has not been exposed to SARS-CoV-2, or that the person has been exposed very recently without antibody production. False negative results can occur if SARS-CoV-2 antibodies are not present at a level that is detectable by the assay, the virus has undergone amino acid mutation leading to epitope changes recognized by antibodies in the test, or timing of specimen collection versus antibody production. False positive results for IgG antibodies may occur due to cross-reactivity from pre-existing antibodies, other coronaviruses, or other possible causes.
Additional Information	Letters of Authorization, along with the authorized Fact Sheets for Health Care Providers, the authorized Fact Sheets for Patients, and authorized labeling for the Abbott Architect SARS-CoV-2 IgG Assay and the LIAISON SARS-CoV-2 S1/S2 IgG Assay are available on the FDA website: https://www.fda.gov/medical-devices/coronavirus-disease-2019-covid-19-emergency-use-authorizations-medical-devices/vitro-diagnostics-euas
Reference Range	Negative
CPT Code(s)	86769
LOINC Code	94563-4

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Syphilis Confirmation, FTA-ABS

Other Name(s)	Fluorescent Treponemal Antibody Absorption (FTA-ABS) Test
LIMS Code	FTAS
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health STD Program for diagnostic syphilis laboratory using FTA-ABS Test. STD Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 744-3070. Notify the Public Health Laboratory – Serology Unit for FTA-ABS test request at (562) 685-1300 weekdays 8:00 a.m. – 5:00 p.m.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube
Minimum Volume Required	1 mL serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). If testing is to be delayed, store serum samples at -20°C.Transport refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Immunofluorescent assay (IFA)
Turnaround Time	3 business days
Interferences & Limitations	The FTA-ABS test is not useful in measuring the effectiveness of therapy. Biological false positive may occur at a low frequency.
Additional Information	Grossly hemolyzed or lipemic samples are unacceptable.
Reference Range	Non-reactive
CPT Code(s)	86780
LOINC Code	5393-4

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Syphilis RPR Reflex Panel

Other Name(s)	Rapid Plasma Reagin (RPR) with Reflex to Titer and TPPA Confirmation
LIMS Code	RPRB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube **Plasma:** EDTA (lavender-top) tube
Minimum Volume Required	1 mL serum or plasma
Storage/Transport Conditions **Transport Medium**	Store refrigerated at 2-8°C if transporting is to be delayed more than 4 hours, specimen is stable up to 5 days. Store separated serum at -20°C if testing is to be delayed. For plasma, the maximum storage time is 48 hours at 2-8°C. Do not freeze plasma. Transport specimens in an insulated container refrigerated on cold packs. None
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Semi-Quantitative Charcoal Agglutination/Semi-Quantitative Particle Agglutination
Turnaround Time	2-5 days
Interferences & Limitations	With cardiolipin type antigens, biological false positive reactions have been reported in diseases such as infectious mononucleosis, leprosy, malaria, lupus erythematosus, vaccinia, and viral pneumonia. Pregnancy, narcotic addiction, recent immunization, and autoimmune diseases may also give false positive reactions. Lipemic or grossly hemolyzed sera will not be tested due to the possibility of non-specific reactions.
Additional Information	Non-treponemal titers of treated patients or those who have been re-infected, do not decrease rapidly compared to patients treated in early infection. Some individuals may become sero-fast and retain non-treponemal reactivity for life.
Reference Range	Nonreactive
CPT Code(s)	86592; 86593; 86780
LOINC Code	20507-0

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Syphilis Screen, RPR Quantitative

Other Name(s)	Rapid Plasma Reagin (RPR) card test, Reagin antibody (titer) by RPR
LIMS Code	SSRPRQ
Pre-Approval Required	None, use for patients with past history and documented treatment
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube **Plasma:** EDTA (lavender-top) tube
Minimum Volume Required	1 mL serum or plasma
Storage/Transport Conditions **Transport Medium**	Store refrigerated at 2-8°C if transporting is to be delayed more than 4 hours. If testing is to be delayed, store separated serum samples at -20°C. For plasma, the maximum storage time is 48 hours at 2-8°C. Do not freeze plasma. Transport specimens in an insulated container refrigerated on cold packs. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Semi-Quantitative Charcoal Agglutination
Turnaround Time	3 business days
Interferences & Limitations	With cardiolipin type antigens, biological false positive reactions have been reported in diseases such as infectious mononucleosis, leprosy, malaria, lupus erythematosus, vaccinia, and viral pneumonia. Pregnancy, narcotic addiction, recent immunization, and autoimmune diseases may also give false positive reactions. Lipemic or grossly hemolyzed sera are not acceptable. Non-treponemal titers of treated patients or those who have been re-infected, do not decrease rapidly compared to patients treated in early infection. Some individuals may become sero-fast and retain non-treponemal reactivity for life.
Additional Information	This test is used to quantitate levels of non-treponemal (reagin) antibodies to monitor efficacy of syphilis treatment.
Reference Range	Non-reactive
CPT Code(s)	86593
LOINC Code	31147-2

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Syphilis Supplemental or Confirmation Test , TPPA

Other Name(s)	*Treponemal pallidum*–Particle Agglutination (TPPA)
LIMS Code	TPPAS or TPPAB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube **Plasma:** EDTA (lavender-top) tube
Minimum Volume Required	1 mL serum or plasma
Storage/Transport Conditions **Transport Medium**	Store refrigerated at 2-8°C if transporting is to be delayed more than 4 hours. Store separated serum at -20°C if testing is to be delayed. For plasma, the maximum storage time is 48 hours at 2-8°C. Do not freeze plasma. Transport specimens in an insulated container refrigerated on cold packs. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Passive agglutination
Turnaround Time	3 business days
Interferences & Limitations	Treponemal test results may remain positive for life and cannot be used to evaluate response to treatment or confirm reinfection. The TPPA may be reactive in a small percentage (less than 1%) of normal or healthy persons; these false-positive results are often transient, their case unknown. Samples from patients with HIV, Leprosy, Toxoplasmosis, *H. pylori*, and drug addiction may react, on occasion, causing false-positive or inconclusive results.
Additional Information	TPPAB is part of the Traditional Syphilis Screening algorithm RPRB and TPPAS is a stand-alone supplemental test.
Reference Range	Non-reactive
CPT Code(s)	86780
LOINC Code	24312-1

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Syphilis *Treponema pallidum* IgG and IgM Antibodies

Other Name(s)	Architect Syphilis TP assay
LIMS Code	TRPSTA
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum:** SST® (gold-top, plastic) tube (preferred) or SST® (red-top, plastic) tube **Plasma:** EDTA (lavender-top) tube
Minimum Volume Required	1 mL serum or plasma
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescent microparticle immunoassay (CMIA)
Turnaround Time	5 business days
Interferences & Limitations	Grossly hemolyzed and contaminated specimens are unacceptable.
Additional Information	This test is performed as a reflex confirmation to a reactive result in the Traditional Syphilis screening algorithm (SSRPR) and is also ordered as a supplemental treponemal test in the Syphilis Reverse algorithm to rule-out a false positive screening result.
Reference Range	Non-reactive
CPT Code(s)	86780
LOINC Code	47236-5

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TB QuantiFERON® Gold Plus

Other Name(s)	Interferon-gamma Release Assay (IGRA) for *Mycobacterium tuberculosis* QFT-Plus, QuantiFERON® TB Gold Plus
LIMS Code	QFTP
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Whole blood **COLLECTION** Collection of whole blood MUST BE performed using the **QuantiFERON® TB Gold Plus Collection Kit** which contains the instructions for the collection and handling of (one each): (1) gray-top (with white ring), uncoated (nil); (2) green cap with white ring, TB1tube: (3) yellow cap with white ring, TB2 tube; (4) purple top with white ring, mitogen-coated. **Collect 1 ml blood by venipuncture into each of the 4 tubes.** – The 4 tubes MUST be drawn in the following order: GRAY top; 2) GREEN top; 3) YELLOW top; 4) PURPLE top. – Tubes fill slowly by vacuum. – Blood MUST fall within the BLACK INDICATOR ZONE, on the label. If the level of blood is below or above the black indicator zone, another blood specimen must be collected. – If butterfly needle is used, first collect other required tubes, or use a "purge" (throw away) tube to remove the air. Then proceed with collecting the QFT tubes. If other blood work is also required, collect the QFT tubes LAST. Immediately after filling tubes, SHAKE (10 times) all 4 tubes just firmly enough to ensure the entire inner surface of the tube is coated with blood, to dissolve antigens on tube walls.
Minimum Volume Required	1 mL x 4 tubes in QuantiFERON®-TB Gold Plus kit QFT blood collection tubes are manufactured to draw 1 mL ± 10% and perform optimally within the range of 0.8 mL to 1.2 mL. Under or over-filling of the tubes outside of the 0.8 mL to 1.2 mL range will be **rejected** since it may lead to erroneous results. Specimens will not be tested.
Storage/Transport Conditions **Transport Medium**	**INCUBATION** – Keep all tubes at room temperature until incubation. – RE-MIX all tubes by inverting 10 times immediately prior to incubation (Hemolyzed plasma is acceptable). – **Incubate all tubes UPRIGHT (vertical) at 37°C ± 1°C for 16-24 hours.** – Place rack of tubes in incubator at end of shift and record date, incubator temperature and time on QFT specimen tracking log. – Improper incubation times or temperature will result in specimens being **rejected** since these factors may cause erroneous results. Specimens will not be tested. **TRANSPORT** – Take specimens from incubator and record the date, incubator temperature and time on QFT specimen tracking log sheet. Specimens will be **rejected** without the QFT specimen tracking log. Specimens will not be tested. – Transport all QFT specimens at room temperature with log sheet stapled to paper bag.

	– Packaged specimens labeled “TO PHL” should be ready for pick up by the PHL courier to avoid specimen processing delays. **HOLIDAY/WEEKEND SCHEDULING** Do not collect on Friday or any day prior to a county holiday.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician. Sunquest users: The large, barcoded label MUST be placed as shown just below the colored “QuantiFERON’ top, so back window is visible on all 4-collection tubes. Prior to incubation, return all 4 tubes to the biohazard bag provided. **MAKE SURE BACK WINDOW IS VISIBLE ON ALL 4-COLLECTION TUBES.**
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Whole blood interferon-gamma detection and quantification by ELISA in response to CD4+ and CD8+ T cell antigens
Turnaround Time	4 business days
Interferences & Limitations	Results from QuantiFERON® - TB Gold Plus test must be used in conjunction with individual’s epidemiological history, current medical status, and results of other diagnostic evaluations. Individuals with Nil values greater than 8.0 IU/mL are classed as “Indeterminate” because a 25% higher response to TB Antigens may be outside the assay measurement range. A diagnosis of LTBI requires that tuberculosis disease must be excluded by medical evaluation including an assessment of current medical and diagnostic tests for disease as indicated. A negative result must be considered with the individual’s medical and historical data relevant to probability of *M. tuberculosis* infection and potential risk of progression to tuberculosis disease, particularly for individuals with impaired immune function. Negative predictive values are likely to be low for persons suspected to have *M. tuberculosis* disease and should not be relied on to exclude disease. Unreliable or indeterminate results may occur due to the following: • Deviations from the procedure described in the Package Insert • Incorrect transport / handling of blood specimens • Excessive levels of circulating IFN-γ or presence of heterophile antibodies • Longer than 16 hours from blood specimen drawing to incubation at 37°±1°C
Additional Information	QuantiFERON detects latent infection with Mycobacterium tuberculosis. Test interpretation is qualitative (Positive, Negative, or Indeterminate) and numerical values are shown for informational purposes only.
Reference Range	Negative
CPT Code(s)	86480
LOINC Code	71775-1

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Treponemal IgG and IgM Antibodies w/Reflex to Quantitative RPR

Other Name(s)	LIAISON® Treponema assay, Syphilis reverse algorithm screen with reflex
LIMS Code	TRPAB
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Collect blood in SST® (gold-top, plastic) tube SST® (red-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	Whole blood: 2 mL, Serum: 1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	3 business days
Interferences & Limitations	Assay cannot distinguish different antibody classes and cannot discriminate between active and treated cases. Positive results may score negative on non-treponemal tests (VDRL, RPR). Results should be interpreted with caution in immunocompromised individuals since antibody levels may be affected by existing conditions.
Additional Information	Specimens testing positive or equivocal are reflexed to Quantitative RPR testing, those testing RPR nonreactive are reflexed to a second treponemal test to rule out false positive reactivity.
Reference Range	Negative (*Treponema pallidum* antibodies not detected)
CPT Code(s)	86780, 86593, and 86780
LOINC Code	47236-5

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Varicella zoster virus IgG Antibody

Other Name(s)	Chickenpox, LIAISON® VZV IgG assay
LIMS Code	VZVG
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Serum**: Collect blood in SST® (gold-top, plastic) tube or SST® (red-top, plastic) tube. Separate serum from clot within one hour of phlebotomy or as soon as possible.
Minimum Volume Required	1 mL serum
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 2 days of sample collection. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Chemiluminescence immunoassay (CLIA)
Turnaround Time	2 business days
Interferences & Limitations	Performance characteristics with individuals vaccinated with VZV (ROD strain) have not been established. Performance of human anti-mouse antibodies and rheumatoid factor samples have not been established and may occasionally influence results. Grossly hemolyzed, lipemic or contaminated samples are unacceptable.
Additional Information	Immunity screen requires IgG determination only.
Reference Range	Vaccinated: Positive (Index > 165), Unvaccinated: Negative (Index < 135).
CPT Code(s)	86787
LOINC Code	15410-4

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Varicella zoster virus IgG Antibody, IFA

Other Name(s)	Chickenpox
LIMS Code	VZGIS
Pre-Approval Required	Consultation and approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for diagnostic laboratory testing. Immunity screen requires IgG determination only. To report suspect case, the Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. – 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. During non-business hours (before 7:30 a.m., after 5:00 p.m., or weekends) call (213) 974-1234 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. If testing is to be delayed longer than 5 days, the samples should be frozen at -20°C or colder. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Indirect immunofluorescent assay (IFA)
Turnaround Time	2 business days
Interferences & Limitations	The results of a single antibody determination should not be used to diagnose recent infection. To confirm acute infection, paired samples are required. The first sample (**acute**) should be taken as soon as possible after the clinical signs of infection. The second (**convalescent**) sample should be taken within 10-14 days of the first. A significant rise in titer should be used to confirm a clinical diagnosis of atypical varicella zoster infection only if a patient is tested concurrently for herpes simplex virus and does not demonstrate a concurrent significant rise in titer to herpes simplex.
Additional Information	None
Reference Range	Serum < 8, No Antibody Detected

CPT Code(s)	86787
LOINC Code	6569-8

Los Angeles County Public Health Laboratories
12750 Erickson Avenue
Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

West Nile Virus IgG and IgM Antibodies, EIA (Serum)

Other Name(s)	WNV
LIMS Code	WNVS
Pre-Approval Required	Testing limited to West Nile Virus season (May to November) Consultation and approval are required by West Nile Virus Coordinator at (ACDC) Acute Communicable Disease Center by calling (213) 240-7941 during normal business hours from 8:00 a.m. to 5:00 p.m. Critical after-hours consultation is available by contacting the county operator and asking for the after-hours doctor on call at (213) 974-1234. ACDC **recommends that physicians and other medical providers order WNV screening tests for all patients with aseptic meningitis, encephalitis, or acute flaccid paralysis**, as well as those who are experiencing a nonspecific illness compatible with WNV fever during the WNV season.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Serum
Minimum Volume Required	1 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Enzyme-linked Immunosorbent Assay (ELISA)
Turnaround Time	4 business days
Interferences & Limitations	The performance of this assay has not been established for ruling out diseases with similar symptoms, e.g., herpes simplex virus encephalitis, enterovirus encephalitis, bacterial meningitis, causes of non-infectious encephalitis, or post- infectious encephalitis. IgM assay may cross-react with antibodies produced to other flaviviruses. IgG assay cross-reactivity has been noted with some specimens containing antibody to cytomegalovirus (CMV).
Additional Information	All results from this and other serologies must be correlated with clinical history, epidemiological data, and other data available to the attending physician in evaluating the patient. Positive results must be confirmed by neutralization test, or by using the current CDC guidelines for diagnosing West Nile encephalitis.
Reference Range	Negative

CPT Code(s)	86788; 86789
LOINC Code	55402-2

Toxicology

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Phone (562) 658-1300 Fax (562) 401-5999

Lead, Blood

Other Name(s)	Pb, Blood
LIMS Code	BLEAD
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	3 mL whole blood collected in a K2 EDTA (tan-top) tube
Minimum Volume Required	0.5 mL
Storage/Transport Conditions **Transport Medium**	Store refrigerated. Transport on cold packs using double biohazard specimen bags. K2 EDTA (tan-top) tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Graphite Furnace Atomic Absorption Spectrometry (Atomic Spectrometry)
Turnaround Time	1-3 business days
Interferences & Limitations	To minimize false positive results care must be taken to avoid lead contamination when drawing blood. Alcohol swabs, paper towels, collection tubes should be lead-free. Use powderless gloves.
Additional Information	This test is specific for lead, and does not detect any other elements
Reference Range	Birth – 6 Years ≤3.5 µg/dL 6 years and above ≤10 µg/dL
CPT Code(s)	83655
LOINC Code	77307-7

Viral Load Genotyping

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Phone (562) 658-1300 Fax (562) 401-5999

Hepatitis C Genotyping

Other Name(s)	Genotype Drug Resistance, HCV, Hepatitis C virus
LIMS Code	HCVG
Pre-Approval Required	Documentation of positive Hepatitis C screen; HCV viral load > 500 IU/mL is required. Prior approval is also required by eConsult.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm eConsult approval print out must accompany test request form (DHS and associated clinics only).
Acceptable Specimen Type(s)	Whole blood collected in EDTA (lavender-top) **plastic** vacutainer tube.
Minimum Volume Required	2 mL processed plasma
Storage/Transport Conditions **Transport Medium**	Freshly drawn whole blood may be held at 2-30°C for up to 6 hours prior to centrifugation. After centrifugation, remove plasma from cells and transfer to polypropylene aliquot tube. Processed specimens if stored at 2-8°C must be received within 72 hours of collection otherwise freeze at -20°C. Transport frozen specimens on dry ice (-20˚C or lower). Polypropylene aliquot tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-Time PCR
Turnaround Time	5 business days
Interferences & Limitations	This test assay is not for screening blood, plasma, serum, or tissue donors for HCV, or to be used as a diagnostic test to confirm the presence of HCV infection. Exposure of plasma samples to elevated room temperature for 24 hours or longer should be avoided. Multiple freeze/thaw cycles should be avoided and should not exceed 3 freeze/thaw cycles.
Additional Information	Used for prognosis and treatment selection in chronically infected Hepatitis C patients. This assay provides qualitative identification of Hepatitis C virus genotypes 1, 1a, 1b, and 2-5; Genotype 6 may be reported as detected without qualitative identification.
Reference Range	No Resistance Detected
CPT Code(s)	87902
LOINC Code	32286-7

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Hepatitis C Viral RNA, Quantitative, Real-time PCR

Other Name(s)	Hepatitis C Viral Load
LIMS Code	HCVL
Pre-Approval Required	Documentation of positive Hepatitis C screen is required. Prior approval is also required by eConsult.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm eConsult approval print out must accompany test request form (DHS and associated clinics only).
Acceptable Specimen Type(s)	Plasma collected in K_2 EDTA (lavender-top) **plastic** vacutainer tube
Minimum Volume Required	2 mL processed plasma
Storage/Transport Conditions **Transport Medium**	Freshly drawn whole blood may be held at 2-30°C for up to 6 hours prior to centrifugation. After centrifugation, remove plasma from cells and transfer to screw-cap polypropylene tube. Processed specimens if stored at 2-8°C must be received within 72 hours of collection otherwise freeze at -20°C. Transport frozen specimens on dry ice (-20˚C or lower). Screw-cap polypropylene tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-Time Polymerase Chain Reaction (RT-PCR)
Turnaround Time	5 business days
Interferences & Limitations	This test assay is not for screening blood, plasma, serum, or tissue donors for HCV, or to be used as a diagnostic test to confirm the presence of HCV infection. Exposure of plasma or serum samples to elevated room temperature for 24 hours or longer should be avoided. Multiple freeze/thaw cycles should be avoided.
Additional Information	Ordered after Hepatitis C status confirmed and used for monitoring chronic disease. The quantitative range of this assay is 1.08-8.0 log IU/mL (12-100,000,000 IU/mL) with limit of detection (LOD) at 12 IU/mL (1.08 log IU/mL).
Reference Range	Not Detected
CPT Code(s)	87522
LOINC Code	50023-1

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HIV-1 Genotyping

Other Name(s)	HIV-1 Genotype Drug Resistance
LIMS Code	HIVNGS
Pre-Approval Required	None, but must have a recent viral load of ≥ 2000 copies/mL
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Plasma only** Collect whole blood in a sterile EDTA (lavender-top) tube or a gel separator type tube (BD Vacutainer® PPT™ Molecular Diagnostic Tube K2 EDTA Dickinson #362788, or equivalent) and immediately invert the tube 8 to 10 times to mix. Centrifuge the tubes at 1,000 to 2,000 x g at room temperature (15-25°C) for 15 minutes. If using an EDTA (lavender-top) tube, transfer the plasma to a sterile polypropylene tube within 6 hours of collection. If using a PPT type tube, transfer the plasma to a sterile polypropylene tube within 2 hours of collection. Freeze plasma at -65 to -80°C until shipped
Minimum Volume Required	2 mL plasma
Storage/Transport Conditions **Transport Medium**	Store plasma refrigerated at (2-8˚C) for delivery within 24 hours or frozen at -70°C. Store plasma samples at -65 to -80°C until used. Transport specimens refrigerated on cold packs for delivery within 24 hours, or frozen on dry ice (-70˚C or lower) if the specimens were previously frozen. Sterile polypropylene tube
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Identification of mutations within HIV-1 pol gene region, Sequencing.
Turnaround Time	7 business days
Interferences & Limitations	Do not use heparin as an anticoagulant. Do not use plasma after more than 2 freeze-thaw cycles.
Additional Information	Abbott ViroSeq HIV-1 Genotyping System for Detecting Genomic Mutations known to confer Drug Resistance to specific anti-Retroviral Drugs.
Reference Range	No resistance detected
CPT Code(s)	87901
LOINC Code	80689-3

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HIV-1 RNA, Quantitative, Real-time PCR

Other Name(s)	HIV-1 Viral Load
LIMS Code	HIVL
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	**Plasma only.** Blood collected in K3 EDTA (lavender-top) tube Whole blood may be held at 15-30°C for up to 6 hours or at 2-8°C for up to 24 hours, prior to centrifugation. Separate plasma from whole blood by centrifugation at 800-1600 x g for 20 minutes at room temperature. Transfer plasma to screw cap polypropylene tube.
Minimum Volume Required	3 mL
Storage/Transport Conditions	Plasma may be stored at 15-30°C for up to 24 hours or at 2-8°C for up to 5 days. If longer storage is required, plasma specimens must be stored at -70°C. Transport plasma frozen on dry ice.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real-Time Polymerase Chain Reaction (RT-PCR)
Turnaround Time	5 business days
Interferences & Limitations	Collections in heparin coated tubes are unacceptable due to heparin interference with PCR amplification.
Additional Information	None
Reference Range	Lower limit of detection <40 copies/mL; Upper limit of quantitation10,000,000 copies/mL
CPT Code(s)	87536
LOINC Code	48511-0

Virology

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Downey, CA 90242
Phone (562) 658-1300 Fax (562) 401-5999

Chlamydia species, Culture and Identification

Other Name(s)	CT
LIMS Code	CT
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Endocervical swab, urethral swab, conjunctiva (eye) swab, nasopharyngeal swab, throat swab, rectal mucosal swab, nasal aspirates.
Minimum Volume Required	Swab placed in 3 mL viral transport media
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 24 hours of collection with cold packs. Viral Transport Media (VTM) or Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	**Endocervix**: Remove excess mucus from cervix; insert Dacron®-tipped swab into cervical canal. **Male urethra**: Patient should not have urinated for at least 1 hour prior to sample collection. Insert sterile Dacron®-tipped swab with fine shaft 2-4 cm into urethra using a rotating motion to facilitate insertion. **Conjunctiva (eye)**: Gently swab the lower conjunctiva with a Dacron®-tipped swab to collect mucous membrane cells. **Nasal aspirates**: Collected by aspiration in infants. **Nasopharynx:** Insert Dacron®-tipped swab with fine-plastic shaft gently into one or both anterior nares to the posterior pharynx. Rotate swab to collect mucous membrane cells and withdraw. **Throat**: Swab the posterior pharynx vigorously with a Dacron®-tipped swab with plastic shaft. **Rectal mucosa**: Insert Dacron®-tipped swab with plastic shaft 1 cm past the anal sphincter, rotate it in firm contact with the mucosal surfaces and withdraw.
Test Methodology	Culture in McCoy shell vials, Direct Fluorescence Antibody (DFA)
Turnaround Time	3 days
Interferences & Limitations	Calcium alginate swabs are unacceptable and cotton swabs with wooden shafts are not recommended because it can cause false-negative result. Bacterial transport media such as LQ Stuart (green or red top), Amies (with or without charcoal) contain antiviral substances and render the sample unsatisfactory for virus isolation attempts.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87110; 87140

LOINC Code	6349-5

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Cytomegalovirus, Viral Culture, and Identification

Other Name(s)	CMV
LIMS Code	CMVC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Urine, whole blood, fetal wastage, biopsy/autopsy tissue, CSF
Minimum Volume Required	**Urine:** 5-10 mL **Blood:** 5 mL **Biopsy/autopsy tissue:** 1-2 g **CSF:** 2 mL
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 48 hours of collection. **Urine:** Sterile urine container, no preservative **Blood:** EDTA (lavender-top) tube or ACD solution A (yellow-top) tube **Fetal wastage, biopsy, or autopsy tissue:** Sterile container, no preservative. Collect each specimen using aseptic technique. Place in separate container. Collect autopsy specimens as soon as possible and biopsy specimens as soon as after onset of symptoms as possible. **CSF:** Sterile tube, no preservative. Do not dilute CSF.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Culture in shell vials and MRC-5 cell culture tubes; Indirect Immunofluorescence Assay (IFA)
Turnaround Time	Rapid shell vial method: 2 to 3 days. Conventional tube culture: 30 days
Interferences & Limitations	Do not freeze specimen if clinical background indicates CMV.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87252; 87254
LOINC Code	5838-8

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Herpes simplex virus Type 1 and 2 DNA, Qualitative Real-time PCR

Other Name(s)	HSV
LIMS Code	HSVPCR
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Genital swabs (vaginal, vulvar, labial, cervical, scrotal, and penile) and non-genital swabs (lip, oral, and rectal) are the only acceptable specimen types.
Minimum Volume Required	3 mL of Viral Transport Media (VTM) or Universal Transport Media (UTM)
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Specimens are stable up to 14 days at 2-8°C. Viral Transport Media (VTM) or Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	After collecting specimen insert swab into collection tube and break at score-line. Specimens must be capped tightly, properly labeled, and placed in biohazard zipped seal bags.
Test Methodology	Real Time Polymerase Chain Reaction (PCR)
Turnaround Time	4 business days
Interferences & Limitations	Specimen types listed are the only ones validated for this assay. Dacron tip or flocked swabs in Universal or Viral Transport media are the only acceptable specimen collection systems.
Additional Information	None
Reference Range	Not Detected
CPT Code(s)	87529 x 2
LOINC Code	16130-7 (HSV1); 16131-5 (HSV2)

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Herpes simplex virus, Viral Culture and Identification

Other Name(s)	HSV conventional culture
LIMS Code	HSVC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vesicle fluid, eye swab, corneal scrapings, autopsy tissue, brain biopsy tissue, CSF, throat swab, throat washes
Minimum Volume Required	**CSF:** 0.5 mL **Throat swabs or washings:** 3 mL **Other specimen swabs:** 3 mL viral transport media **Autopsy or brain biopsy tissues:** 1-2 g
Storage/Transport Conditions	Place swab in Viral Transport Medium (VTM) soon after collection. Store specimens refrigerated at (2-8°C). If specimen cannot be transported to the laboratory within 48 hours of collection, store at -70°C. Transport specimens refrigerated on cold packs or frozen on dry ice (-20°C or lower) if the specimens were previously frozen.
Transport Medium	**Swabs:** Viral Transport Medium (VTM) or Universal Transport Medium (UTM) **CSF:** Sterile tube, no preservative. Do not dilute CSF. **Autopsy or brain biopsy tissue:** Sterile container. Collect each specimen using aseptic technique. Place in separate container. Collect autopsy specimens as soon as possible and biopsy specimens as soon as after onset of symptoms as possible. **Vesicle fluid**: Collect the fluid from several fresh vesicles. Either aspirate the fluids using a syringe fitted with a 26G needle or collect the fluids and cells with swab. **Eye swab or corneal scraping:** Swab the inflamed conjunctiva or corneal lesions. **Throat swabs or washings**: swab the affected area or have patient gargle with sterile buffered saline.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Conventional cell culture, Direct Fluorescence Antibody (DFA)
Turnaround Time	7 days
Interferences & Limitations	Herpes simplex virus are not usually recovered from healing lesions. Calcium alginate swabs are unacceptable and cotton swabs with wooden shafts are not recommended, as they may contain substances that cause false-negative results.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87252; 87140 x 2

LOINC Code	5859-4

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Phone (562) 658-1300 Fax (562) 401-5999

Measles RNA, Qualitative Real-time PCR

Other Name(s)	Rubeola
LIMS Code	MEVPCR
Pre-Approval Required	Consultation and pre-approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for measles laboratory testing. The Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. - 5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. After 5:00 p.m. Monday thru Friday, weekends and holidays call the county operator (213) 974-1234, Option 8 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Required Specimen Type(s)	Throat swab (preferred) or Nasopharyngeal (NP) swab ideally obtained within 3 days of rash onset. Urine collected midstream (first morning void preferred), clean-catch
Minimum Volume Required	3 mL of Viral Transport Media (VTM) or Universal Transport Media (UTM) 10-50 mL for urine (10 mL minimum)
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible. Swab samples should be submitted on cold packs as soon as possible and within 24 hours of collection. If transit time is longer, freeze specimen and transport frozen on dry ice (-20°C or lower). **Do not freeze urine**. **Throat or NP swab:** Viral Transport Media (VTM) or Universal Transport Media (UTM) **Urine:** Screw cap, sterile container without preservatives
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real Time Polymerase Chain Reaction (PCR)
Turnaround Time	1-2 business days
Interferences & Limitations	Specimen types listed are the only ones validated for this assay. Throat or nasopharyngeal: Dacron tip or flocked swabs in universal or viral transport media are the only acceptable specimen collection systems. Urine: Fresh, never frozen, unpreserved urine in a leakproof sterile container is the only acceptable specimen collection system. A negative result cannot rule out measles, particularly if the specimen is of poor quality or taken too late after illness onset. Measles PCR is not appropriate for asymptomatic contacts or to confirm immune status. Recent MMR immunization may result in a positive Measles PCR result.

Additional Information	Positive PCR samples will be forwarded to the State Public Health Laboratory for non-diagnostic epidemiological typing. Typing is required to differentiate vaccine strain from wild type Measles.
Reference Range	Not Detected
CPT Code(s)	87798
LOINC Code	48508-6

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Phone (562) 658-1300 Fax (562) 401-5999

Mumps RNA, Qualitative Real-time PCR

Other Name(s)	Epidemic Parotitis
LIMS Code	MUVPCR
Pre-Approval Required	Consultation and pre-approval are required by the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program for mumps laboratory testing. The Vaccine Preventable Disease Program can be reached weekdays 7:30 a.m. -5:00 p.m. by calling (213) 351-7800. Ask to speak to the epidemiologist on duty. After 5:00 p.m. Monday thru Friday, weekends and holidays call the county operator (213) 974-1234, Option 8 and ask to speak to the after-hours physician serving as the Administrative Officer on Duty (AOD) before sending specimens to the Public Health Laboratory.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Buccal swab (see collection instruction video from the CDC at https://www.youtube.com/watch?v=ThvoJBjsUvQ) Specimens should ideally be obtained within 3 days of symptoms onset but may be collected up to 5 days after symptoms onset.
Minimum Volume Required	**Buccal swab:** In 3 mL of Viral Transport Media (VTM) or Universal Transport Media (UTM)
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 24 hours of collection. If transit time is longer, freeze specimen and transport frozen on dry ice (-20°C or lower). **Buccal swab:** Viral Transport Media (VTM) or Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Real Time Polymerase Chain Reaction (PCR)
Turnaround Time	1 business day
Interferences & Limitations	Specimen types listed are the only ones validated for this assay. Assay cannot be performed on swabs collected in transport media for bacteria such as liquid Amies.
Additional Information	A negative result cannot rule out mumps, particularly if the specimen is of poor quality or taken too late after illness onset.
Reference Range	Not detected
CPT Code(s)	87798
LOINC Code	47532-7

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Rabies Antigen Detection

Other Name(s)	Rabies FRA
LIMS Code	RAB
Pre-Approval Required	Pre-approval is required for submission of a rabies "hot head" with a potential human exposure and the specimen is considered high risk (i.e., wildlife, neurologic domestic animal, and imported animal). Contact the Los Angeles County Veterinary office to determine if the animal is considered a "hot head." Call (562) 658-1452/1451 or email the virology staff at the PHL prior to delivery of emergency head or animal.
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	– Severed head from large animal. – Complete carcass from small animal, such as a bat or rodent – Brain material: unpreserved and unfrozen, brain stem and cerebellum must be included. – Brain material completely submerged in glycerol saline solution, not frozen
Minimum Volume Required	Not applicable
Storage/Transport Conditions **Transport Medium**	Store and transport specimen at room temperature (15-25°C) as soon as collected. Wrap specimen with adequate amount of absorbent material. Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Fluorescence Rabies Antibody (FRA)
Turnaround Time	2 days
Interferences & Limitations	Test is limited by decomposed tissues due to denaturation of viral proteins.
Additional Information	**Unacceptable specimens:** Specimen covered with fleas, ants and/or maggots. Substantial green color, liquefaction, desiccation, or unrecognizable gross anatomy.
Reference Range	Negative
CPT Code(s)	87003; 87299
LOINC Code	6532-6

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Respiratory Viral Agents, Viral Culture and Identification

Other Name(s)	None
LIMS Code	RESP
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Nasopharyngeal swabs, nasal swabs, throat swabs, nasal aspirates, nasal washes, lower respiratory tract specimens.
Minimum Volume Required	Swab placed in 3 mL viral transport media
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 48 hours. If delay is anticipated, freeze specimen at -70°C and transport or frozen on dry ice (-20°C or lower). Viral Transport Media (VTM) or Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Swab the affected area or have patient gargle with sterile buffered saline. Swab specimens should only be collected with a synthetic tip swab, such as nylon or Dacron®, and an aluminum or plastic shaft.
Test Methodology	Conventional cell culture, shell vial culture, Immunofluorescence Assay (IFA)
Turnaround Time	14 days
Interferences & Limitations	Calcium alginate swabs are unacceptable and cotton swabs with wooden shafts are not recommended. Gel-based viral transport media are not acceptable. Do not freeze any specimens for which the clinical background indicates RSV. Bacterial transport media such as Amies (with or without charcoal) contains antiviral substances and render the sample unsatisfactory for virus isolation attempts.
Additional Information	This test consists of culture and ID of Influenza A, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Respiratory Syncytial Virus (RSV), and Adenovirus
Reference Range	Negative
CPT Code(s)	87252 (culture); 87253 (ID)
LOINC Code	32355-0

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Varicella zoster virus, Viral Culture and Identification

Other Name(s)	VZV, Chickenpox, shingles
LIMS Code	VZVC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vesicle fluid, eye swab, corneal scrapings, throat swab, throat washings, rectal swab **Vesicle fluid**: collect the fluid from several fresh vesicles. Either aspirate the fluids using a syringe fitted with a 26G needle or collect the fluids and cells with swab. **Eye swab or corneal scraping**: swab the inflamed conjunctiva or corneal lesions. **Throat swab or washings**: swab the affected area or have patient gargle with sterile buffered saline. **Rectal swab**: insert swab into the rectum.
Minimum Volume Required	Swab placed in 3 mL viral transport media
Storage/Transport Conditions **Transport Medium**	Store specimens refrigerated at (2-8°C). Transport refrigerated on cold packs to the laboratory as soon as possible within 48 hours. Viral Transport Media (VTM) or Universal Transport Media (UTM)
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None
Test Methodology	Conventional cell culture, shell vial method, Direct Fluorescence Antibody (DFA)
Turnaround Time	14 business days
Interferences & Limitations	Varicella zoster virus are not usually recovered from healing lesions. **Do not freeze** any specimen which has clinical background indicating VZV. Calcium alginate swabs are unacceptable and cotton swabs with wooden shafts are not recommended because it can cause false-negative results.
Additional Information	None
Reference Range	Negative
CPT Code(s)	87252, 87253
LOINC Code	10860-5

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Viral Culture Comprehensive, Culture and Identification

Other Name(s)	None
LIMS Code	VC
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Vesicle fluid, endocervical swab, endo-urethral swab; eye swab or corneal scrapings, throat swab, nasopharyngeal swab, washings, transtracheal aspirate; rectal swab, feces; CSF; biopsy or autopsy tissue; urine, body fluids, blood
Minimum Volume Required	**Swabs:** in 3 mL Viral Transport Media (VTM) **Feces:** 1-2 g **CSF:** 2 mL **Urine:** 5-10 mL **Body fluids other than urine:** 2-3 mL **Biopsy or autopsy tissue:** 1-2 g **Blood:** 5 mL
Storage/Transport Conditions	Store and transport **blood** at room temperature (15-25°C). Store **swabs, vesicle fluid, feces, CSF, urine, body fluids** refrigerated at (2-8°C). Freeze at -70°C or lower if the specimen is to be held longer than 48 hours. Transport on frozen on dry ice (-20°C or lower). Do not freeze any specimens for which the clinical background indicates CMV, RSV, and VZV.
Transport Medium	**Swabs:** Viral Transport Media (VTM) or Universal Transport Media (UTM) **Vesicle fluid, endocervical and endourethral swab:** Collect the fluid from several fresh vesicles. Either aspirate the fluids using a syringe fitted with a 26G needle or collect the fluids and cells with swab. **Eye swab or corneal scraping**: Swab the inflamed conjunctiva or corneal lesions. **Throat swabs, nasopharyngeal swab, washings, transtracheal aspirate**: Swab the affected area or have patient gargle with sterile buffered saline. **Rectal swab**: Insert swab into the rectum. **Feces**: Collect fresh stool. Place stool in sterile container without preservative **CSF**: collect in sterile tube. Do not dilute CSF. **Biopsy or autopsy tissue**: Collect autopsy specimens as soon as possible and biopsy specimens as soon after onset of symptoms as possible. **Urine**: Should be a primary morning void. Collect in a sterile screw cap container. **Body fluids other than blood or urine**: Collect using aseptic technique. **Blood**: Collect in EDTA (lavender-top) tube, ACD solution A (yellow-top) tube, or Vacutainer Plus Citrate (light blue) plastic tube.
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	None

Test Methodology	Conventional cell culture, Direct Fluorescence Antibody (DFA), Indirect Immunofluorescence Assay (IFA)
Turnaround Time	14 days
Interferences & Limitations	Varicella zoster virus (VZV) and Herpes simplex virus (HSV) are not usually recovered from healing lesions. Do not freeze any specimen which has clinical background indicating VZV, CMV, and RSV. Isolation of an enterovirus from the CSF is most productive within 2-3 days after onset of CNS manifestation. Specimens collected with a wooden shaft or calcium alginate swab are unacceptable. Bacterial transport media such as Amies (with or without charcoal) contain antiviral substances and render the sample unsatisfactory for virus isolation attempts.
Additional Information	This test consists of culture and ID of respiratory viruses (Influenza A, Influenza B, Parainfluenza 1, 2, 3, RSV, Adenovirus); Enteroviruses (Echoviruses, Polio, Coxsackie); and HSV, VZV, CMV
Reference Range	Negative
CPT Code(s)	87252 (culture); 87253 (Identification)
LOINC Code	6584-7

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Viral Isolate Identification

Other Name(s)	None
LIMS Code	VID
Pre-Approval Required	None
Supplemental Information and Required Form(s)	Los Angeles County PHL Test Request Form http://www.publichealth.lacounty.gov/lab/labforms.htm
Acceptable Specimen Type(s)	Viral isolate
Minimum Volume Required	0.5 mL
Storage/Transport Conditions **Transport Medium**	Store and transport conventional culture tube at room temperature (15-25°C). Store and transport viral isolate frozen on dry ice (-20°C or lower). Not applicable
Specimen Labeling	Test subject to CLIA regulations and requires two unique patient identifiers and the collection date/time on the primary specimen container and the test requisition including patient full name, patient address, DOB, MRN, sex, race, ethnicity, pregnancy status, specimen type and/or source, date/time of collection, and test(s) requested. The identifiers must be clearly labeled on specimen and must match information on the requisition form. Include complete submitter information (name, address, phone #) and complete name of ordering clinician.
Shipping Instructions and Specimen Handling Requirements	Ship conventional culture tubes with the maintenance medium filled to the cap before shipping.
Test Methodology	Conventional cell culture, Direct Fluorescence Antibody (DFA), Indirect Immunofluorescence Antibody (IFA)
Turnaround Time	14 days
Interferences & Limitations	None
Additional Information	Identification of respiratory viruses (Influenza A, Influenza B, Parainfluenza 1, 2, 3, RSV, Adenovirus); Enteroviruses (Echoviruses, Polio, Coxsackie); *Herpes simplex* virus, *Varicella zoster* virus, *Cytomegalovirus*
Reference Range	By report
CPT Code(s)	87252 (culture); 87253 (ID)
LOINC Code	6608-4