

# County of Orange Public Health Laboratory

# **Laboratory Manual**

**Revised May 2023** 





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PHAB Accredited Health Department

# County of Orange Public Health Laboratory 1729 West 17th Street Santa Ana, CA 92706

Laboratory Director: Megan Crumpler

Hours: Monday – Friday 8:00 a.m. to 5:00 p.m.

#### Accreditations:

CLIA 05D0643378
State of California CPH974
ELAP 2545
Federal Tax ID 95-6000-928
Medicare Provider Number 05L009046

Laboratory Director's Approval:	
Date:	
Date Discontinued:	

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#### LABORATORY PHONE NUMBERS

Main Line: (714) 834-8385 Fax: (714) 564-4068 Weekend-Emergency Line: (714) 720-1116

DEPARTMENT	SUPERVISOR	PHONE NUMBER
Laboratory Director	Megan Crumpler, PhD, HCLD	(714) 834-8385
Assistant Laboratory Director	Lydia Mikhail, DrPH, MBA, MEL, TS(ABB)	(714) 834-8385
Virology/Serology	Mariam Zhowandai, MPH	(714) 834-8390
Bacteriology/Bioterrorism	Karen Galliher	(714) 834-8327
TB/Mycology/Parasitology	Tania Chiem	(714) 834-8292
Molecular	Julia Wolfe, MPH	(714) 834-8521
Water Quality	Joseph Guzman	(949) 219-0424
Information Systems	Doug Schan, MPH	(714) 834-7850
Central Processing	Paterno Lopez	(714) 834-8401
Media Room	Karen Galliher	(714) 834-8327

#### OTHER USEFUL PHONE NUMBERS

Reportable Diseases: (714) 834-8196 (FAX)

Communicable Disease Control Division: (714) 834-8180 Animal Control: (714) 935-6848 Vector Control: (714) 971-2421

To report a Public Health Emergency after hours (including a bioterrorism event) call: (714) 628-7008

Ask to speak to Public Health Services On-Call Official

# ORANGE COUNTY PUBLIC HEALTH LABORATORY SPECIMEN SUBMISSION INSTRUCTIONS

#### I. SPECIMEN COLLECTION

- A. Collect specimens in containers appropriate for the test requested. See Test Request Information.
- B. Use media or collection containers with current expiration dates.
- C. Hold specimens under correct conditions before transport. See Test Request Information.
- D. Observe time restrictions on collection and transport to the laboratory.

#### II. SPECIMEN IDENTIFICATION

- A. Label specimen container with patient's last name, first name, middle name or initial, and unique identifier. The patient's name and/or unique identifier on the specimen must be exactly as written on the test request form.
  - 1. Initials in place of the first or last name are unacceptable.
  - 2. The specimen cannot be processed without the patient name and/or unique identifier. See Specimen Quality Assurance Criteria.

#### III. TEST REQUEST FORM

- A. Required Information The specimen will not be processed without the following:
  - 1. Patient Information
    - a. Patient Name Type the patient's last name, first name and middle name or initial. The patient's name and/or unique identifier on the test request form must be exactly as written on the specimen.
      - i. Initials in place of first or last name are unacceptable.
      - ii. Use card imprint or labels only when the information is legible when placed in the correct space.
    - b. Patient Address Type the patient's address
    - c. Date of Birth Type the patient's birthdate
    - d. Gender Check Male, Female, or Other and enter brief description
  - Client Information Type in the name and address of the submitting client or clinic if you do not have a "Client Number"

- Client Number (Submitter Number assigned by OCPHL) Type the assigned client number in the space provided. DO NOT WRITE OTHER NUMBERS IN THIS SPACE. If the client number is not known, call the laboratory office (714) 834-8385.
- Specimen Source Check the appropriate box for specimen source.
   Check only one. If the appropriate source is not available, write the source on the line next to "Other."
- 4. Collection Information Type the date (MM/DD/YYYY) and time (HH:MM) the specimen was collected.
  - a. Collected By (not required but recommended) Write the name of the individual collecting the specimen.
  - 5. Reference Test A test or tests must be requested by authorized individual.
    - a. Check the appropriate box on the Test Request Form for "Reference Culture."
    - b. Check the box for the original specimen source.
    - c. For Reference Test (send an actively growing, pure culture for identification) Also complete Cultured Referred As: (REQUIRED) section and include any relevant history or laboratory findings in the Other Test/Notes section located at the bottom of the laboratory slip.
  - 6. Clinical Test A test or tests must be requested by authorized individual.
    - a. Check the appropriate test box. See Test Request Information.
    - b. Submit one specimen for each test requested.
    - Exceptions One specimen may be submitted for each of the following combinations:
      - i. Urine for urinalysis (UA) and Culture and Sensitivity (C&S) aerobic culture.
      - ii. Stool for enteric bacteriology (Salmonella, Shigella, E. coli and Campylobacter).
      - iii. Genital swab for C&S aerobic culture (includes Gonorrhea culture and aerobic bacterial culture and sensitivity).

- iv. Blood for multiple serological tests (RPR, Hepatitis Markers, HIV, and miscellaneous serology).
- B. Other Information Please fill out "Other Client Information" and "Client Patient Number" when applicable. This information will appear on the patient report.
  - Other Client Information Type the name, address, and phone number of the attending physician if different from the client (submitter). This space may be used for additional clinic subdivisions or coded information (nurses codes, clinic code, etc.)
  - 2. Client Patient Number Type the patient identification number or code. Please be accurate.

#### IV. TRANSPORT

- A. Ensure the test(s) requested are appropriate and correlate with specimen collected.
- B. Retain the last copy of the request form for your records.
- C. Ensure the integrity of specimens before transport. Screw caps down tightly. Check for punctures or leakage.
- Place completed Test Request Form in the outer pocket of the laboratory specimen bag.
- E. Place the labeled specimen in the zip lock section of the laboratory specimen bag. Zip the bag.
- F. Arrange for pick up or delivery. See Courier Schedule or Specimen Collection Stations.
- G. Changes to information on the test request form must be requested by the submitter in writing. FAX authorized written change requests to (714) 564-4068.

#### V. BIOTERRORISM RESPONSE

- A. Contact the laboratory at (714) 834-8385 if a bioterrorism agent is suspected.
- B. After hours including weekends and holidays, call (714) 628-7008 and ask to speak to Public Health Services On-Call Official.
- C. Isolates submitted for Select Agent testing must include the <u>supplemental</u> form and a <u>laboratory requisition form</u>.

D. Consultation and prior authorization from the Public Health Laboratory is required for sending isolates for Select Agent rule-out or confirmation testing.

#### VI. SPECIMEN QUALITY ASSURANCE CRITERIA

To help assure quality testing and to meet federal and state regulations, the laboratory has strict requirements for specimen identification.

- A. The following specimens do not meet quality assurance standards and will not be tested.
  - 1. Specimens or request forms lacking patient name and/or unique identifier.
  - 2. Specimens with compromised quality (e.g., collected in improper or expired container, received leaking or broken, or past acceptable transport time).
  - 3. Test request without client (submitter) number or client name and address.
- B. The following specimens do not meet quality assurance standards. The client will receive a telephone call requesting correction.
  - Test request without specimen source, date taken, or test requested will not be tested until the information is received.
  - 2. Missing information must be provided in writing by Fax (714) 564-4068 by 4:30 p.m. the next working day following notification.
- C. The following specimens do not meet quality assurance standards and will not be tested until corrected by a physician or nurse practitioner.
  - Specimens whose patient name does not match name on test request exactly (i.e., identical spelling of all names). We can only accept the first applied label on the specimen.
  - 2. Client will be notified of mismatched identification by telephone.
  - 3. A physician or nurse practitioner must come to the laboratory and make corrections on the test request form and sign the corrections.
  - 4. Corrections must be made by 4:30 p.m. the next working day following notification.

#### VII. REFERRAL AND SEND-OUT SPECIMENS

A. Referral testing and specimen send-out to reference laboratory are available.

Contact OCPHL for additional information and consultation at (714) 834-8385.

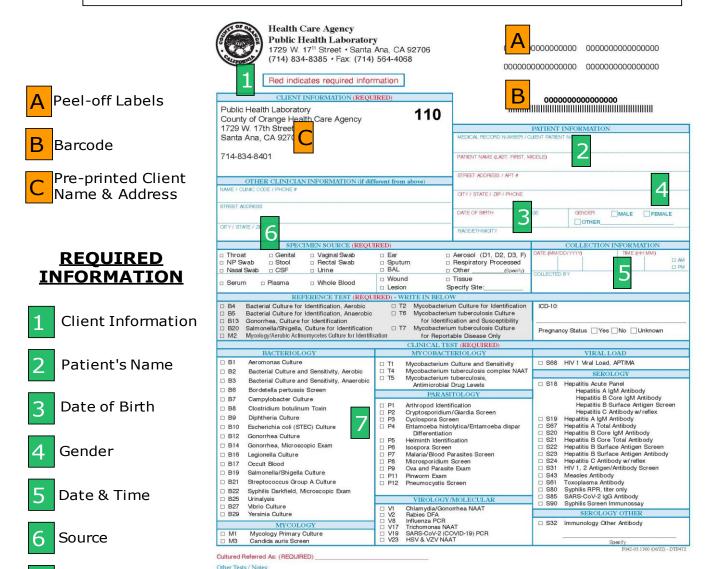
- B. Some tests may require pre-approval and/or specific collection criteria. Refer to testing laboratory website for detailed instructions. See <u>the common referral tests table below.</u>
  - 1. Microbial Diseases Laboratory (MDL) Services and Test Catalog
  - Viral and Rickettsial Disease Laboratory (VRDL) Services and Test Catalog
    - a. VRDL Specimen Submittal Forms
    - b. VRDL Guidelines for Laboratory Services
  - 3. CDC's Infectious Diseases Laboratories Test Directory
- C. Contact OC Communicable Disease Control Division at (714) 834-8180 for tests that require pre-approval.
- D. Fill OCPHL requisition and write the name of the reference test at the bottom of the form.

# **Common Referral Tests**

Common referral tests	Reference laboratory	Additional information
Chagas disease serology ( <i>Trypanosoma cruzi</i> )	<u>CDC</u>	Supplemental information required
Chikungunya virus neutralizing antibody/PCR/serology	<u>VRDL</u>	
Dengue virus neutralizing antibody/PCR/serology	<u>VRDL</u>	
Enterovirus PCR/genotyping	<u>VRDL</u>	
Hepatitis A virus genotyping	<u>VRDL</u>	
Lymphogranuloma venereum (LGV) PCR	<u>SFDPH</u>	NAAT CT result must be positive
Mumps virus genotyping	<u>VRDL</u>	
Mycobacterium TB Complex – Molecular Detection of Drug Resistance (MDDR)	CDC	
Non-Variola Orthopoxvirus PCR	<u>VRDL</u>	
Paragonimiasis serology (Paragonimus westermani, Paragonimus kellicotti)	CDC	Supplemental information required Contact CDC prior to submission
Rickettsia rickettsii RMSF serology	<u>VRDL</u>	
Rickettsia spp (Pan-Rickettsia) PCR	<u>VRDL</u>	
Rickettsia typhi serology	<u>VRDL</u>	
St. Louis encephalitis virus neutralizing antibody/PCR/serology	<u>VRDL</u>	
West Nile virus neutralizing antibody/PCR/serology	<u>VRDL</u>	
Yellow fever virus PCR	<u>VRDL</u>	
Zika virus neutralizing antibody/PCR/serology	<u>VRDL</u>	

# PUBLIC HEALTH LABORATORY REQUISITION FORM INSTRUCTION Laboratory Requisition to submit a specimen (form# F042-05.1360 06/22)

THE FOLLOWING INSTRUCTIONS ARE FOR PUBLIC HEALTH LABORATORY CLIENTS ONLY, IF YOU ARE NOT A CLIENT PLEASE CALL THE LABORATORY AT (714) 834-8385



#### INSTRUCTIONS FOR USE

Test

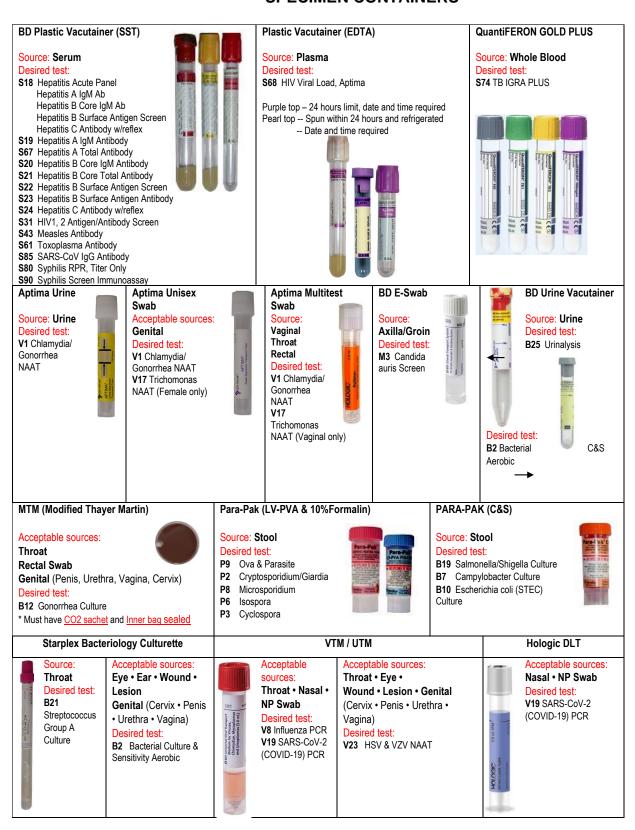
LABORATORY COPY

- (1) Complete all required Information
- (2) Affix a peel-off label on the specimen container(s). If there is more than one container, i.e. O&P kits have PVA and Formalin vials, affix a label to each container.
- (3) Keep the last yellow copy for records
- (4) Place the specimen, with the requisition label attached, and the requisition form inside specimen transport bag.
- (5) Send to the laboratory for testing

# **LABORATORY SUPPLIES**

ITEM	USE	MAXIMUM QUANTITY	ORDER INFORMATION
Anaerobic Transport Tube	Bacterial Culture		Call the OCPH-Lab Bacteriology Department at (714) 834-8327
BACTEC Blood Culture Bottles – Adult	Aerobic and Anaerobic Blood Cultures		
BACTEC Blood Culture Bottles - Pediatric	Aerobic and Anaerobic Blood Cultures		]
BACTEC Blood Culture Bottles – Myco F/Lytic	TB/Mycology		Call Central Processing (714) 834-8401
Bacterial Culturettes (Modified Amies Clear Media)	Bacterial Transport Media		
Blood Collection Tube w/EDTA Lavender Top and Pearl Top	Viral Load Testing		Call Purchasing at
Blood Serum Separator Tube (SST) Tiger Top, Plastic Only	Serology Testing		(714) 834-2188
C&S Vial (Culture and Sensitivity) Hologic Direct Load Tube (DLT)	Enteric Pathogens i.e. Salmonella and Shigella SARS-CoV-2 (COVID-19)	25 Vials	
Aptima Unisex Swab Specimen Collection Kit (Purple Box)	CT/GC NAAT / Trichomonas NAAT (Nucleic Acid Amplification Testing)		
Aptima Urine Specimen Collection Kit (Yellow Box)	CT/GC NAAT		Call Central Processing
Aptima Multitest Swab Specimen Collection Kit (Orange Box)	CT/GC NAAT / Trichomonas NAAT		(714) 834-8401
BD E-Swab Transport System	Aerobic, Anaerobic & Fastidious Bacteria		
Fresh Stool Collection Container	Tests requiring a fresh stool sample		
Modified Thayer Martin Agar (MTM) Plates	Gonorrhea Cultures		
Hemoccult Slide	Occult Blood Testing		Call Purchasing at (714) 834-2188
IMA Slant (Inhibitory Mold Agar)	Fungal Cultures		
O&P Collection Kit – 2 Vials (10% Formalin and PVA)	Identification of Ova and Parasites in Stool Samples	25 Kits	
Pinworm Paddle	Identification of Pinworms		
QuantiFERON-TB Gold Plus	TB test		
Regan-Lowe Transport Bottles and CAS Broth	Bordetella pertussis Culture		
Requisition Forms	Form is to be completed and accompany each specimen submitted to the OCPH Lab.		Call Central Processing (714) 834-8401
Specimen Bags	Bag to Transport specimen and Lab Slip together in separate compartments		
Sterile 15 ml Conical Tube	Specimen Container		
Sterile 50 ml Conical Tube	Specimen Container		
Sterile Screw-cap Tube with 0.5 ml Sterile Buffered Water	Haemophilus ducreyi Transport Media		
Typhoid Urine Kits	Typhoid Clearance Cases	25 Kits	
Urine C&S Transport Kits Grey-Top Tubes	Urine Cultures and Sensitivities and Urinalysis Testing		Call Purchasing at (714) 834-2188
Viral Transport Media / Universal Transport Medium ( <b>VTM/UTM)</b>	Viral testing i.e. SARS-CoV-2 (COVID-19), Herpes, Measles, Mumps, Influenza, VZV		Call Central Processing (714) 834-8401
Water Collection Bottles (Idexx-120 ml Bottle with Sodium Thiosulfate)	Water Sampling		Call the Water Quality Lab at (949) 219-0423
Zebra Printer Specimen Labels			Call Central Processing (714) 834-8401

#### **SPECIMEN CONTAINERS**



#### PUBLIC HEALTH LABORATORY SPECIMEN COLLECTION STATIONS

CITY	SITE ADDRESS	HOURS OPEN	COLLECTION LOCATION	COLLECTION TIME & DAYS
ANAHEIM	AHMC Anaheim Regional Medical CTR 1111 W La Palma Avenue (714) 774-1450	24 hours	<ul> <li>Locate the Main Entrance</li> <li>Enter the Main Lobby</li> <li>Ask for the Main Laboratory</li> <li>Follow signs to the laboratory</li> <li>Drop-off specimen in the lab office</li> <li>Indicate you have a specimen for Orange County Public Health Laboratory</li> <li>If door locked, go to ED to drop-off specimen (be sure to state specimen for OCPHL)</li> <li>DO NOT REGISTER</li> </ul>	Monday-Friday 11:00 AM
LAGUNA HILLS	Saddleback Memorial MC 24451 Health Center Drive (949) 837-4500	24 hours	<ul> <li>▶ Locate the Main Entrance</li> <li>▶ Head straight past the gift shop to the elevators</li> <li>▶ Take the elevator to the basement (ground floor). Make 2 immediate lefts.</li> <li>▶ Follow signs to the laboratory.</li> <li>▶ Drop-off specimen to the laboratory receptionist or ring bell.</li> <li>▶ Indicate you have a specimen for Orange County Public Health Laboratory</li> <li>▶ DO NOT REGISTER</li> </ul>	Monday-Friday 11:00 AM
NEWPORT BEACH	Hoag Hospital 1 Hoag Drive (949) 764-4624	24 hours	<ul> <li>▶ Locate the Main Entrance</li> <li>▶ Enter the Main Lobby</li> <li>▶ Take the EAST elevator (to your left)</li> <li>▶ Laboratory is at the basement, (B) Floor</li> <li>▶ Drop-off specimen in the laboratory</li> <li>▶ Indicate you have a specimen for Orange County Public Health Laboratory</li> <li>▶ DO NOT REGISTER</li> </ul>	Monday-Friday 11:00 AM
FULLERTON	ST Jude Medical Center 101 E Valencia Mesa Drive Fullerton, CA 92835 (714) 446-7920	7 AM to 6 PM	<ul> <li>▶ Drive to the main entrance of the hospital to valet parking/or go to self-parking area</li> <li>▶ Locate the hospital entrance</li> <li>▶ Let the concierge/security know that you have a specimen for the laboratory</li> <li>▶ Enter the laboratory</li> <li>▶ Indicate you have a specimen for Orange County Public Health Laboratory</li> <li>▶ DO NOT REGISTER</li> </ul>	Monday-Friday 11:00 AM
SANTA ANA	Public Health Clinics 1725 W 17th Street (714) 834-8385	24 hours	<ul> <li>▶ Located the front entrance of the building, facing 17th Street.</li> <li>▶ Place specimen inside the white mailbox "Orange County Health Care Agency Laboratory Specimens Only".</li> </ul>	Monday-Friday 4:30 PM
SANTA ANA	Public Health Laboratory 1729 W 17th Street (714) 834-8385	Monday-Friday 8:00 AM - 5:00 PM	<ul> <li>Drive or walk to the north side of building.</li> <li>Deliver inside the receiving counter.</li> </ul>	Monday-Friday Last Pickup 4:30 PM

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Aeromonas Culture	BACT	B1	Screening procedure for isolation and identification of <i>Aeromonas</i> species utilizing conventional biochemical techniques.	SPECIMEN: Fresh stool CONTAINER: Stool transport bottles (Para Pak C&S) COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool) Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable CIDT Screens: 7 days	1 week	Negative	Culture	87077
Arthropod Identification	PARA	P1	Identification is made by microscopic exam or referred to Vector Control if necessary.	SPECIMEN: Arthropod or skin scrapings. CONTAINER: If arthropod, use a jar or cup. If skin scraping, use mineral oil to scrape skin, then transfer to glass slide and cover with another glass slide. COLLECTION and TRANSPORT CONDITIONS: See Parasitology specimen collection guide for details.	24 hours (prelim) 1 week (final)	By report	Microscopy	87168

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Bacterial Culture & Sensitivity, Aerobic	BACT	B2	Identification of all aerobic organisms found using conventional aerobic culture techniques. Sensitivities performed according to the CLSI guidelines.	SPECIMEN: Blood, urine, sputum, eye, ear, genital, wounds, and abscesses.  CONTAINER: Bacterial Culturettes, BACTEC blood culture bottles, BD Urine C&S Preservative (Gray top), sputum collection bottles.  COLLECTION: Blood Cultures -Aseptically collect 8 ml for each bottle (BACTEC Plus Aerobic/F and BACTEC Lytic Anaerobic/F) Urine- Clean-catch midstream collection, 4 ml in a BD vacutainer with UA preservative tube. Sputum- expectoration obtained after a deep cough collected in sterile sputum collection bottle. Bacterial Culturettes are used for genital, eye, ear, wounds and abscesses. TRANSPORT CONDITIONS:  Room Temperature (25±5°C): 1 day (Blood cultures and genital swabs)  Refrigerated (5±3°C): 1 day (Swabs and sputum) 3 days (preserved urine)  Frozen (-15±5°C): Unacceptable	3 days	Negative	Culture	87040 87070
Bacterial Culture for Identification (Salmonella/Shigell a)	BACT	B20	Salmonella/Shigella culture identification and confirmation utilizing conventional biochemical and serological testing techniques.	SPECIMEN: Pure culture isolates CONTAINER: Slanted tubed media preferred, motility deeps acceptable. COLLECTION: Do not refrigerate or freeze TRANSPORT CONDITIONS: Room Temperature (25±5°C): Acceptable Refrigerated (5±3°C): Acceptable Frozen (-15±5°C): Unacceptable	3 days	NA	Culture	87070 87077 87145

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Bacterial Culture, Anaerobic (Call laboratory before submitting specimens for consultation)	BACT	В3	Identification of all anaerobic organisms found using conventional anaerobic culture techniques.	SPECIMEN: Deep wounds, abscesses, body fluids, tissue, blood CONTAINER: Anaerobic blood culture bottle, swab in anaerobic transport tube. COLLECTION: Blood Cultures - After aseptic collection of specimens, inject approximately 8 ml into one BACTEC Lytic Anaerobic/F bottle (provided by OCPHL). Keep at room temperature and send to laboratory immediately. Swabs- Collect under anaerobic conditions using an anaerobe swab. Call the lab for anaerobic transport tubes. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 1 day Refrigerated (5±3°C): Unacceptable Frozen (-15±5°C): Unacceptable	2 weeks	Negative	Culture	87040 87075 87076
Bacterial Reference Culture for Identification, Aerobic	BACT	B4	Aerobic bacterial culture identification utilizing conventional aerobic biochemical testing techniques.	SPECIMEN: Pure culture isolate CONTAINER: Slant tube media preferred, sealed plates acceptable. COLLECTION: Do not refrigerate or freeze TRANSPORT CONDITIONS: Room Temperature (25±5°C): 2 days Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable	1 week	By report	Culture	87070 87077
Bacterial Reference Culture for Identification, Anaerobic	BACT	B5	Anaerobic bacterial culture identification utilizing conventional anaerobic biochemical testing techniques.	SPECIMEN: Pure culture isolate on swab or plated media CONTAINER: Swab in anaerobic transport tube. Isolates submitted on plated media in anaerobic transport bag. COLLECTION: Do not refrigerate or freeze TRANSPORT CONDITIONS: Room Temperature (25±5°C) = 2 days Refrigerated (5±3°C) = Unacceptable Frozen (-15±5°C) = Unacceptable	1 week	By report	Culture	87040 87075 87076

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Campylobacter Culture	BACT	В7	Screening procedure for isolation and identification of Campylobacter jejuni utilizing conventional biochemical testing techniques.	SPECIMEN: Fresh stool CONTAINER: Stool transport bottles (Para Pak C&S), Note: Buffered Glycerol Saline is unacceptable as a transport medium COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool) Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable CIDT Screens: 7 days	5 days	Negative	Culture	87046
Candida auris Screen	MYCOL	МЗ	Screening procedure for Candida auris based on PCR.	SPECIMEN: Axilla/groin swabs. CONTAINER: BD ESwab collection and transport system with modified liquid Amies. See Mycology Specimen Collection guide for details. TRANSPORT CONDITIONS: Refrigerated (2-8°C)	24-96 hours (PCR) 9 days (culture)	Negative	PCR	87481 87106
Chlamydia/ Gonorrhea NAAT	VIRO	V1	Automated Qualitative Nucleic Acid Amplification, for the primary diagnosis of Chlamydia and/or Gonorrhea infections	SPECIMEN: Genital swab, vaginal swab, first catch urine, throat swab or rectal swab CONTAINER: Aptima swab specimen transport tube or urine transport tube. COLLECTION: See virology specimen collection guide for details. TRANSPORT CONDITIONS: Transport to laboratory at 2-30°C, within 30 days (urines), 60 days (swabs)	72 hours	Negative	Genprobe, Aptima COMBO 2	87491 87591

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Clostridium botulinum Culture & Toxin Testing (Call Laboratory before submitting specimens)	BACT	B8	Clostridium botulinum culture and toxin testing for suspected foodborne and wound cases.	SPECIMEN: Pre-antitoxin serum, stool, gastric, tissue. Standard volumes: >8 ml of serum (not hemolyzed), 25 grams of unpreserved feces or 25-50 ml of gastric aspirate within 72 hours of onset. Tissue in sterile container inside an anerobic pouch. CONTAINER: Sterile screw cap container COLLECTION: Contact Orange County Communicable Disease Control Division (CDCD) at (714) 834-8180 for testing approval prior to submission for specimen collection and shipping requirements. After hours, on weekends and holidays you may speak to a Public Health Official by calling Orange County Communications Center at (714) 628-7008.  TRANSPORT CONDITIONS: Room Temperature (25±5°C): Unacceptable Refrigerated (5±3°C): Unacceptable	4 weeks	Negative	Send Out	99001
Cryptosporidium/ Giardia Screen	PARA	P2	Direct Fluorescent Antibody test and/or modified acid-fast stain. Cryptosporidium is a significant pathogen in HIV+ patients. This is a combination assay for both Cryptosporidium and Giardia.	SPECIMEN: Preserved stool. 3 collected every other day is strongly recommended.  CONTAINER: 2 vial stool kit with 10% formalin and PVA.  COLLECTION: Add stool to each vial up to the "fill" line immediately after passage. Mix thoroughly. See Parasitology specimen collection guide for O&P exam for details.  TRANSPORT CONDITIONS: Room temperature (15-30°C)	3 days (final)	Negative	DFA, Merifluor	87300 87015
Cyclospora Screen	PARA	Р3	Fluorescent microscopy and/or modified acid-fast stain on concentrated formalin specimens. <i>Cyclospora</i> is a significant pathogen in both immunecompromised and immunocompetent patients.	SPECIMEN: Preserved stool. 3 collected every other day is strongly recommended.  CONTAINER: 2-vial stool kit with 10% formalin and PVA.  COLLECTION: Add stool to each vial to the "fill" line immediately after passage. Mix thoroughly. See Parasitology specimen collection guide for O&P exam for details.  TRANSPORT CONDITIONS: Room temperature (15-30°C)	4 days (final)	Negative	UV Microscopy, Epifluorescen ce	87206 87015

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Diphtheria Culture	BACT	В9	Screening procedure for isolation and identification of Corynebacterium diphtheriae in suspect cases of diphtheria.	SPECIMEN: Throat exudate CONTAINER: Bacterial Culturette COLLECTION: A throat swab taken from posterior pharynx, and areas of the tonsils showing dull white pseudo membrane. Avoid the tongue and uvula. Dacron swabs are best for collection. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 1 day Refrigerated (5±3°C): 1 day Frozen (-15±5°C): Unacceptable	1 week	Negative	Culture	87077
Entamoeba histolytica/ E. dispar Differentiation	PARA	P4	EIA test. Entamoeba histolytica is pathogenic whereas E. dispar is not. Do not order test unless previous positive by routine O&P exam. EIA will confirm presence of the pathogen.	SPECIMEN: Unpreserved (fresh) stool. CONTAINER: Clean container COLLECTION: Fresh stool collected in clean container immediately after passage. See Parasitology specimen collection guide for details. TRANSPORT CONDITIONS: Refrigerated (2-8°C). Transport within 24 hours of collection	2 days (final)	Negative	EIA, TECHLAB	87337
Escherichia coli (STEC) Culture	BACT	B10	Screening procedure for isolation and identification of Shiga toxin-producing Escherichia coli utilizing conventional biochemical and serological testing techniques. Toxin production confirmed utilizing ELISA techniques.	SPECIMEN: Fresh stool CONTAINER: Stool transport bottles (Para Pak C&S) COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool) Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable for culture, acceptable for toxin assay only CIDT Screens: 7 days	1 week Culture 5 days Toxin 1 day	Negative	Culture	87046

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Gonorrhea Culture	BACT	B12	Screening procedure for the isolation, identification and confirmation of Neisseria gonorrhoeae.	SPECIMEN: Female endocervical or male urethral discharge, extragenital sites including rectal and throat (sterile cotton or synthetic swabs).  CONTAINER: GC-Lect plate or MTM plate  COLLECTION: Collect specimen on appropriate swab and inoculate directly onto GC-Lect plate.  Place the plate in the Ziplock bag, add CO <sub>2</sub> transport GasPak and seal. Be sure to test the bag to ensure that it is sealed. Note: Do not refrigerate or freeze the plate.  TRANSPORT CONDITIONS:  Room Temperature (25±5°C): 1 day  Refrigerated (5±3°C): Unacceptable  Frozen (-15±5°C): Unacceptable	3 days	Negative	Culture	87081
Gonorrhea, Microscopic Exam	BACT	B14	A STAT Gram stain for the presence of intracellular gramnegative diplococci resembling Neisseria gonorrhoeae.  Note: a Gram stain should not be used as a diagnostic test for gonorrhea in females.	SPECIMEN: Female endocervical or male urethral discharge CONTAINER: Glass Slide with frosted edge COLLECTION: Prepare a thin smear by rolling the swab specimen on the frosted-side of a glass slide. TRANSPORT CONDITIONS: Room Temperature (25±5°C): Indefinite Refrigerated (5±3°C): Unacceptable Frozen (-15±5°C): Unacceptable	30 minutes	Negative	Microscopy	87205
Gonorrhea, Reference Culture for Identification	BACT	B13	Neisseria gonorrhoeae culture identification utilizing conventional biochemical testing techniques.	SPECIMEN: Pure culture isolate CONTAINER: Chocolate Agar Slant COLLECTION: Inoculate a Chocolate Agar slant, incubate in CO <sub>2</sub> for 24 hours prior to submission. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 2 days Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable	1 week	By report	Culture	87077

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
HCV Quantitative RNA	SERO	S58	Automated real-time transcription-mediated amplification test	SPECIMEN: Serum, 1.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: Transport to lab within 6 hours. Refrigerated: Transport to lab within 5 days. Frozen: Unacceptable.	7 days	Not Detected	Hologic, Aptima HCV Quant Dx Assay	87522
Helminth Identification	PARA	P5	Helminth identification is made by microscopic exam.	SPECIMEN: Adult worm or proglottids CONTAINER: Clean jar or cup COLLECTION: Place in tap water or 0.85% saline. Do not use formalin or alcohol as a preservative. See Parasitology specimen collection guide for details. TRANSPORT CONDITIONS: Refrigerated (2-8°C)	3 days (final)	Negative	Microscopy	87169
Hepatitis A IgG Antibody	SERO	S76	Chemiluminescent Immunoassay (CIA), for qualitative detection of IgG antibody to Hepatitis A virus	SPECIMEN: Serum, 0.100 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (15-30°C): 4 days Refrigerated (2-8°C): 8 days. Frozen (-20°C): serum only	2 days	Nonreactive	CIA, Abbott	86708
Hepatitis A IgM Antibody	SERO	<b>S</b> 19	Chemiluminescent Immunoassay (CIA), for qualitative detection of IgM antibody to Hepatitis A virus	SPECIMEN: Serum, 0.100 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (21-30°C): 3 days Refrigerated (2-8°C): 7 days Frozen (-20°C): serum only	2 days	Nonreactive	CIA, Abbott	86708 86709

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Hepatitis Acute Panel, includes: Hepatitis A IgM, S19 Hepatitis B Surface Ag, S22 Hepatitis B Core IgM, S20 Hepatitis C Total Ab, S24 (includes confirmation, if required, S58)	SERO	S18	Chemiluminescent Immunoassay (CIA), for diagnosis of acute Hepatitis caused by Hepatitis A or Hepatitis B or Hepatitis C, see individual tests for description.	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: 1 day Refrigerated (2-8°C): 6 days Frozen (-20°C): serum only	2 days	Negative	CIA, Abbott	86803 86704 86705 86706 86709 87341
Hepatitis B Core IgM Antibody	SERO	S20	Chemiluminescent Immunoassay (CIA), for qualitative detection of IgM antibody to Hepatitis B core antigen.	SPECIMEN: Serum, 0.100 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (24-30°C): 3 days Refrigerated (2-8°C): 7 days Frozen (-20°C): serum only	2 days	Nonreactive	CIA, Abbott	86705
Hepatitis B Core Total Antibody	SERO	S21	Chemiluminescent Immunoassay (CIA), for qualitative of IgG and IgM antibodies to Hepatitis B core antigen.	SPECIMEN: Serum, 0.15 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (23-30°C): 3 days Refrigerated (2-8°C): 7 days Frozen (-20°C): serum only	2 days	Nonreactive	CIA, Abbott	86704
Hepatitis B Surface Antigen Antibody	SERO	S23	Chemiluminescent Immunoassay (CIA), for qualitative determination of antibody to Hepatitis B surface antigen, as a response to vaccination or immune status.	SPECIMEN: Serum, 0.350 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (21-22°C): 3 days Refrigerated (2-8°C): 7 days Frozen -20°C: serum only	2 days	Negative	CIA, Abbott	86706

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Hepatitis B Surface Antigen Screen	SERO	S22	Chemiluminescent Immunoassay (CIA), for the qualitative detection of Hepatitis B surface antigen.	SPECIMEN: Serum, 0.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature (15-30°C): 4 days Refrigerated (2-8°C): 6 days Frozen (-20°C): serum only	2 days	Negative	CIA, Abbott	87340
Hepatitis C Ab Total, includes confirmation if required (HCV Quantitative PCR, S58, if required)	SERO	S24	Chemiluminescent Immunoassay (CIA), for the qualitative detection of IgG and IgM antibodies to Hepatitis C virus	SPECIMEN: Serum, 1.0 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature:6 hours Refrigerated (2-8°C): 5 days Frozen (-20°C): serum only	2 days	Negative	CIA, Abbott	86803
Hepatitis Screening Panel, includes: Hepatitis B Surface Ag Antibody, S23 Hepatitis B Surface Ag Screen, S22 Hepatitis B Core Total, S21 Hepatitis C Total Ab, S24 (includes confirmation, if required, S58)	SERO	S29	Chemiluminescent Immunoassay (CIA), for determination of patient's immune status to Hepatitis B virus and Hepatitis C virus. See individual tests for description.	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: 1 day Refrigerated (2-8°C): 6 days Frozen (-20°C): serum only	2 days	Negative	CIA, Abbott	86706 87340 86704 86803

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Herpes Simplex & Varicella Zoster NAAT	VIRO	V23	For detection and differentiation of HSV-1, HSV-2, and VZV from cutaneous or mucocutaneous lesions	SPECIMEN: Lesion swab CONTAINER: UTM or VTM transport vial. COLLECTION: Collect cells from the base of cutaneous or mucocutaneous lesion by rolling swab over area. Immediately place in UTM or VTM. See virology specimen collection guide for details. TRANSPORT CONDITIONS: Room Temperature (up to 30°C): 48 hours Refrigerated (2-8°C) or frozen (-20°C): 7 days.	7 days	Negative	Solana, Helicase- Dependent Amplification	87798
HIV 1 Antigen Nucleic Acid Test, (HIV-1 Qualitative PCR) Per CDC recommendations	SERO	Perform ed when required (see S31)	Automated real-time transcription mediated amplification test	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: See S31	2 days	Negative	Hologic, Aptima HIV-1 Quant Dx Assay	87535
HIV 1 Viral Load Aptima	SERO	S68	Automated real-time transcription mediated amplification test	SPECIMEN: Plasma, 1.5 ml CONTAINER: Vacutainer Lavender Top (EDTA) COLLECTION: Aseptically collect 3ml of blood in Lavender Top (EDTA) tube or Plasma Preparation Tube (PPT). Draw approximately 2.5 times the volume of whole blood as the volume of plasma required. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: Transport to lab within 24 hours. Refrigerated: Separate within 24 hours. Transport to lab within 3 days. Frozen: Centrifuged PPT can be frozen at -20C or -70C for up to 90 days.	4 days	Not Detected	Hologic, Aptima HIV-1 Quant Dx Assay	87536

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
HIV 1,2 Ag/Ab Screen, Includes confirmation if required (HIV 1,2 Antibody Differentiation, and HIV 1 Qualitative PCR, if required)	SERO	S31	Chemiluminescent Immunoassay (CIA) HIV Ag/Ab Combo (4th generation immunoassay), for qualitative detection of HIV p24 antigen and antibodies to (HIV-1 group M and group O) and HIV-2, followed by confirmation if required.	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: 3 days Refrigerated (2-8°C): 7 days Frozen (-20°C):serum only	7 days	Negative	HIV Ag/Ab Combo, Abbott	86702 86703 86689 87389 87535
HIV 1,2 Antibody Differentiation	SERO	Perform ed when required (see S31)	Immuno- chromatographic assay for antibodies to HIV-1 and HIV-2	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: See S31	2 days	Negative	Bio-Rad, Geenius HIV1/2 Supplemental Assay	86702
Influenza PCR	VIRO	V8	CDC Human Influenza Virus Real-Time, RT- PCR Diagnostic Panel (CDC Flu rRT-PCR Dx Panel) <u>OR</u> Hologic Fusion Flu A/B <u>OR</u> Hologic Aptima SARS- CoV-2/Flu Assay. Detection of Influenza A and B. Typing of Influenza A (H3, pdm H1, H5, H7). Negative specimens may be reflexed to Respiratory Pathogen Panel.	SPECIMEN: NP Swab, Nasal Swab, Throat Swab, Nasal Aspirates, Nasal Washes, BAL, Bronchial Wash, Tracheal Aspirate, Sputum, and Lung Tissue.  CONTAINER: UTM or VTM transport vial for swabs and sterile screw cap container for aspirates, washes, or tissue.  COLLECTION: See virology specimen collection guide for details.  TRANSPORT CONDITIONS:  Transport to laboratory at 2-8°C as soon as possible.	72 hours	Not Detected	Real Time RT-PCR, CDC OR Hologic, Aptima SARS-CoV- 2/Flu OR Hologic Fusion Flu A/B/RSV	87501 87502 87503 87636 87637

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Isospora Screen	PARA	P6	Fluorescent microscopy and/or modified acid fast on concentrated formalin specimens. <i>Isospora</i> is a significant pathogen in HIV+ patients.	SPECIMEN: Preserved stool. 3 collected every other day is strongly recommended.  CONTAINER: 2-vial stool kit with 10% formalin and PVA  COLLECTION: Add stool to each vial to the "fill" line immediately after passage. Mix thoroughly. See Parasitology specimen collection guide for O&P exam for details.  TRANSPORT CONDITIONS: Room temperature (15-30°C)	4 days (final)	Negative	UV Microscopy, Epifluorescen ce	87206 87015
Legionella Culture	BACT	B16	Screening procedure for the isolation and identification of Legionella utilizing conventional biochemical testing techniques and direct fluorescent antibody (DFA) techniques.	SPECIMEN: Tissue, lower respiratory secretions CONTAINER: Sterile screw cap container COLLECTION: Tightly closed container.  TRANSPORT CONDITIONS: Room Temperature (25±5°C): 30 minutes Refrigerated (5±3°C): 24 hours Frozen (-15±5°C): Unacceptable	1 week	Negative	Culture/ Microscopy	87077
Leptospira Culture	BACT	B104	Screening procedure for isolation and identification of <i>Leptospira</i> utilizing conventional biochemical testing techniques.	SPECIMEN: Tissue, urine, whole blood, CSF. Multiple specimens must be taken at least one day apart. CONTAINER: Sterile screw cap container (tissue, urine, CSF). Vacutainer tube with sodium polyanethol sulfonate SPS (whole blood) COLLECTION: Urine specimens - cleanse genitals, collect midstream, dilute 1:10 with 1% bovine serum albumin for transport. Ship urine, CSF and blood specimens Refrigerated (5±3°C). Ship tissue frozen. Submit whole blood or CSF during the first 7-10 days of illness. TRANSPORT CONDITIONS: Room Temperature (25±5°C): Unacceptable Refrigerated (5±3°C): 1 week (Urine, CSF and blood only) Frozen (-15±5°C): Tissue only	3 weeks	Negative	Culture	87081 87077

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Malaria/Blood Parasite Screen	PARA	P7	Plasmodium is detected by microscopic exam of Giemsa-stained blood smear. Other blood parasites can be observed as well.	SPECIMEN: Blood drawn in an EDTA tube or taken by fingerstick; or prepared/stained thick and thin smears. Slides should be made within one hour of draw.  COLLECTION: Blood drawn between chills with successive draws at 6, 12, and 24 hours is recommended. Blood drawn any time is still acceptable. See Parasitology specimen collection guide for details.  TRANSPORT CONDITIONS: Room temperature (15-30°C). If sending blood, submit within one hour. Indicate travel history on lab slip.	24 hours	Negative	Microscopy	87207
Measles Antibody IgG and IgM	SERO	S43	Indirect Fluorescent Antibody for detection of Measles for immune status (IgG) and/or identification of acute cases (IgM). Please contact Communicable Disease Control Division: 714-834- 8180	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: Acceptable Refrigerated: Acceptable Frozen: -20°C, serum only	2 days	Negative	Measles-G Test System & Measles-M Test System, Bion	86765
Measles PCR	VIRO	V9	For primary diagnosis of acute Measles infection.	SPECIMEN: NP swab or Throat swab (Throat swab preferred), Urine CONTAINER: UTM or VTM transport vial for swabs and sterile screw cap container for Urine specimens.  COLLECTION: Contact Orange County Public Health Communicable Disease Control Division at (714) 834-8180 for testing approval prior to submission. Collect specimens during rash stage of disease, swab specimens must be in UTM or VTM. Urine specimens in sterile screw cap container. See virology specimen collection guide for details.  TRANSPORT CONDITIONS: Transport to laboratory at 2-8°C as soon as possible.	72 hours	Negative	Real Time RT-PCR, CDC/VRDL	87798

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
<i>Microsporidia</i> Screen	PARA	P8	Calcofluor White and/or modified trichrome stains on concentrated formalin specimens. Microsporidia are emerging pathogens and significant in HIV+ patients.	SPECIMEN: Preserved stool. 3 collected every other day is strongly recommended. CONTAINER: 2-vial stool kit with 10% formalin and PVA COLLECTION: Add stool to each vial to the "fill" line immediately after passage. Mix thoroughly. See Parasitology specimen collection guide for O&P exam for details. TRANSPORT CONDITIONS: Room temperature (15-30°C)	3 days	Negative	Microscopy	87015 87206
Mumps PCR	VIRO	V12	For primary diagnosis of acute Mumps infection	SPECIMEN: Buccal Swab CONTAINER: UTM or VTM transport vial COLLECTION: Contact Orange County Public Health Communicable Disease Control Division at (714) 834-8180 for testing approval prior to submission. See virology specimen collection guide for details. TRANSPORT CONDITIONS: Transport to laboratory at 2-8°C as soon as possible.	72 hours	Negative	Real Time RT-PCR, CDC/VRDL	87798
Mycobacterium Culture and Sensitivity	мусов	T1	Tests include Acid Fast smear, culture on solid and liquid media. Identification of Mycobacteria is based on a combination of tests: Accuprobe, HPLC, and sequencing. Susceptibility performed on M. tuberculosis by MGIT broth-based method on first isolate and after 2 months if culture is still positive.	SPECIMEN: Blood, bone marrow, CSF, gastric lavage fluid, respiratory (aerosol, sputum, bronchial washings, transtracheal aspirates), stool, tissue biopsies, and urine.  CONTAINER, COLLECTION and TRANSPORT CONDITIONS: See Mycobacteriology specimen collection guide for details.  TRANSPORT CONDITIONS: Refrigerated (2-8°C): within 72 hours	24-72 hours (AFS) 53 days (final)	By report	Culture, MGIT 960, BBL	87015 87206 87116 87118 87556 87188 87153 87149

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Mycobacterium Culture for Identification	МҮСОВ	Т2	Acid Fast Bacteria identification is based on a combination of tests: Accuprobe, HPLC and sequencing. If <i>M. tuberculosis</i> , susceptibility is performed on first isolate or after 2 months if culture is still positive.	SPECIMEN: Pure culture on appropriate slanted media, i.e. LJ or 7H10. Specify isolate identification.  CONTAINER: Submit or mail in a double container according to the IATA Infectious Substances Shipping Guidelines.  TRANSPORT CONDITIONS: Room temperature (15-30°C)	24-72 hours (AFS) 42 days (final)	By report	Culture, MGIT 960, BBL	87118 87188 87206 87153 87149
Mycobacterium Smear	МҮСОВ	Т3	Acid Fast Smear	SPECIMEN: Blood, bone marrow, CSF, gastric lavage fluid, respiratory (aerosol, sputum, bronchial washings, transtracheal aspirates), stool (HIV patients only), tissue biopsies, and urine.  NOTE: Processed specimen is preferred.  CONTAINER, COLLECTION and TRANSPORT  CONDITIONS: See Mycobacteriology specimen collection guide for details.  TRANSPORT CONDITIONS:  Room temperature (15-30°C)within 72hrs	24-72 hours	Negative	Fluorochrome Smear	87015 87206
Mycobacterium tuberculosis Complex Nucleic Acid Amplification Test (NAAT)	мусов	T4	GeneXpert MTB/RIF assay for the detection of <i>M. tuberculosis</i> complex and Rifampin resistance. FDA approved method for smear negative and smear positive respiratory specimens.	SPECIMEN: Respiratory specimens. CONTAINER, COLLECTION and TRANSPORT CONDITIONS: See M. tuberculosis complex NAAT Specimen Collection guide for details.	24-72 hours	Negative	Cepheid GeneXpert MTB/RIF	87206 87556

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Mycobacterium tuberculosis Culture for Reportable Disease Only	МҮСОВ	Т7	Culture identified as M. tuberculosis required by State to be sent to Public Health Laboratory. Specimens submitted to reference laboratory.	SPECIMEN: Pure culture on appropriate slanted media, i.e., LJ or 7H10. Specify isolate identification.  CONTAINER: Submit or mail in a double container according to the IATA Infectious Substances Shipping Guidelines.  TRANSPORT CONDITIONS: Room temperature (15-30°C) within 72hrs	4 days (prelim) 49 days (final)	By report	By report	99001
Mycobacterium tuberculosis Culture Identification and Susceptibility	мусов	Т6	Identification is based on MALDI-TOF,HPLC, or Sequencing. <i>M. tuberculosis</i> susceptibility tests are performed by a broth-based method on the first isolate and after 2 months if culture is still positive.	SPECIMEN: Pure culture on appropriate slanted media, i.e., LJ or 7H10. Specify isolate identification. CONTAINER: Submit or mail in a double container according to the IATA Infectious Substance Shipping Guidelines. TRANSPORT CONDITIONS: Room temperature (15-30°C) within 72hrs	24-72 hours (AFS) 49 days (final)	By report	Culture, MGIT 960, BBL	87206 87118 87188 87116 87149
Mycology Primary Specimen Identification (Fungus/Yeast)	MYCOL	M1	Fungal and yeast isolates are identified based on combination of morphologic and biochemical tests. If dimorphic fungi, appropriate Gen-Probe is performed (Histoplasma capsulatum and Blastomyces dermatitidis are available). Cultures are held for one month.	SPECIMEN: Abscess, biopsy, blood, CSF, ear, mucocutaneous membranes, hair, nails, respiratory, skin, and urine.  CONTAINER, COLLECTION and TRANSPORT  CONDITIONS: See Mycology Specimen Collection guide for details.	4 weeks (final)	Negative	Culture	87101 87102 87103 87106 87107 87206 87153 87149

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Mycology Reference Culture Identification (Fungus/Yeast)	MYCOL	M2	A combination of morphologic and biochemical tests is conducted. If dimorphic fungi, appropriate Gen-Probe is performed (Histoplasma capsulatum and Blastomyces dermatitidis are available).	SPECIMEN: Pure culture on mycology slanted media, i.e., SAB or IMA. Specify isolate identification. Do not send plates for fungal ID. CONTAINER: Submit or mail in a double container according to the IATA Infectious Substances Shipping Guidelines.  TRANSPORT CONDITIONS: Room temperature (15-30°C) within 72hrs	4 weeks (final)	By report	Culture	87106 87107 87149 87153
Norovirus PCR	VIRO	V7	For primary diagnosis of acute Norovirus infection.	SPECIMEN: Stool CONTAINER: Sterile screw cap container COLLECTION: Contact Orange County Public Health Communicable Disease Control Division at (714) 834-8180 for testing approval prior to submission. Collect stool in a sterile screw top container during acute phase within 48-72 hours of onset. TRANSPORT CONDITIONS: Refrigerated (2-8°C): Transport to laboratory at as soon as possible, no later than 5 days after collection.	72 hours	Negative	Real Time RT-PCR, CDC/VRDL	87797
Occult Blood	BACT	B17	The Hemoccult test is a rapid, qualitative method for detecting fecal occult blood which may be indicative of gastrointestinal disease. It is not a test for colorectal cancer or any other specific diseases.	SPECIMEN: Feces CONTAINER: Hemoccult slide or clean container COLLECTION: Make a thin smear of the fecal specimen on the guaiac paper of the Hemoccult slide. If Hemoccult slides are unavailable, a stool specimen less than 4 days old may be submitted in a clean container labeled with the submitter's ID, patient's name and date of collection. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 14 days Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable	1 day	Negative	Hemoccult/ Smith Kline	82271

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Ova and Parasite Exam	PARA	P9	Screening procedure for presence of ova and parasites. A concentrated wet preparation and a permanent trichrome stain are examined.	SPECIMEN: Preserved stool. 3 collected every other day is strongly recommended. CONTAINER: 2-vial stool kit with 10% formalin and PVA COLLECTION: Add stool to each vial to the "fill" line immediately after passage. Mix thoroughly. See Parasitology specimen collection guide for details. TRANSPORT CONDITIONS: Room temperature (15-30°C)	4 days	Negative	Microscopy	87177 87209
Pinworm Exam	PARA	P11	Examination of pinworm paddle for presence of pinworm ova by light microscopy	SPECIMEN: Rectal area. CONTAINER: Falcon pinworm paddle or a scotch tape prep on a microscope slide. COLLECTION and TRANSPORT CONDITIONS: See Parasitology specimen collection guide for details.	3 days (final)	Negative	Microscopy	87172
Pneumocystis Screen	PARA	P12	IFA and/or Giemsa stain.  Pneumocystis  jirovecii is a significant pathogen in HIV+ patients.	SPECIMEN: 2-3 ml induced sputum, bronchioalveolar lavage or tracheobronchial aspirates.  CONTAINER: Clean or sterile cup or vial.  COLLECTION: Saline induced sputum. See Parasitology specimen collection guide for details.  TRANSPORT CONDITIONS:  Refrigerate (2-8°C)	2 days (final)	Negative	Monofluo IFA	87015 87281
Rabies DFA	VIRO	V2	Direct Fluorescent Antibody, for detection of Rabies infection in animal specimens	SPECIMEN: Freshly severed animal head, delivered by Animal Care Services or fresh unpreserved animal brain (no formalin). CONTAINER: Any sterile transport container. COLLECTION: Remove brain from cranium of suspected animal, do not place in formalin. TRANSPORT CONDITIONS: Transport to laboratory on wet ice or refrigerated, within 24 hrs.	24 hours	Negative	FITC Anti- Rabies Fujirebio and Light Diagnostics Rabies DFA Reagent II	87003 87299

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Respiratory Pathogen Panel	VIRO	Performed when required (see V8)	For detection and identification of multiple respiratory viral and bacterial nucleic acids	SPECIMEN: NP Swab CONTAINER: UTM or VTM transport vial. COLLECTION: See virology specimen collection guide for details. TRANSPORT CONDITIONS: Refrigerated (2-8°C): Transport to laboratory as soon as possible.	3 days	Negative	BioFire Film Array Respiratory Panel 2.1	87633 87798 87486 87581
Salmonella/ Shigella Culture	BACT	B19	Screening procedure for isolation and identification of Salmonella and Shigella utilizing conventional biochemical and serological testing techniques.	SPECIMEN: Stool or Urine CONTAINER: Stool = stool transport bottles (Para Pak C&S), Urine = BD Urine Transport Kit (gray top) COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. Urine specimens must be processed within 4 hours if refrigerated (2-8°C) or transport in BD tubes within 96 hours. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool and urine) Refrigerated (5±3°C): 4 hours (Unpreserved urine) Frozen (-15±5°C): Unacceptable CIDT Screens: 7 days	5 days	Negative	Culture	87045 87077
Salmonella/ Shigella Reference Culture	BACT	B20	Salmonella/Shigell a culture identification and confirmation utilizing conventional biochemical and serological testing techniques.	SPECIMEN: Pure culture isolates CONTAINER: Slanted tubed media preferred, motility deeps acceptable. COLLECTION: Do not refrigerate or freeze TRANSPORT CONDITIONS: Room Temperature (25±5°C): Acceptable Refrigerated (5±3°C): Acceptable Frozen (-15±5°C): Unacceptable	5 days	Negative	Culture	87045 87077

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
SARS-CoV-2 NAAT/PCR (EUA)	VIRO	V19 Multiple Methods, selected by OCPHL	For primary diagnosis of acute SARS-CoV-2	SPECIMEN: NP Swab, Nasal Swab, Throat Swab. CONTAINER: UTM or VTM transport vial for swabs. Hologic Direct Load Tube (DLT) acceptable. COLLECTION: See virology specimen collection guide for details. TRANSPORT CONDITIONS: Transport to laboratory at 2-8°C (VTM/UTM) or 2-30°C (Hologic Direct Load Tube) as soon as possible.	6 days	Not Detected	Hologic, Aptima SARS-CoV-2 <u>OR</u> Hologic, Fusion SARS-CoV-2 <u>OR</u> Hologic, Aptima SARS-CoV-2 2/Flu	87635 87636 87637
Serology Sendout  Write test name on bottom of requisition	SERO	S111	Sent To CDC or VRDL. Additional information required. Please contact laboratory: 714-834-8326	Refer to <u>CDC</u> or <u>VRDL</u> requirements.	Refer to CDC or VRDL	By Report	Sent Out	86790
Streptococcus Group A Culture (Throat Screen)	BACT	B21	Screening procedure for isolation and identification of Group A Streptococcus, a common cause of bacterial pharyngitis.	SPECIMEN: Throat exudate CONTAINER: Bacterial Culturette COLLECTION: A throat swab taken from the tonsillar area and/or posterior pharynx, with care taken to avoid the tongue and uvula. Dacron swabs are best for collection of Group A Streptococcus specimens. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 1 day Refrigerated (5±3°C): 1 day Frozen (-15±5°C): Unacceptable	2 days	Negative	Culture	87081
TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	ТАТ	REFERENCE	TEST	СРТ

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
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Syphilis Confirmation (TP-PA)	SERO	Performed when required (see S90)	Passive Agglutination, confirmation test for Syphilis RPR	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: See S90	7 days	Negative	Serodia, TP-PA, Fujirebio	86780
Syphilis Darkfield, Microscopic Exam	BACT	B22	Darkfield microscopy is used to demonstrate the presence of Treponema pallidum in lesions or aspirates in early-stage syphilis.	SPECIMEN: Serous fluid from genital lesion CONTAINER: Glass slide with coverslip COLLECTION: Collect specimen prior to antimicrobial therapy. Clean the surface of the lesion with saline, and blot dry. Gently remove any crusts, and discard. Abrade superficially until slight bleeding occurs. Wipe away the first few drops of blood. Apply gentle pressure at lesion base, touching clear exudate in ulcer base with a glass slide. Place coverslip and transport immediately to laboratory.  TRANSPORT CONDITIONS: Room Temperature (25±5°C): 15 minutes Refrigerated (5±3°C): Unacceptable Frozen (-15±5°C): Unacceptable	30 minutes	Negative	Microscopy	87210
Syphilis RPR	SERO	Performed when required (see S90)	Macroscopic non-treponemal flocculation card test, screening assay	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: See S90	2 days	Nonreactive	BD Macrovue RPR Kit	86592
TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES

**METHOD** 

**RANGE** 

**CODES** 

Syphilis RPR No Reflex	SERO	\$80	Macroscopic non- treponemal flocculation card test, screening assay for patients with a history of syphilis infection	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: 72 hours Refrigerated (2-8°C): 7 days Frozen (-20°C): serum only	4 days	Nonreactive	BD Macrovue RPR Kit	86592
Syphilis Screen Immunoassay (includes RPR and TP-PA, if required)	SERO	<b>S</b> 90	Chemiluminescent Immunoassay (CIA), for qualitative of IgG and IgM antibodies to <i>Treponema</i> pallidum	SPECIMEN: Serum, 2.5 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: 72 hours Refrigerated (2-8°C): 7 days Frozen (-20°C): serum only	2 days	Nonreactive	CIA, Abbott	86592 86593 86780
TB IGRA Plus	SERO	S74	Interferon Gamma Release Assay, indirect test for <i>M.</i> tuberculosis infection	SPECIMEN: Whole Blood CONTAINER: 1 set QuantiFERON®-TB Gold Plus; 1.0 ml each tube: Nil control (grey cap,white ring), TB1 Antigen (green cap,white ring), TB2 Antigen (yellow cap, white ring), Mitogen Control (purple cap, white ring). COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature within 16 hours. DO NOT REFRIGERATE.	14 days	Negative	Qiagen Quanti- FERON-TB Gold Plus	86480

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Toxoplasma Antibody	SERO	S61	Indirect Fluorescent Antibody, for detection of IgG antibodies to Toxoplasma gondii.	SPECIMEN: Serum, 1.0 ml CONTAINER: Serum Separator Tube (SST), (1 Tiger Top, or 1 Gold Top), or 1 Red Top. COLLECTION: See serology specimen collection guide for details. Plastic tubes only. TRANSPORT CONDITIONS: Room Temperature: Acceptable Refrigerated: Acceptable Frozen: -20°C, serum only	7 days	Negative	IFA Test System, GenBio	86777
Trichomonas Nucleic Acid Amplification Test	VIRO	V17	Automated Qualitative Nucleic Acid Amplification, for the primary diagnosis of Trichomonas vaginalis	SPECIMEN: Genital or vaginal swab Females only CONTAINER: Aptima Unisex Swab Collection kit for genital swabs. Aptima Vaginal Swab Specimen Collection Kit or Aptima Multitest Swab Specimen Collection Kit for vaginal swabs.  COLLECTION: See virology specimen collection guide for details.  TRANSPORT CONDITIONS:  Transport to laboratory at 2-30°C, within 60 days.	7 days	Negative	Hologic, Aptima Trichomonas vaginalis Assay	87661
Urinalysis	BACT	B25	Routine urinalysis includes the examination of physical and chemical characteristics, and the quantitation of microscopic structures in the urinary sediment.	SPECIMEN: Urine (standard volume = 8 mL) CONTAINER: BD vacutainer with preservative tube (red/yellow top). COLLECTION: Clean-catch first morning void is the preferred specimen; however, any fresh random urine specimen is acceptable for chemical analysis. Midstream collection into a sterile container and then transferred to a BD vacutainer with preservative tube. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 3 days (preserved in BD tube) Refrigerated (5±3°C): 3 days (preserved in BD tube) Frozen (-15±5°C): Unacceptable	1 day	Color = Pale yellow to amber Turbidity = Clear to slightly hazy SG = 1.015-1.025 pH = 4.5-8.0 Glucose = Neg. Ketones = Neg. Blood = Neg. Protein = Neg. Bilirubin = Neg. Urobilinogen 0.1-1.0 Nitrite = Neg. Leukocyte = Neg. Casts = <50/lpf RBC = Neg./Rare WBC = Neg./Rare Epithelial Cells = Few	Cliniteck, Microscopy	81001

TEST NAME	DEPT	TESTS	DESCRIPTION	SPECIMEN REQUIREMENTS	TAT	REFERENCE RANGE	TEST METHOD	CPT CODES
Vibrio Culture	BACT	B27	Screening procedure for the isolation and identification of <i>Vibrio sp.</i> utilizing conventional biochemical testing techniques and serology.	SPECIMEN: Fresh stool CONTAINER: Stool transport bottles (Para-Pak C&S) Note: Buffered glycerol saline is unacceptable. COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool) Refrigerated (5±3°C): Not recommended Frozen (-15±5°C): Unacceptable CIDT Screens: 7 days	1 week	Negative	Culture	87077
Virology Sendout	VIRO	V103	Sent To VRDL. Additional information required. Please contact laboratory: 714-834-8385	Refer to VRDL	Refer to VRDL	By report	Send Out	No CPT Code is associated
<i>Yersinia</i> Culture	BACT	B29	Screening procedure for the isolation and identification of <i>Yersinia sp.</i> utilizing conventional biochemical testing techniques.	SPECIMEN: Stool CONTAINER: Stool transport bottles (Para-Pak C&S) COLLECTION: The specimen of choice is the diarrheal stool collected during the acute stage of the disease. Keep the stool specimen cool, do not incubate or refrigerate. Portions containing blood or mucus usually contain the highest number of pathogens. The use of rectal swabs (Bacterial Culturettes) should be limited to patients with active disease, infants and children from whom feces may be difficult to obtain. TRANSPORT CONDITIONS: Room Temperature (25±5°C): 4 days (Preserved stool) Refrigerated (5±3°C): Unacceptable CIDT Screens: 7 days	1 week	Negative	Culture	87077

# **Mycobacteriology Specimen Collection Guide**

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
	Blood	Inoculate 5.0 ml of uncoagulated blood directly into a BACTEC MYCO/F Lytic Culture Vial or 10 ml of blood drawn into a SPS tube (yellow top). SPS is preferred but heparinized blood is also acceptable.  BACTEC MYCO/F Lytic Culture Vials are available from the lab.	Room temperature (15-30°C) within 24hrs of collection. Hold at 35°C ± 2°C if > 24hrs.
	Body fluids	Abdominal (peritoneal, paracentesis, dialysis, bile): Collect 10-15 ml aseptically into sterile tube. Pericardial, Synovial: Collect 3-5 ml aseptically into sterile tube. Exudates: Collect 3-5 ml aseptically into sterile tube.	Refrigerated (2-8°C) within 72hrs of collection.
	Bone marrow	Collect into SPS blood collection tube or inoculate BACTEC MYCO/F Lytic Culture Vial directly. BACTEC MYCO/F Lytic Culture Vials are available from the lab.	Room temperature (15-30°C) within 24hrs of collection. Hold at 35°C ± 2°C if > 24hrs.
	CSF	Collect 3-5 ml into sterile screw-cap tube.	Room temperature (15-30°C) within 24hrs of collection.
	Gastric lavage fluid	Collect 5-10 ml gastric specimen in sterile container. Have patient fast 8-12 hr; collect specimen in the morning before eating. Specify time of collection on container.	Refrigerated (2-8°C). Transport within 4 hours. If specimen transport is delayed (>4 hours from collection) add 100 mg sodium carbonate.
Mycobacterium Culture and Sensitivity	Respiratory specimens (processed)	Send at least 1.0 ml of specimen processed with NALC/NaOH procedure (see CDC guidelines for procedure).	Refrigerated (2-8°C) within 7days of collection.
	Respiratory specimens (unprocessed)	Collect 5-7 ml of respiratory secretion in sterile container without fixatives or preservatives.  Aerosol (induced sputum): inhalation of warm hypertonic saline induces coughing and production of thin, watery specimen. Preferred specimen.  Sputum: collect material brought up after a deep, productive cough.  Bronchial washings: using a bronchoscope inject saline in segmental (for bronchial wash) or subsegmental (for bronchoalveolar lavage) bronchus. Suction saline out into a sterile container.  Transtracheal aspirate: collect aspirate in sterile container.	Refrigerated (2-8°C) within 72hrs of collection.
	Stool (for detection of M. avium complex in HIV patients)	Collect into a sterile wax free container without fixative or preservative.	Refrigerated (2-8°C) within 24hrs of collection.
	Tissue biopsy (lymph nodes, deep wedge biopsies, external sources)	Collect tissue into sterile container without fixatives or preservatives.  If the tissue is small or not immediately sent to the lab, add sterile saline.	Refrigerated (2-8°C) within 72hrs of collection.
	Urine	Wash the external genitalia then immediately collect 30-50 ml of a single early morning midstream urine sample into a sterile container.	Refrigerated (2-8°C) within 72hrs of collection.

#### **Mycobacteriology Specimen Collection Guide**

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
Mycobacterium	Gastric Lavage fluid	Collect 5-10 ml gastric specimen in sterile container. Have patient fast 8-12 hr; collect specimen in the morning before eating. Specify time of collection on container.	Refrigerated (2-8°C) Transport within 4 hours. If specimen transport delayed >4 hours from collection, add 100 mg sodium carbonate.
tuberculosis complex NAAT	Respiratory specimens (processed)*	Send at least 0.7 ml of specimen processed with NALC/NaOH procedure (see CDC guidelines for procedure)	Refrigerated (2-8°C) if transported within 7 days of collection. If longer, transport frozen on dry ice (-20°C or colder).

\*Additional testing is dependent on amount of specimen available.

Additional specimen may be necessary to perform all tests.

# **Mycology Primary Specimen Collection Guide**

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
	Abscess	Clean abscess surface with sterile saline or 70% alcohol. Collect fluid/abscess material into clean tube and swab in Modified Amies Clear media (available at lab). Fluid or abscess material is preferred over swab.	Room temperature (15-30°C)
	Blood	Collect 8-10 ml of blood drawn into a Myco F/Lytic bottle (available at lab). <b>Transport to laboratory as soon as possible.</b>	Room temperature (15-30°C)
	CSF	Collect 3-5 ml into sterile screw-cap tube.  Transport to laboratory within 24 hours.	Room temperature (15-30°C)
	Ear	Collect swab of infected area and transport in Modified Amies Clear media (available at lab).	Room temperature (15-30°C)
	Hair	Collect 5-10 hairs (and base of shaft) in clean tube or container, in paper envelope, or directly inoculated onto IMA media (Inhibitory Mold Agar).	Room temperature (15-30°C)
Mycology Primary	Mucocutaneous membranes	Collect swab of infected area (e.g., mouth, vagina, urethra) and transport in Modified Amies Clear media (available at lab).	Room temperature (15-30°C)
Specimen Identification	Nails	Clean nail with 70% alcohol. Scrape nail and discard. Scrape nail again from infected area and save in sterile container, paper envelope, or directly inoculated onto IMA media (Inhibitory Mold Agar).	Room temperature (15-30°C)
	Respiratory	Collect 7-10 ml of aerosol, early morning sputum, tracheal aspirate, lung biopsy, or bronchoscopy specimen in sterile container.	Refrigerated (2-8°C)
	Skin	Clean skin with 70% alcohol. Scrape lesion at the active margin but do not draw blood. Place scrapings in clean container or directly inoculate onto IMA media (Inhibitory Mold Agar).	Room temperature (15-30°C)
	Swabs for <i>C.</i> auris surveillance	Collect swab of axilla and groin area with BD Eswab Collection and Transport System with Modified Amies Clear medium (available at lab).	Refrigerated (2-8°C)
	Tissue	Submit in sterile container with a small amount of sterile saline.  Do not allow tissue to dry out.	Room temperature (15-30°C)
	Urine	Collect 25-30 ml of catheterized or early morning clean catch urine into a sterile container.	Refrigerated (2-8°C)

# **Parasitology Specimen Collection Guide**

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
Ova and parasite (O&P) exam	Preserved stool	Collect stool into clean dry container. Do not contaminate with urine or water. Transfer stool to fill lines of both the Formalin (pink top) and PVA (blue top) vials provided.  Do not refrigerate.	Room temperature (15-30°C) within 72hrs
Entamoeba histolytica/ E. dispar differentiation	Fresh stool	Collect stool into clean dry container with a screw-capped lid. Do not contaminate stool with urine or water.  Transport to lab within 24 hours.	Refrigerated (2-8°C) If transport will be delayed, stool should be frozen.
Pinworm Exam	Pinworm paddle	Collect early in morning before bathing or bowel movement. Apply sticky side of paddle to the perianal area multiple times. Return paddle to tube and snap lid closed.	Room temperature (15-30°C) within 72hrs
Helminth ID	Worm, tapeworm proglottid or scolex	Place worm into a clean container. Cover with saline or cold water.	Refrigerated (2-8°C) within 72hrs
	Live arthropod	Place into a container with a screw-capped lid. Include a piece of moistened paper towel.	Refrigerated (2-8°C) or room temperature (15-30°C)
Arthropod ID	Dead arthropod	Place into a container with a screw-capped lid. Add a small amount of 70-95% alcohol	Room temperature (15-30°C) within 72hrs
	Skin scraping for mites (Scabies)	Place a drop of mineral oil on sterile scalpel blade. Allow oil to flow onto the skin papule. Scrape vigorously several times to remove the top of the papule (there should be flecks of blood). Transfer oil and scraped material to glass slide and cover with a second slide.	Room temperature (15-30°C) within 72hrs
Malaria ID	Giemsa- stained Smears	Fingerstick blood is preferred over blood collected into EDTA.  Smears must be prepared within 1 hour of collecting blood.  Submit both thick and thin smears stained with Giemsa stain.	Room temperature (15-30°C) within 72hrs
Pneumocystis screen	Respiratory	Collect a minimum of 2-3 ml of induced sputum. Bronchoalveolar lavage and bronchial washings are also acceptable. Transport to lab as soon as possible.	Refrigerated (2-8°C)

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
HCV Quantitative RNA	Serum	Fresh: Aseptically collect 8-10 ml of whole blood in into a tiger top Serum Separator Tubes (SST). <b>Do not freeze whole blood.</b> Refrigerated/Frozen: If transportation to the lab cannot be accomplished within 5 days, centrifuge the specimen at 800-1,600 x g for 20 minutes and refrigerate for up to 5 days. Transfer serum to a sterile polypropylene tube and freeze at -20°C for longer periods of time. Ship the serum on cool packs or frozen on dry ice	Hold at 2-8°C prior to transportation to the laboratory. Transport to the laboratory within 5 days of collection.
Hepatitis, HIV, Syphilis, Toxoplasma, and Measles Serology	Serum	Aseptically collect 8-10 ml of whole blood in one of the following Serum Separator Tubes (SST); tiger top, gold top, or a red top may be used instead of the SST. If a delay of more than 48 hours is anticipated prior to delivery to the lab, centrifuging is recommended (allow blood to sit at least 30 minutes at 15-30°C before centrifuging or refrigerating). Plastic tubes only. <b>Do not freeze whole blood.</b>	Hold at room temperature (15-30°C) up to 1 day. Hold at 2-8°C for up to 5 days. Transport to the laboratory at 2-8°C within 5 days of collection. See above for specific transport requirements.
HIV 1 Viral Load Aptima	Plasma	Fresh: Aseptically collect 1 lavender top tube of whole blood with EDTA anticoagulant or one Plasma Preparation Tube (PPT). Mix well by gently inverting the tube 5-6 times. Plastic tubes only. <b>Do not freeze whole blood.</b> Refrigerated/Frozen: If transportation to the lab cannot be accomplished within 24 hours, centrifuge the specimen at 800-1,600 x g for 20 minutes and refrigerate for up to 3 days. Transfer plasma to a sterile polypropylene tube and refrigerate for up to 5 days, or freeze at -20°C for longer periods of time. Ship the plasma on cool packs or frozen on dry ice.	Hold at 2-8°C prior to transportation to the laboratory. Transport to the laboratory within 24 hours of collection. Plasma may be frozen at -20°C and shipped to the lab on dry ice.
TB IGRA Plus	Whole Blood	Collect 1 mL of blood by venipuncture directly into each of the four (4) unique QuantiFERON ®-TB Gold Plus (QFT-Plus) blood collection tubes. Tubes must be at room temperature prior to collection. Under or overfilling of the tubes may lead to erroneous results.  Shake the tubes ten times just firmly enough to ensure the entire surface of the tube is coated with blood, to solubilize antigens on the tube walls.	Hold at room temperature (15-30°C) prior to transportation to the laboratory. Transport to the laboratory within 16 hours of collection.  DO NOT REFRIGERATE  IF tubes cannot be transported to the laboratory within 16 hours of collection: Incubate tubes at 37 +/- 1°C for 16-24 hours. After incubation, hold tubes at 4°C to 27°C and transport to the laboratory within 3 days.

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
Chlamydia/Gonorrhea and/or Trichomonas nucleic acid amplification	Genital swab - Females	Aptima Unisex Swab Specimen Collection Kit: Use the white shaft swab with red printing to remove excess mucus from the cervical os and surrounding mucosa and discard.  Insert the specimen collection swab (blue shaft swab in the package with green printing) into the endocervical canal and gently rotate clockwise for 10 to 30 seconds to ensure adequate sampling. Withdraw the swab carefully by avoiding any contact with the vaginal mucosa.  Remove the cap from the swab specimen transport tube and immediately place the specimen collection swab into the transport tube. Discard and replace the tube if the contents are spilled. Carefully break the swab shaft at the score line against the side of the tube and discard the top portion of swab shaft. Re-cap the swab specimen transport tube tightly.	After collection, transport and store the swab in the swab specimen transport tube at 2°C to 30°C until tested. Specimens must be tested within 60 days of collection.
Chlamydia/Gonorrhea nucleic acid amplification	Rectal swab	Aptima Multitest Collection Kit: Use the small-tipped specimen swab only (DO NOT USE THE LARGE-TIPPED SWAB FOR SPECIMEN COLLECTION). Do not touch the soft tip or lay the swab down. Hold the swab, placing your thumb and forefinger in the middle of the swab shaft covering the score line. Do not hold the swab shaft below the score line.  Carefully insert the swab into the rectum about 1-2 inches past the anal margin and gently rotate the swab clockwise for 5-10 seconds. Withdraw the swab without touching the skin.  Unscrew the tube cap while holding the swab. Place the small-tipped swab into the transport vial, making sure that there is fluid in the bottom of the vial. If contents of the tube are spilled, use a new collection kit. Break the swab at the score line and replace the screw cap securely. Discard the top portion of the swab shaft. Tightly screw the cap onto the tube.	After collection, transport and store the swab in the swab specimen transport tube at 2°C to 30°C until tested. Specimens must be tested within 60 days of collection.
Chlamydia/Gonorrhea nucleic acid amplification	Throat swab	Aptima Multitest Collection Kit: Peel open the swab package and remove the blue shaft small tipped swab (DO NOT USE THE LARGE-TIPPED SWAB FOR SPECIMEN COLLECTION). Do not touch the soft tip or lay the swab down. Hold the swab, placing your thumb and forefinger in the middle of the swab shaft covering the score line. Do not hold the swab shaft below the score line.  Carefully insert the swab into the throat ensuring contact with bilateral tonsils (if present) and the posterior pharyngeal wall, then withdraw the swab without touching the inside of the cheeks or tongue.  Unscrew the tube cap while holding the swab. Place the small-tipped swab into the transport vial, making sure that there is fluid in the bottom of the vial. If contents of the tube are spilled, use a new collection kit. Break the swab at the score line and replace the screw cap securely. Discard the top portion of the swab. Tightly screw the cap onto the tube.	After collection, transport and store the swab in the swab specimen transport tube at 2°C to 30°C until tested. Specimens must be tested within 60 days of collection.

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
Chlamydia/Gonorrhea nucleic acid amplification	Urine	Aptima Urine Specimen Collection Kit: Patient should not urinate at least one hour prior to collection of specimens.  Collect the first 20-30 ml of voided urine (the first part of the stream) in a sterile, plastic, preservative-free, urine collection cup.  Remove the cap and transfer 2 mL of urine into the urine specimen transport tube using the disposable pipette provided. The correct volume of urine has been added when the fluid level is between the black fill lines on the urine specimen transport tube label (SPECIMENS OUTSIDE THESE LINES WILL NOT BE ACCEPTED). Re-cap the urine specimen transport tube tightly.	Urine specimens in Urine Collection Kit can be transported and stored at 2-30°C. Specimens must be tested within 30 days of collection.
Chlamydia/Gonorrhea and/or Trichomonas nucleic acid amplification	Vaginal swabs	Aptima Multitest Swab Specimen Collection Kit: Remove the swab aseptically. Discard and use a new swab if contaminated. Do not touch the soft tip or lay the swab down. Hold the swab, placing your thumb and forefinger in the middle of the swab shaft covering the score line. Do not hold the swab shaft below the score line.  Insert the swab into the vagina about 2 inches past the introitus and gently rotate the swab for 10-30 seconds. Make sure the swab touches the vaginal wall. Remove the swab without touching the skin.  Unscrew the tube cap while holding the swab. Discard and replace with a new transport tube if the contents are spilled. Place the swab into the tube and the break off the swab at the black score line against the side of the tube. Discard the top portion of the shaft. Screw the cap tightly and label the tube.	After collection, transport and store the swab in the swab specimen transport tube at 2°C to 30°C until tested. Specimens must be tested within 60 days of collection.
Influenza PCR	Bronchial wash	Bronchial and bronchoalveolar washes are usually collected from hospitalized patients using specialized (invasive) procedures. Specimen should be transferred to a sterile leak proof container before transporting to the laboratory.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.
Influenza PCR	Nasal washings	While the patient's head is tilted back slightly, instill several milliliters of sterile saline into each nostril; bring the head forward and allow the saline to drain into a small sterile container held beneath the nose. A small catheter with suction may be used with infants. Pour the contents into a sterile, screw-capped vial.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
Measles PCR Or Influenza PCR	Pharyngeal/Throat swabs (PCR)	Using a synthetic fiber swab (cotton or calcium alginate swabs or swabs with wooden shafts are not acceptable), dry or moistened with viral transport medium, rub the tonsils and posterior pharynx and place in sterile, screw capped vial with 2-3 ml of viral transport medium.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.
Measles PCR	Urine	Clean, voided urine specimens collected in sterile conventional containers, while not the specimen of choice, are acceptable for some viruses. No special collection requirements are needed. Specimens should be kept refrigerated until transported to the laboratory.  If unable to transport to the laboratory within 24 hours, process urine by centrifuging at 2500 x g for 15 minutes at 4°C. Remove supernatant and resuspend pellet in 2-3 mL of UTM/VTM. Refrigerate until transport to the laboratory.	Transport to the laboratory as soon as possible, within 24 hours, at 2-8°C.  Processed specimens in UTM/VTM should be transported at 2-8°C as soon as possible not later than 72 hours.  Processed specimens that cannot be transported to the lab within 72 hours should be frozen at -70°C and transported on dry ice.
Mumps PCR	Buccal Swab	To obtain a buccal specimen, massage the parotid gland area (the space between the cheek and teeth inside the mouth just below the ear) on each side of the face for about 30 seconds prior to collection of the buccal secretions.  Using a Dacron or other polyester swab (cotton or calcium alginate swabs or swabs with wooden shafts are not acceptable), rub the inside of each cheek with the same swab for about 10 seconds. Sweep the swab between the upper and lower molar areas of each side of the mouth. Ensure the swab is moist with saliva when finished swabbing. Place the swab in a tube containing 2-3 ml of viral transport media (VTM) or universal transport media (UTM).	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.
Norovirus PCR	Stool	Collect a 2-5 gram portion of stool (formed or liquid) and place in a sterile leakproof container. No transport medium is required.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C.

TEST	SPECIMEN	COLLECTION INSTRUCTIONS	TRANSPORT
SARS-CoV-2 NAAT/PCR and/or Influenza PCR	Nasal swabs	Use a dry synthetic fiber swab to swab each nostril. Do not touch the soft tip or lay the swab down. Carefully insert the swab in the first nostril 1/2-3/4 inches. Rotate with moderate pressure against as much of the wall of the anterior nares regions as possible in a large circular path inside the nose at least 4 times (~10-15 seconds). Using the same swab, repeat on the other nostril. Place swab in a sterile, screw-capped vial with 2-3 ml of viral transport medium. Hologic Direct Load Tube (DLT) acceptable.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.
SARS-CoV-2 NAAT/PCR and/or Influenza PCR	Nasopharyngeal (NP) swab	Use a dry synthetic fiber swab. Tilting the head back 70 degrees, gently and slowly insert swab through the nostril parallel to the palate until resistance is encountered. The nasopharynx is contacted when the distance inserted is equivalent to that from the nostril to the ear. Gently rub and roll swab, leaving it in place for several seconds to absorb secretions. Slowly remove swab while rotating it and place in a sterile, screwcapped vial with 2-3 ml of viral transport media. Hologic Direct Load Tube (DLT) acceptable.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.
HSV & VZV nucleic acid amplification	Lesion	Collect specimens of vesicle fluids from the bases of lesions before crusting and healing have begun. Use a swab to obtain both fluid and cells from open lesions and break swab into a screw capped vial with 2-3 ml of viral transport medium.	Transport to the laboratory as soon as possible, no later than 72 hours, at 2-8°C. Specimens that cannot be transported within 72 hours should be frozen at -70°C and transported on dry ice.

**Orange County List of Reportable Diseases** 

California Code of Regulations, Title 17, Section 2500, mandates that certain

communicable and non-communicable diseases/conditions be reported to the local

health department using specified methods and time frames. The List of Reportable

Diseases, which summarizes disease reporting requirements, may be downloaded from

this website and freely copied.

It is important that you report notifiable diseases/conditions to the county where the

patient resides so that appropriate follow-up can occur. The Confidential Morbidity

Report (CMR) form may be used to report notifiable diseases/conditions to Orange

County Public Health.

For more information on reporting, please see the <u>List of Laboratory Reportable</u>

<u>Diseases in California and List of Reportable Diseases in Orange County</u>

Orange County Public Health Laboratory 1729 West 17<sup>th</sup> Street, Santa Ana, CA 92706 Laboratory Manual 2023





MISSION: To protect and improve the health of Orange County residents, in collaboration with our system partners, by providing essential laboratory services in support of public health through quality, timely, and accurate test results.