Riverside University Health System Public Health Laboratory

Specimen Submission Manual

Laboratory Director: Brett Austin, MA, PHM

Located at:
4065 County Circle Dr. Suite 106
Riverside, CA. 92503
Phone: (951) 358-5070
After hours emergency: (951) 288-2466 or (951) 441-0132
Fax: (951) 358-5015
Website: http://www.rivcolab.org
Public Health Duty Officer (after hour emergencies): (951) 782-2974

Hours: Monday-Friday 8:00 AM - 5:00 PM

Permits and Qualifications

CLIA	05D0571882
California Lab	1158

Mission Statement

To provide accurate, timely, and cost-effective laboratory testing to aid in the diagnosis and control of communicable diseases.

Table of Contents

List of Abbreviations:
ARLN – Antimicrobial Resistance Laboratory Network
BT – Bioterrorism
CDC – Centers for Disease Control and Prevention
CDPH – California Department of Public Health
CLIA – Clinical Laboratory Improvement Act
CLIA (Technology)—Chemiluminescent Immunoassay
DOPH – County of Riverside Department of Public Health
EIA – Enzyme Immunoassay
LRN – Laboratory Response Network
MDL – Microbial Diseases Laboratory (CDPH)
MTB – Mycobacterium tuberculosis
NAT – Nucleic Acid Amplification Test
OCPHL – Orange County Public Health Laboratory
PCR – Polymerase Chain Reaction
PHL – Public Health Laboratory
PHM – Public Health Microbiologist
RCPHL – County of Riverside Public Health Laboratory
SBCPHL – San Bernardino County Public Health Laboratory
TAT – Turnaround Time
VRDL – Viral and Rickettsial Disease Laboratory (CDPH)
VTM – Viral Transport Medium

Table 1. Summary of Tests Offered with TAT

Test List		
Test Name	**TAT**	**Reference Range**
Bacteriology		
Culture Aerobic	7 days	No Growth or Normal Flora
Culture Campylobacter	5 days	No Campylobacter isolated
Culture Enteric	7days	No Campylobacter, Salmonella/ Shigella, STEC isolated
Culture for Identification (Isolate)	4 days (Preliminary Report) 3 weeks (Final Report)	Varies by culture
Culture Gonorrhea (NG)	5 days	No Neisseria gonorrhoeae isolated
Culture Streptococcus Group A (Throat)	3 days	No Group A Streptococcus isolated
Culture Salmonella/Shigella	7 days	No Salmonella/Shigella isolated
Culture STEC	5 days	No E. coli O157:H7 or STEC isolated
Shiga-toxin 1/2 EIA	24 hours	Shiga-toxin 1 and 2 NOT Detected
Gram Stain	24 hours	No organisms seen
Mycobacteriology		
Acid Fast Smear (Auramine-Rhodamine)	24 hours	Negative
Culture TB/Non-TB Mycobacteria	21 days (Positive Culture) 6 weeks (Negative Culture)	No acid-fast bacilli recovered in 6 weeks
Acid Fast Bacillus Culture for Identification	28 days	Varies by culture
MTB/RIF NAT	24 hours	MTB NOT Detected
Mycobacteria Antibiotic sensitivities: Streptomycin (STR), Isoniazid (INH), Rifampin (RIF), Ethambutol (EMB), Pyrazinamide (PZA)	28 days	Sensitive to drugs tested
QuantiFERON-TB	3 days	Negative
HIV Serology		
HIV 1/2 Antigen/Antibody	2 days (Nonreactive) 4 days (Reactive)	Nonreactive
HIV 1/2 Antibody Confirmation Differentiation		HIV Antibody NEGATIVE
HIV 1 NAT (sent-out to SBCPHL)	7 days	Not Detected
Hepatitis Serology		
Hepatitis A Total Antibody	5 days	Negative
Hepatitis B Core Total Antibody (anti-HBc)	5 days	Nonreactive
Hepatitis B Surface Antibody (anti-HBs)	3 days	Negative
Hepatitis C Antibody	3 days	Nonreactive
Syphilis Serology		
Syphilis Serum-Treponema Ab Assay	3 days	Negative
Syphilis RPR Qualitative	3 days	Nonreactive
Syphilis RPR Titer (Quantitative)	3 days	Nonreactive
Syphilis TPPA Confirmation	3 days	Nonreactive

Test List (continued)		
Test Name	**TAT**	**Reference Range**
Other Serology		
Measles Antibody	3 days	Nonreactive
Mumps Antibody	3 days	Negative
Rubella Antibody	3 days	Negative
Varicella Zoster Virus (VZV) Antibody	3 days	Negative
Molecular Testing		
Chlamydia (CT) NAT	3 days	Negative
Gonorrhea (GC) NAT	3 days	Negative
CT/GC NAT	3 days	Negative
Herpes Simplex Virus 1/2 NAT	3 days	Negative
Influenza Virus A/B and Subtyping NAT	3 days	Not Detected
Influenza/SARS-COV-2 Multiplex NAT	2 days	Negative
Measles Virus NAT	2 days	Not Detected
Mumps Virus NAT	2 days	Not Detected
Mpox virus NAT	2 days	Not Detected
Mycoplasma genitalium NAT	3 days	Negative
Norovirus NAT	2 days	Not Detected
<u>Respiratory Panel NAT (20 targets)</u> **Viruses** Adenovirus Coronavirus 229E Coronavirus HKU1 Coronavirus NL63 Coronavirus OC43 SARS-CoV-2 Human Metapneumovirus Human Rhinovirus/Enterovirus Influenza A H1-2009 Influenza A H3 Influenza B Parainfluenza 1 Parainfluenza 2 Parainfluenza 3 Parainfluenza 4 Respiratory Syncytial Virus **Bacteria** Bordetella parapertussis (IS1001) Bordetella pertussis (ptxP) Chlamydia pneumonia Mycoplasma pneumoniae	2 days	Not Detected
Trichomonas vaginalis NAT	3 days	Negative
Parasitology		
DFA Cryptosporidium/Giardia	3 days	Negative
DFA Pneumocystis carinii	3 days	Negative
Fecal Leukocyte (WBC)	3 days	No white blood cells seen
Ova & Parasite - Trichrome	4 days	No ova and parasites seen
ID of Parasite	24 hours	Varies

Mycology / Fungus		
Culture	4 weeks / Positive 3-6 weeks	Negative
Fungus Isolate for Identification	2- 4 weeks	Varies
Rabies Virus		
DFA Rabies	3 days	Negative

- For test requests of unusual organisms or outbreak testing, please also contact Disease Control at (951) 358 5107.

Suspect Bioterrorism Agents:
For suspect bioterrorism agents, including *Bacillus anthracis, Burkholderia pseudomallei, Burkholderia mallei, Francisella tularensis, Yersinia pestis, Clostridium botulinum,* please call Riverside County PHL for more information (951) 358 5070. **Note**: Although *Brucella species* is no longer considered a bioterrorism agent, submission of suspected isolates is highly encouraged.

BT Agent Sentinel Lab Protocols are available on the ASM website:
LRN Sentinel Level Clinical Laboratory Protocols

Regional Laboratory Response Network (LRN) Lab Contact Information:
San Bernardino Public Health Laboratory
150 E. Holt Blvd.
Ontario, CA 91762
Laboratory Director: Jessica Valdez

Weekdays: Monday-Friday (8am-5pm)
Phone: (909) 458 - 9430
Fax: (909) 986 - 3590

After Hours (5pm - 8am), Weekends and Holidays
County Communication Center
Officer on Duty: (909) 356-3811 or (909) 356-3805
Lab staff are on duty 24/7 and will contact you as soon as possible.

CCR Title 17 Section 2505
Additional Specimens or Isolates to be Submitted to Public Health

As of June 2025, the following specimens or isolates must be submitted as soon as available to the local or state public health laboratory:

Specimens:
- Malaria positive blood film slides
- *Neisseria meningitidis* eye specimens
- Shiga toxin-positive fecal broths
- Vibrio positive by culture independent diagnostic test
- Zika virus immunoglobulin M (IgM)-positive sera

Isolates:
- Drug resistant *Neisseria gonorrhoeae* isolates (cephalosporin or azithromycin only)
- *Candida auris* from sterile sites
- *Cronobacter sakazakii* isolates in infants less than one year of age.
- *Legionella*
- *Listeria monocytogenes* isolates
- *Mycobacterium tuberculosis* isolates
- *Neisseria meningitidis* isolates from sterile sites.
- *Salmonella* isolates
- Shiga toxin-producing *Escherichia coli* (STEC) isolates, including O157 and non-O157 strains.
- *Shigella* isolates
- *Vibrio cholerae*

Please refer to the California Department of Public Health website for the most current CCR Title 17 Section 2505 requirements.

RIVERSIDE COUNTY COURIER SPECIMEN PICK-UP SCHEDULE
(Riverside County Community Health Centers)

AGENCY/ DEPT	ADDRESS	AM PICK-UP	PM PICK-UP
Banning Community Health Center	3055 W. Ramsey Banning, CA 92220		**X**
Blythe Community Health Center	1293 W. Hobson Way Blythe, CA 92225		**X**
Corona Community Health Center	2813 S. Main Street Corona, CA 92882	**X**	
Hemet Community Health Center	880 N. State Street Hemet, CA 92543	**X**	
Indio Community Health Center	47-923 Oasis Street Indio, CA 92201		**X**
Jurupa Valley Community Health Center	8876 Mission Blvd. Riverside, CA 92509	**X**	
Lake Elsinore Community Health Center	2499 E. Lakeshore Drive Lake Elsinore, CA 92530		**X**
Moreno Valley Community Health Center	23520 Cactus Avenue Moreno Valley, CA 92553		**X**
Palm Springs Community Health Center	1515 North Sunrise Way Palm Springs, CA 92262		**X**
Perris Community Health Center	308 E. San Jacinto Ave. Perris, CA 92571	**X**	
Perris Valley Community Health Center	450 E. San Jacinto Ave Perris, CA 92570	**X**	
Riverside Neighborhood Health Center	7140 Indiana Avenue Riverside, CA 92504	**X**	**X**
Rubidoux Community Health Center	5256 Mission Blvd. Riverside, CA 92509	**X**	

General Specimen Submission Instructions

1. **Specimen Collection – Special Considerations**
   a. Adequate patient preparation, specimen collection and specimen are critical in achieving accurate test results.
   b. Specimens should be collected prior to beginning antibiotics.
   c. Collect specimen in containers appropriate for the test requested.
   d. Use swabs, media or collection containers with current expiration dates.
   e. Hold specimens under correct conditions before transport.
   f. Observe time restrictions on collection and transport.

2. **Specimen Identification/Labeling**
   a. Label specimen container with the following information:
      i. Patient's first and last name or unique identifier
      ii. Patient's date of birth (DOB) or **second** unique identifier
      iii. Date and time of collection (when appropriate)
      iv. Specimen source (when appropriate) (e.g. when sending more than one specimen for the same patient)
   b. NOTE: Anonymous HIV testing is acceptable with only the unique identification number.
   c. If possible, use a computer-generated label to label all specimens. If that is not an option, please print legibly.

3. **Test Requisition**
   a. Laboratory Web Portal (LWP)
      i. To create an account, contact the public health laboratory.
      ii. Review the LWP Quick Guide for detailed instructions. The steps below are brief instructions.
      iii. Login and select Order Tests>Riverside General Test Requisition Form.
      iv. Enter the required fields and fill in other fields, as needed.
      v. Submit the form and certify the request when prompted.
      vi. Select Print to print the order manifest in a pdf format.
      vii. Place manifest in specimen bag sleeve with specimen.
   b. Test Request Form – Complete the laboratory test request form as follows:
      i. Please print all information legibly. Computer generated labels may be used in place of handwritten, provided all required information is submitted.
      ii. Before specimen transport, verify that the names on the specimen and request form match.
      iii. Required Information
         - Patient's first and last name or unique identifier
         - Patient Date of Birth and Patient ID or EPIC MRN or Encounter # (FQHCs)
         - Patient Sex
         - Patient Race and Ethnicity
         - Pregnancy status (if applicable)
         - Patient Address – City and Zip Code are most critical.
         - Date of Collection

- Time of Collection (if appropriate)
- Specimen Source
- Submitter Location
- Name of physician ordering test
- Test requested.
- Diagnosis code
- Some tests require the date of symptom onset (i.e. Norovirus).

4. **Reference Cultures – Please indicate test requested AND organism suspected on test request form.**
   a. Bacterial/Mycobacterial Isolates
      i. Ensure that isolates are packaged and transported in compliance with Division 6.2 Infectious Substance Shipping requirements.
      ii. Please send an actively growing pure culture on solid test-tube media or broth.
      iii. MGIT tube, MB bottle, or actively growing isolate for MTB identification (ID).
   b. Slides for Malaria ID
      i. Thick and thin stained smears are preferred.
      ii. Please transport slides in a protective slide holder
      iii. Please include pertinent information related to clinical history, travel history, insect bites, etc.

5. **Blood, Serum, or Plasma Collected for Antibody or Molecular Assays**
   a. **Acute Phase** – ASAP (no later than 7 days after symptom onset)
   b. **Convalescent Phase –** 14-28 days after onset
   c. Never freeze whole blood
   d. Use ONLY plastic blood collection tubes.
   e. Follow the manufacturer's instructions for your specific blood collection tube.
   f. Specimens that are **hemolyzed, lipemic, or contaminated** will be rejected.

6. **Wound or Abscess**
   a. Collect fluid or aspirate into an appropriate sterile container.
   b. Never collect material onto a dry swab.

7. **Transport**
   a. Ensure the specimens' integrity before transport.
      i. Tightly secure lids on urine containers.
      ii. Use parafilm as needed to prevent leakage.
   b. **Temperature Requirements**: specific storage and transport requirements are provided under each test description.
   c. All blood tubes need to be placed in a plastic conical transport tube. The transport tube or specimen container should be placed in a specimen bag.
   d. Place completed Laboratory Test Request form in the outside pocket of the specimen bag. DO NOT wrap the test request form around the specimen.

8. **Specimen Quality Assurance Criteria** - To assure quality testing and to meet Federal and State regulations, the Public Health Laboratory has strict requirements for specimen identification, as detailed below:
    a. **When an unsatisfactory specimen is received, an effort is made to contact the submitter ASAP by telephone, email, or fax to reconcile the discrepancy. Unsatisfactory specimens will be held for 72 hours before being discarded.**
    b. **If the specimen is determined to be "Unsatisfactory" the reason will be printed on the report.** If you receive a report with an "Unsatisfactory" result, please collect a new specimen and re-submit with a new test request form.
    c. The following specimens do not meet quality assurance standards.
        i. Specimens that lack proper identification. Unlabeled specimens will not be tested.
        ii. Name or number on specimen not matching with accompanying test request.
            1) For partial mismatches, the submitter will be contacted to attempt to reconcile the information.
        iii. Name or identifier missing on specimen or test request.
        iv. Specimen with compromised quality:
            1) Collected in improper container that is not suitable for test requested.
            2) Collected in expired container or on expired media.
            3) Not enough specimen in the container
            4) Specimen containers that are broken, leaking or with evidence of contamination on outer surfaces or on request form
            5) Clotted, hemolyzed, or hyper-lipemic blood.
            6) Exceeded the acceptable collection/transport time.
            7) Specimen transported under inappropriate conditions.
            8) Improper specimen for test requested.

9. **Test "Turnaround Time" (TAT) -** Each test listed in the Test Request and Collection Guide has a projected TAT. This is the time from specimen receipt in the Public Health Laboratory to result entry in the Laboratory Information Management System (LIMS). This time is dependent on a non-holiday work week, courier pick up time of the specimens, time of day that the results are reported, and whether the specimen requires confirmatory testing.

10. Refer to the RUHS- DOPH Laboratory Fee Schedule for test prices and CPT codes.

11. All specimen referrals to CDPH or CDC laboratories **must** be processed and sent through the RUHS- DOPH Laboratory unless otherwise approved to be sent directly. Contact the Riverside Department of Public Health Laboratory 951-358-5070 and/or Disease Control 951-358-5107 prior to submitting specimens.

Bacteriology Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	SPECIAL INSTRUCTIONS
Culture Aerobic	Blood, wound, abscess, aspirate, CSF, throat, sputum, eye, ear, genital, and body fluid	See Special Instructions	See Special Instructions	Transport temperature is dependent on the type of specimen; contact the lab for more information. Transport within 24 hours of collection.	Please contact the lab for sample volume requirements for each specimen type.
Culture for Identification	Pure culture isolate	NA	Slanted medium in screw-capped tubes.	Transport to lab at room temperature in a secondary shipping container.	Submitted by a hospital or reference lab only. Please indicate suspected organism on Lab Request Form. *Salmonella/Shigella/Vibrio* isolates will be forwarded to MDL for further characterization.
Culture Enteric Culture Salmonella/ Shigella Culture STEC Culture Campylobacter	Stool	Add sample to bring the liquid level up to the "fill to here" line (approximately 1 gram)	C & S Para-Pak*	Transport at room temperature or on cold pack within 4 days of collection. **Raw stool** specimens must be transported within 2 hours of collection at room temperature.	Please specify organism of interest for other enteric pathogens. *MAC Broth is acceptable for STEC cultures ONLY. GN Broth is acceptable for all cultures. Transport broth specimens on cold pack between 2-8°C Transport positive STEC isolates and positive broth specimens in compliance with Division 6.2 Infectious Substance Shipping requirements. Urine specimens are for *Salmonella typhi* clearance only
Salmonella typhi	Urine	40mL	Sterile container	Transport specimen at room temperature within 2 hours of collection. If there is a delay in transportation, refrigerate specimen between 2-8°C and transport on cold pack within 24 hours.	
Shiga-toxin screen	Stool	Same as Culture Enteric	C & S Para-Pak	Store at 2-8°C for up to 5 days. Transport specimens on cold pack	

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	SPECIAL INSTRUCTIONS
Culture Streptococcus Group A	Throat swab	NA	Swab Transport	Room temperature or on cold pack in ≤ 24 hours	Amies w/ or w/o charcoal, Stuart's, or comparable swab collection systems
Culture NG (Gonorrhea)	Eye, throat, rectal, genital, oral, respiratory tract, child abuse cases (all sources)	NA	Swab placed in Amies with Charcoal	Transport at room temperature in ≤ 12 hours after collection.	Do not refrigerate or transport on cold pack. Specimens received after 12hrs and within 24hrs will be tested with a disclaimer. Specimens received after 24hrs will be rejected.
Gram Stain	Wounds, eye lesions, sterile fluids, body tissues, and certain discharges.	See Special Instructions	Slide Holder	Room temperature – Methanol or heat-fixed slide preferable. Transport as soon as possible.	Please contact the lab for instructions on specimen collection.

Mycobacteriology Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
Culture AFB	Sputum (expectorated or induced)	5-10 mL	50 mL sterile conical tube or sterile leak-proof container	Refrigerate specimens at 2-8°C if transport to the laboratory will be **delayed for more than one hour.** <u>Do not freeze</u>. Transport as soon as possible or transport refrigerated specimens on cold pack within 96 hours of collection.	Sputum - A first morning specimen is preferred. Refer to: **TB Specimen Packing and Shipping Instructions** - Specimen < 2 mL may be rejected
	BAL, brush or wash, other respiratory fluids	5-10 mL	50 mL sterile conical tube or sterile leak-proof container		
	Body Fluids (abdominal, amniotic, joint, pleural synovial, bile, ascites, etc.)	> 3 mL	Sterile leak-proof container		Never submit a swab dipped in body fluid. Specimen volume < 2 mL may be rejected
	Urine	40 mL (minimum 10-15 mL)	Sterile leak-proof container		Do not pool urine; may be rejected. First morning, mid-stream preferred.
	Stool	≥ 1g	Sterile leak-proof container		- Stool – AIDS or immunocompromised patients only -Shipping containers available from the lab
	Tissue	<u>≥</u> 1 g or 1 cm by 1 cm	Sterile leak-proof container containing 2-3 mL sterile non-bacteriostatic saline		Specimens submitted on a dry swab or fixed in formalin or other preservative will be rejected.
	Wound or Abscess	<u>≥1gram or copious amount</u>	50 mL sterile conical tube or sterile leak-proof container		Wound or abscess specimens must be fluid or aspirate collected into a sterile container. Swab specimens are strongly discouraged unless it is the only specimen available. Submit swabs with copious amount of sample in a sterile tube. Swabs submitted in transport medium or commercial swab transport devices are unacceptable.

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
Culture AFB (continued)	Gastric lavage or wash	5-15mL neutralized with sodium carbonate within 4 hours of collection.	50 mL sterile conical tube or other sterile collection container	Store at room temperature and transport as possible	Add sufficient sodium carbonate to get a 10% final concentration. Non-neutralized specimens must be received within 4 hours of collection.
	CSF	Optimally ≥ 5 mL (minimum 2 mL)	Sterile leak-proof container	Transport as soon as possible at ambient temperature	Do not refrigerate
AFB Culture for Identification	AFB Isolate	NA	Pure culture submitted in a screw-cap tube of L-J or 7H10 slant	Transport in crush-proof, leak-proof secondary containers	Submitted by hospital or reference lab only. Transport *Mycobacterium tuberculosis* isolates in compliance with Division 6.2 Infectious Substance Shipping requirements.
MTB Drug susceptibility	Isolates of *Mycobacterium tuberculosis* complex	NA	Pure culture submitted in a screw-cap tube of L-J or 7H10 slant	Transport in crush-proof, leak-proof secondary containers	Transport *Mycobacterium tuberculosis* isolates in compliance with Division 6.2 Infectious Substance Shipping requirements.
Title 17 Isolates	*Mycobacterium tuberculosis* complex	NA	Pure culture submitted in a screw-cap tube of L-J or 7H10 slant	Transport in crush-proof, leak-proof secondary containers	Transport *Mycobacterium tuberculosis* isolates in compliance with Division 6.2 Infectious Substance Shipping requirements. Isolates will be forwarded to a reference laboratory for Genotyping.
GeneXpert* MTB/RIF NAT	Sputum concentrate	1 mL sputum concentrate	Cryovial or similar	**Sputum sediment**: Store and transport at 2-8°C within 7 days	*GeneXpert MTB/RIF NAT test request must be ordered together with the Culture AFB test. Follow instructions for TB culture.
	Sputum	5-10 mL	50 mL sterile conical tube Sterile leak-proof container	**Sputum:** Store at 2-8°C and transport within 96 hours of collection	

Serology Specimen Collection and Transport Guidelines

	TEST NAME	SPECIMEN TYPE / REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
HIV Tests	HIV-1 / 2 antibody/p24 antigen screen	Whole Blood: 5 mL	Whole Blood Red-Top	Transport as soon as possible at 2-8°C	All initial reactive samples are repeated in duplicate. Samples with at least 2/3 reactive results will automatically reflex to a supplemental test.
		Serum: 2mL	Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum or Plasma: Transport within 30 days at ≤ -20°C. Ship on dry ice.	
		Plasma: 2mL	Plasma Separator Tubes (PST)-sodium citrate, heparin, or EDTA.		
	HIV-1 / 2 Confirmation Differentiation Immunoassay	Whole Blood: 5 mL	Whole Blood Red-Top	Transport as soon as possible at 2-8°C	
		Serum: 2mL	Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum or Plasma: Transport within 30 days at ≤ -20°C. Ship on dry ice.	
		Plasma: 2mL	Plasma Separator Tubes (PST)-sodium citrate, heparin, or EDTA.		
	HIV-1 RNA NAT Qualitative Confirmatory Test	Whole Blood: 5 mL	Whole Blood Red-Top	Transport as soon as possible at 2-8°C	
		Serum: 2mL	Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 5 days. Frozen Serum or Plasma: Transport within 30 days at ≤ -20°C. Ship on dry ice.	
		Plasma: 2mL	Plasma Separator Tubes (PST)-sodium citrate, acid citrate dextrose (ACD), or EDTA.		

	TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
Hepatitis Tests	HAV Total Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates current or prior infection.
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 5 days. Frozen Serum or Plasma: Transport within 30 days at ≦ -20°C. Ship on dry ice.	
		Plasma (sodium heparin): 2mL		Plasma Separator Tubes (PST) with anticoagulant-sodium heparin.		
	HBV Core Total Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates current or prior infection.
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 4 days. Frozen Serum or Plasma: Transport within 30 days at ≦ -20°C. Ship on dry ice.	
		Plasma: 2mL		Plasma Separator Tubes (PST)-lithium, sodium heparin, sodium citrate, or K_2EDTA.		
	HBV Surface Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates prior infection or immunization.
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum or Plasma: Transport within 30 days at ≦ -20°C. Ship on dry ice.	
		Plasma: 2mL		Plasma Separator Tubes (PST)-lithium, sodium heparin, or K_2EDTA.		
	Hepatitis C Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates current or prior infection.
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum or Plasma: Transport within 30 days at ≦-20°C. Ship on dry ice.	
		Plasma: 2mL		Plasma Separator Tubes (PST)-lithium, sodium heparin, sodium citrate, or K_2EDTA.		

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
Measles IgG Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates prior infection or immunization.
	Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum: Transport within 30 days at ≤ -20°C. Ship on dry ice.	
Mumps IgG Antibody	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C	Positive result indicates prior infection or immunization.
	Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 9 days. Frozen Serum: Transport within 30 days at ≤ -20°C. Ship on dry ice.	

TEST NAME		SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
Syphilis Serology	Syphilis Antibody Screen	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C.	Specimens giving equivocal results will be retested. If the repeat is equivocal, a fresh serum specimen will be requested. Positive and equivocal results will be automatically reflexed to RPR.
		Serum: 2 mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum: Transport within 30 days at ≤-20°C. Ship on dry ice.	
	Syphilis RPR	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C.	Samples that require longer storage periods must be removed from the red cells and may be stored at 2-8 °C for 5 days or at ≤ -20°C.
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 5 days. Frozen Serum: Transport within 30 days at ≤-20°C. Ship on dry ice.	
		Plasma: 2mL		Plasma Separator Tubes (PST)-lithium, sodium heparin, sodium citrate, or K_2EDTA.	Store and Transport at 2-8°C within 5 days.	
	Syphilis TPPA	Whole Blood: 5 mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C.	
		Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 5 days. Frozen Serum: Transport within 30 days at ≤-20°C. Ship on dry ice.	
		Plasma: 2mL		Plasma Separator Tubes (PST)-sodium citrate, heparin, or EDTA.	Store and Transport at 2-8°C within **48 hours.**	

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
QuantiFERON - TB Gold Plus	Whole Blood: 1mL		Collected into 4 QuantiFERON tubes (gray/green/yellow/purple caps)	If incubated at 37°C for 16-24 hours, transport on cold pack. Ship to lab within 3 days. If NOT incubated – room temperature, ship within 16 hours of collection.	Shake tubes vigorously for 5 seconds after collection. Tubes must be incubated at 37°C for 16-24 hours within 16 hours of collection. The tubes must be transferred at 37°C ± 1°C as soon as possible. a. If tubes are not incubated immediately, maintain tubes at room temperature (22°C± 5°C) for up to 16 hours. b. Invert tubes 10 times prior to incubation at 37°C. c. Incubate tubes UPRIGHT at 37°C ± 1°C for 16 to 24 hours. d. After 16-24 hours incubation, tubes may be held between 4 to 27°C and transported to PH-Laboratory within 48 hours.
Rubella IgG Antibody	Whole Blood: 5mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C.	Positive result indicates prior infection or immunization.
	Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 3 days. Frozen Serum: Transport within 30 days at ≤ -20°C. Ship on dry ice.	

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE / TRANSPORT	COMMENTS
VZV IgG Antibody	Whole blood: 5mL		Whole Blood Red-Top	Transport as soon as possible at 2-8°C.	Positive result indicates prior infection or immunization.
	Serum: 2mL		Serum Separator Tubes (SST)	Store and Transport at 2-8°C within 7 days. Frozen Serum or Plasma: Transport within 30 days at ≤ -20°C. Ship on dry ice.	
	Plasma: 2mL		Plasma Separator Tubes (PST)-sodium citrate, heparin, or EDTA.		
Other Serology	Whole blood, Plasma, serum, CSF	Refer to Viral and Rickettsial Disease Laboratory: **VRDL Test Catalog-CDPH** or CDC: **Test Directory-Infectious Disease Laboratories**			For Testing performed at CDPH VRDL or CDC, Please contact the Riverside Public Health Lab and/or Disease Control prior to submitting specimens.

- Specimens that are **hemolyzed, lipemic, or contaminated** will be rejected.
- Do not freeze whole blood. This will cause the specimen to hemolyze and be unacceptable for testing.
- Use only plastic blood collection tubes.

Molecular Testing Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/TRANSPORT	COMMENTS
Chlamydia (CT) and/or Gonorrhea (NG), NAT	Male and female urine	The urine liquid level must fall between the two black indicator lines on the tube label.	Aptima Urine Collection Kit for Male and Female Urine Specimens	**Urine specimens:** Transfer urine sample from the primary collection container into the Aptima urine specimen transport tube within 24 hours of collection. Transport to lab between 2-30°C as soon as possible.	Click below to view the Hologic collection videos. Hologic Aptima Collection Guidance Videos
	Female endocervical and Male urethral	N/A	Aptima Unisex Swab Specimen Collection Kit for Endocervical and Male Urethral Swab	**Urogenital swab specimens:** After collecting specimen, transfer the swab into the swab specimen transport tube. Transport to lab between 2-30°C as soon as possible.	
	Female vaginal Oropharyngeal (throat) and rectal	N/A	Aptima Multitest Swab Specimen Collection Kit for vaginal, throat and rectal specimens	**Extragenital (throat and rectal swabs)** After collecting specimen, transfer the swab into the swab specimen transport tube. Transport to lab between 4-30° C as soon as possible.	

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/TRANSPORT	COMMENTS
Influenza/SARS-COV-2 Multiplex NAT	Nasopharyngeal, Oropharyngeal, or Nasal swabs in virus transport media; sputum or respiratory aspirates in sterile container	1-3 mL VTM or PBS	Swab specimens using a synthetic tip (e.g., polyester or Dacron®) and an aluminum or plastic shaft in viral transport media (VTM).	Refrigerated at 4ºC and sent on cold packs within 72 hours. If samples cannot be received by the laboratory **within 72 hours**, they should be frozen at **-70 ºC or below** and shipped on dry ice.	Patient history required. Testing priority based on state and local guidelines. Influenza A/B Subtyping: Influenza A positive samples will be subtyped for H1,H3, H5, and H7 Influenza B positive samples will be subtyped for Yamagata and Victoria
Influenza A/B and Subtyping NAT	Nasopharyngeal, Oropharyngeal, or Nasal swabs in virus transport media; nasal aspirates in sterile container	2-3 mL VTM			
Respiratory Panel NAT	NP swab	Swab in 3 ml of **liquid** viral or universal transport medium.	Acceptable liquid transport media include VTM, UTM, cell culture medium, or a sterile isotonic solution such as PBS	Store in refrigerator at 2-8°C and transport to lab within 3 days. If transport will be delayed, store in freezer at -15°C or colder and transport to lab on dry ice within 30 days.	Contact Laboratory prior to submitting specimens.
Norovirus NAT	Fresh stool in sterile container	For suspected viral gastroenteritis outbreaks, collect at least three (3) non-formed stool samples. ≥ 1 g / 1 mL	Sterile container	Refrigerate at 2-8 °C and transport on cold pack within 48 hours.	Contact Laboratory prior to submitting specimens.

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/TRANSPORT	COMMENTS
Measles NAT	Throat, Nasal, or Nasopharyngeal swab.	Swab in 2-3 ml **liquid** viral transport medium.	Sterile synthetic swab with aluminum or plastic shaft in VTM	**Respiratory – Nasopharyngeal or oropharyngeal swabs:** Transport within 72 hours of collection at 2-8°C. (If shipping will be delayed >72 hours, freeze samples at -60°C or colder and ship on dry ice)	Contact Laboratory prior to submitting specimens. Collect specimens within 2 weeks of rash onset.
	Urine	10-50 ml	Collect urine within 2 weeks of rash onset in a sterile container from the first part of the stream. The first morning void is ideal.	**Urine: Collect urine in a sterile container and** transport within 24 hours at 2-8°C.	
Mumps NAT	Buccal or Throat (Oropharyngeal) Swab	Swab in 2-3 ml of **liquid** viral or universal transport medium.	Acceptable liquid transport media include VTM, UTM, cell culture medium, or a sterile isotonic solution such as PBS with added protein	Store specimens a 2-8°C. Ship specimens within 24-72 hours at 2-8°C on cold packs. If shipping will be delayed, freeze at -70°C or colder and ship on dry ice.	Contact Laboratory prior to submitting specimens.
Mpox NAT	Lesion	Nylon flocked swab in 3 ml of VTM/UTM	Acceptable liquid transport media include VTM or UTM,	Transport at room temperature, 15-30°C, within 48 hours. Transport at 2-8°C within 7 days.	Using a sterile swab apply firm pressure to the lesion and swipe the swab back and forth at least 2-3 times before rotating the swab and repeat with the other side of the swab. If the lesion ruptures while swabbing, ensure to collect the lesion fluid.

Parasitology Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/TRANSPORT	COMMENTS
O & P Concentrate/ Trichrome	Stool	Fill to fill line on Para Pak container.	Para Pak 2 Vial Stool Kit with 10% formalin (pink top) and PVA (gray top)	Transport at room temperature	Add Sufficient stool to bring the liquid level up to the "Fill to Here" line. Do not over or under fill vials. Mix well after collection.
Cyclospora/ Cystoisospora			Para Pak 2 Vial Stool Kit with 10% formalin (pink top)		Modified Acid-Fast / UV Fluorescence will be included in O&P test if requested by physician
DFA Cryptosporidium/Giardia					Do not over or under fill vials. Mix well after collection.
ID of parasite	Giemsa or Wright stained thick and thin smears	Thick and Thin smears	Slide Holder	Transport in a slide holder or slide carrier at room temperature (15-25°C) within 3 days of collection.	Use this for *Plasmodium* species ID. Please indicate travel history for suspect malaria cases.
	Skin scraping	At least 1 slide	Slide Holder	Transport in a slide holder or slide carrier at room temperature.	Scrape using a scalpel coated with mineral oil. Transfer scraping to slide, cover with coverslip.
	Insect or worm	NA	Sterile Container	If insect or worm is alive, place in a jar with a wet paper towel; If dead, fix with 70-95% alcohol or formalin.	
Fecal Leukocytes (WBC)	Stool	Fill to fill line on Para Pak container.	Para-Pak 2-vial stool kit with PVA	Transport at room temperature	Do not over or under fill vials. Mix well after collection.

Mycology / Fungus Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/ TRANSPORT	COMMENTS
Mycology: Primary Routine Fungal Culture	Varies	Varies	Varies	All primary specimen containers must be in sealed biohazard bags. Deliver promptly or refrigerate at 2-8°C for no more than 72 hours	Please consult with the Laboratory regarding appropriate specimens for the disease suspected. (Specimens will be submitted to SBCPHL)
Mycology Culture for Identification	Varies	NA	Pure culture on solid medium (Flask or tube)	Transport in crush-proof, leak-proof secondary containers. Room temperature	Cultures will be sent to SBCPHL
Coccidioides Culture for Identification or rule out	Varies	NA	Pure culture on solid medium (Flask or tube)	Transport in crush-proof, leak-proof secondary containers. Room temperature	Cultures will be sent to Microbial Diseases Laboratory-CDPH

Miscellaneous Specimen Collection and Transport Guidelines

TEST NAME	SPECIMEN TYPE	REQUESTED VOLUME	CONTAINER	STORAGE/TRANSPORT	COMMENTS
Pneumocystis DFA	Bronchoalveolar lavage, bronchial wash, or induced sputum	≥ 5 mL	Sterile container	Bronchoalveolar lavage/Bronchial wash: Refrigerate and transport at 2-8°C within 24 hours. Induced sputum: Refrigerate and transport at 2-8°C within 24 hours.	*Pneumocystis jirovecii (carinii)*
Rabies exam	Freshly severed animal head or whole bat delivered by Animal Care Services.	NA	Any clean transport container.	Transport ASAP or refrigerate at 2-8°C and transport within 48 hours.	Please contact RUHS-Public Health Disease Control Dept. at 951-358-5107 to request STAT testing for human contact. NOTE: Specimen must be accompanied by a completed Rabies Control Investigation Report
Food Exam	Suspected food	Varies	Sterile container	Transport to laboratory on cold pack or refrigerated within 24 hrs.	Testing will be based on Disease Control/ Environmental Health investigation. Contact Disease Control at (951) 358-5107

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Packaging and Transporting Infectious Substances:

All persons packing and shipping infectious materials must be trained and certified in compliance with the Department of Transportation or the International Air Transport Association. Please contact the Riverside University Health System Public Health Laboratory for assistance or training needs at 951-358-5070

Category A Infectious Substance

Package, label, and ship high-risk specimens as a **Category A** infectious substance affecting humans (UN 2814) in accordance with the U.S. Department of Transportation's Hazardous Materials Regulations and the International Air Transport Association Dangerous Goods Regulations.

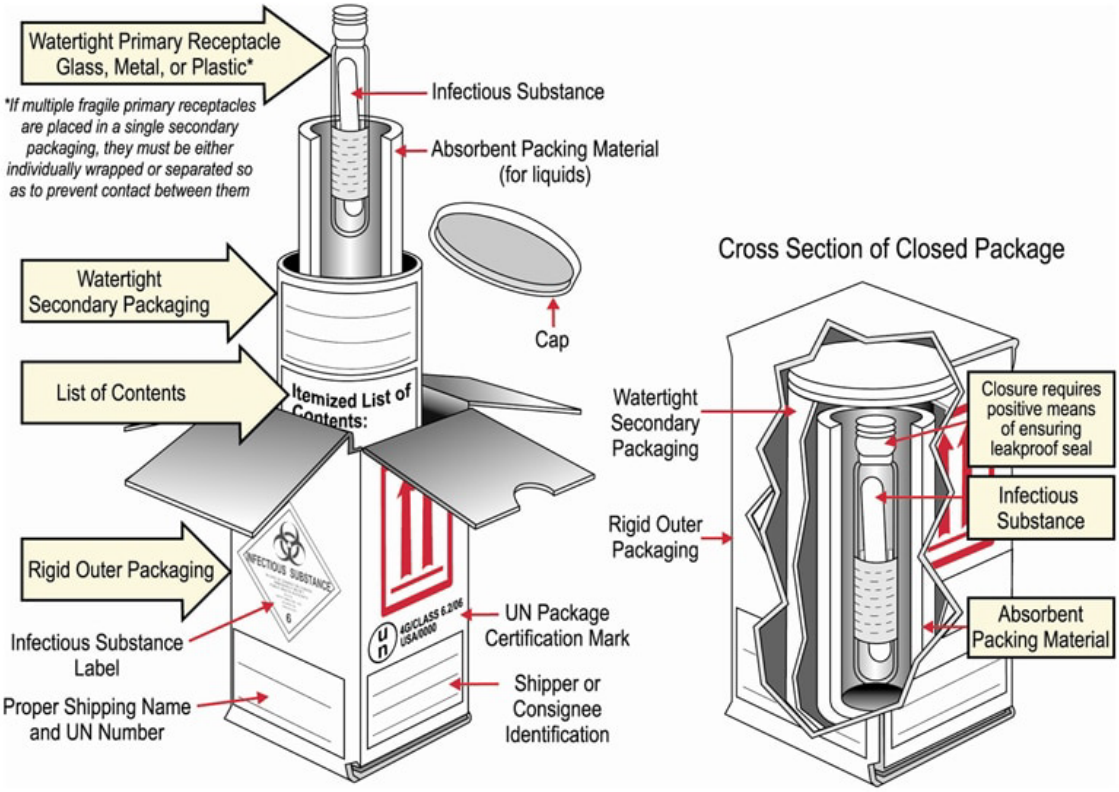

Diagram 1: Packing and shipping Category A clinical specimens.

- Triple pack all specimens in:
  - Leakproof primary receptacle; multiple primary receptacles should be individually wrapped or separated.
  - Leakproof secondary receptacle, and
  - Rigid outer packaging
- If specimen is a liquid, place absorbent material between the primary and secondary receptacle.
- Place a list of contents and paperwork between the secondary receptacle and outer packaging.
- Label outer packaging with:

- Infectious substance (diamond shaped label)
- Proper shipping name and UN 2814 certification mark
- Shipper and consignee identification (name, address, and telephone)
- Package orientation arrows if primary receptacle exceeds 50 mL or more.

- Complete and submit Test Request Form with the shipment.
- Ship to the following address:

  Riverside County University Health System Public Health Laboratory
  4065 county Circle Dr. Room 106
  Riverside, CA 92503

Category B Infectious Substance

Package, label, and ship low- or moderate-risk specimens as a **Category B** infectious substance (UN 3373) in accordance with the U.S. Department of Transportation's Hazardous Materials Regulations and the International Air Transport Association Dangerous Goods Regulations.

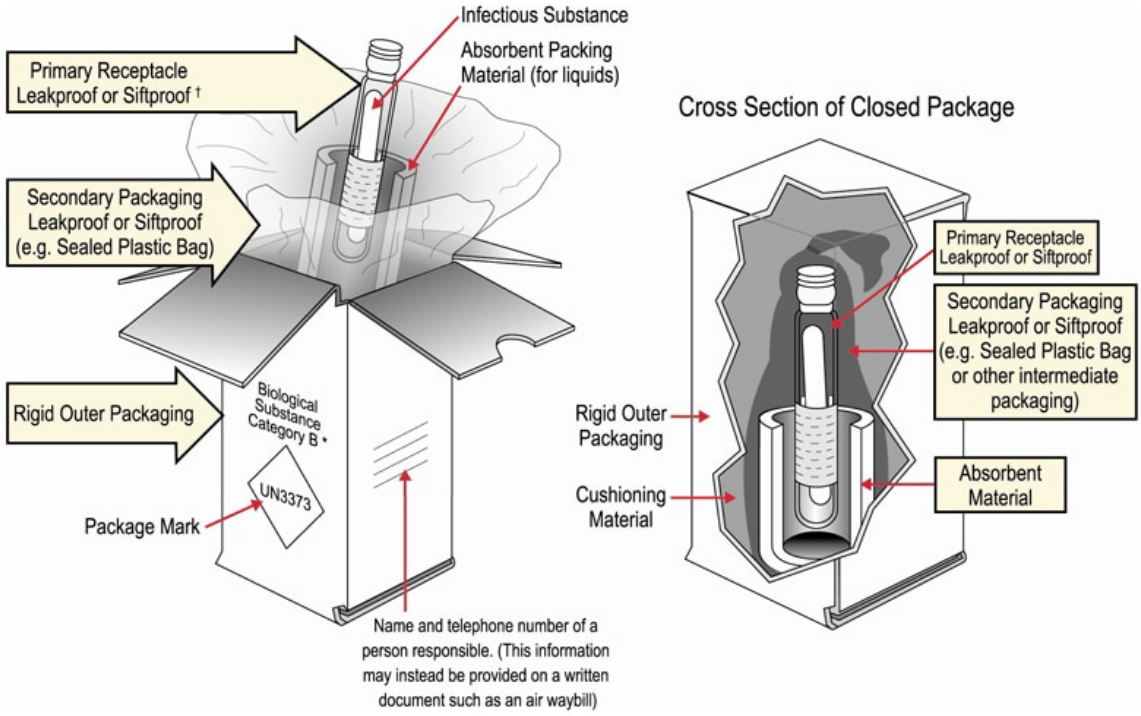

Diagram 1: Packing and shipping Category B clinical specimens.

Triple pack the specimens in:

- Leakproof primary receptacle; multiple primary receptacles should be individually wrapped or separated.
- Leakproof secondary receptacle
- Rigid or strong outer packaging

- If specimen is a liquid, place absorbent material between the primary and secondary receptacle.

- Place a list of contents and paperwork between the secondary receptacle and outer packaging.
- Label outer package with:
    - Proper shipping name and UN 3373 certification mark
    - Shipper and consignee identification (name, address, and telephone)
    - Package orientation arrows if primary receptacle exceeds 50 mL or more.
- Complete and submit Test Request Form with the shipment.
- Ship to the following address:

    Riverside County University Health System Public Health Laboratory
    4065 county Circle Dr. Room 106
    Riverside, CA 92503