Glen F. Baker Public Health Laboratory Directory of Service

Directory of Services (DOS)

Test Menu

PUBLIC HEALTH LABORATORY
CONTACT LIST CLINICAL SERVICES

Communicable Disease/Immunization	501-661-2169
PHL Receptionist	501-661-2220
Questions, Inquiries, and Complaints	501-661-2363
Laboratory Director	501-280-4079
Laboratory Director Administrative Assistant	501-661-2424
Quality Assurance Director	501-661-2363 (office) 501-661-2310 (fax)
Specimen Receiving	501-280-4075
Specimen Receiving Supervisor	501-280-4206 (office) 501-661-2754 (fax)
Clinical Microbiology Supervisor	501-280-4842 (office) 501-837-9704 (cell) 501-661-2538 (fax)
TB/Mycology Supervisor	501-661-2448 (office) 501-671-1811 (fax)
Immunology Supervisor	501-661-2490 (office) 501-940-3184 (cell) 501-280-4050 (fax)
Lab Informatics Supervisor	501-661-2450 (office) 501-940-3184 (cell)
Molecular Supervisor	501-661-2454 (office) 501-661-2270 (fax)
Newborn Screening Supervisor	501-661-2445 (office) 501-280-4087 (fax)

GENERAL LABORATORY INFORMATION

Introduction

The alphabetical directory contains a list of available tests at the Glen F. Baker Public Health Laboratory. Test protocols include turnaround time, specimen requirements and other pertinent information.

The Testing Menu of the Public Health Laboratory provides many tests not commonly performed in diagnostic clinical laboratories and is designed to support public health programs. The Public Health Laboratory is committed to providing accurate and timely results for all tests offered. Turnaround times may vary widely depending on incubation time, confirmation tests required prior to reporting results, and transport time.

Each test protocol provides information on patient, collection, and specimen requirements. Rejection criteria and turnaround times are given for each test.

These requirements must be followed. Care must be used in packaging the specimen for delivery. Specimens should reach the Public Health Laboratory promptly, same day or next day, if possible. Delays may render the specimens unsuitable for analysis.

Normal Working Hours: Monday through Friday 8:00 a.m. to 4:30 p.m.

Tests are set up during these hours, unless otherwise indicated. For exceptions, please refer to specific test sections.

Some specimens require special collection requirements by the Public Health Laboratory. Every effort has been made in the creation of these kits to ensure specimens reach the laboratory in the best possible condition. Follow the instructions on the kits for proper specimen collection.

Specimens for testing are assumed to be diagnostic and/or infectious per Public Health Laboratory policy and must be transported in containers which comply with appropriate shipping regulations.

Note: It is the shipper's responsibility to package and ship specimens for diagnostic purposes in compliance with all shipping regulations from the Department of Transportation (DOT) and International Air Transport Association (IATA) that may apply.

Note: If in doubt how a specimen should be shipped by ground refer to the 49 Code of Federal Regulation Parts 100 to 185 if shipping by ground. These regulations are available at: http://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/HowToUseHMR_0.pdf

If shipping a specimen by air, then the IATA regulations must be followed. These regulations are covered in the current edition of IATA Dangerous Goods Regulations. This book can be purchased online at www.iata.org/en/publications/dgr/.

Specimen Labels

All specimens must be labeled with **two** unique identifiers which can include patient name, date of birth, hospital number, etc. Since inks may run when exposed to moisture, use waterproof markers to label specimens. Testing may be delayed or not performed if the information is incomplete or illegible.

Requisition Forms and Acquiring a Submitter Code

Requisition forms must be filled out. Each submitter must obtain a submitter code to use when submitting a specimen to the Public Health Laboratory. Private submitter must be approved by the laboratory director. To receive a submitter code, contact the QA Office at 501- 661-2363.

Once a submitter code is obtained, forms may be obtained by contacting the Public Health Laboratory IT Supervisor at 501-661-2450. Newborn screening forms may be obtained by contacting the Newborn Screening Supervisor at 501-661-2445.

The required information may vary slightly depending on the specific form but includes the following:

- Patient’s name
- Patient’s date of birth
- Patient’s sex
- Patient’s race or other unique identifiers
- Authorized requestor (physician or nurse practitioner)
- Submitter information (name, address, etc.) and submitter code
- Test(s) requested
- Source of specimen or type of specimen
- Date specimen was collected and time of collection, if applicable

Note: Since inks may run when exposed to moisture, please label specimens with water-proof markers. Testing may be delayed or not performed if the information is incomplete or illegible.

All submitters should complete the appropriate submitter test requisition form and include it with the specimen for shipment. Please place the requisition between the secondary container and the outer shipping box. If a specimen is taken to the Local Health Unit for shipment to the Public Health Laboratory via the courier, the sample must be appropriately packaged for shipment. Local Health Units will not repackage specimens from private submitters.

Kits

Some tests require special collection and/or mailing kits. Kits may be acquired from the Local Health Unit.

Specimen Collection/Handling/Shipping

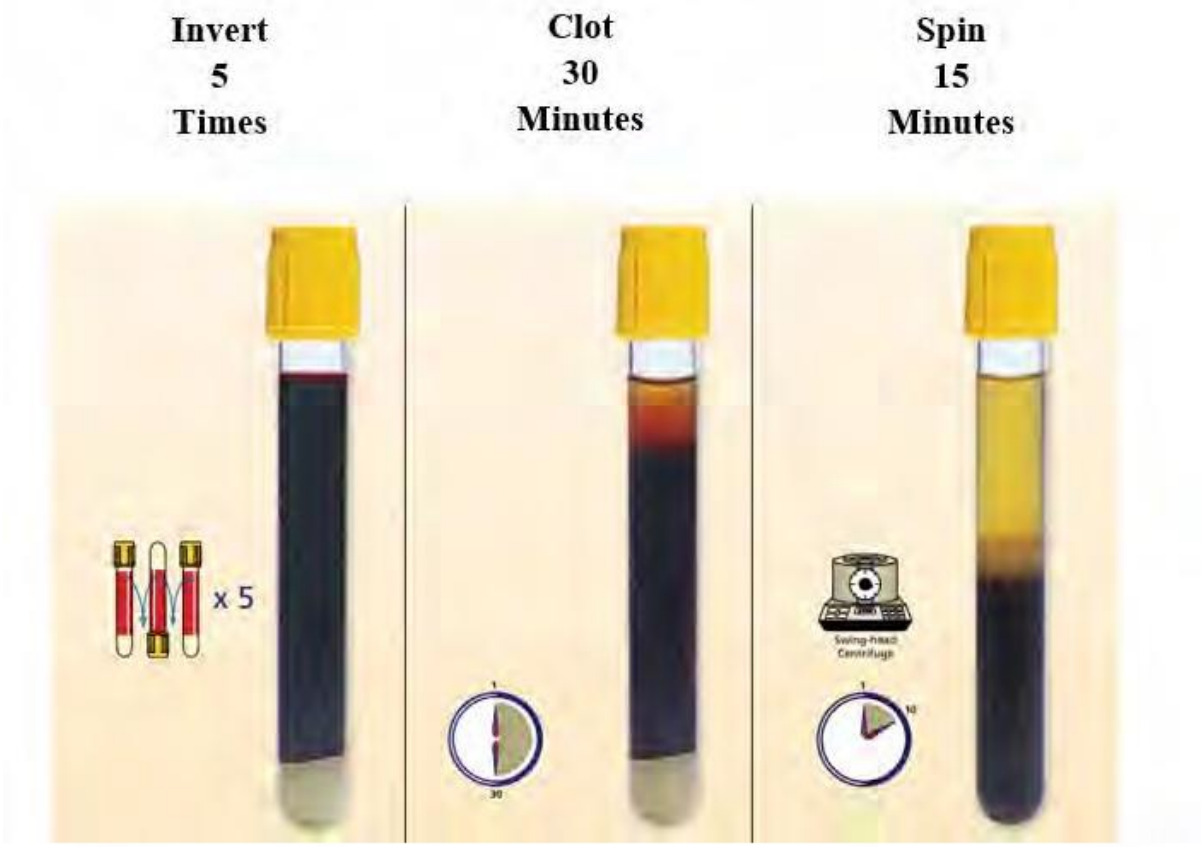
Proper specimen collection is important to ensure accurate results. Each test listed in this section indicates the correct collection container and required volume. Many tests that require serum or plasma cannot be performed on hemolyzed specimens.

Improper shipping of the specimen may cause delays in testing or specimen rejection. Shipping requirements are given for each test and must be followed when transporting a specimen.

Cold packs or other means to keep the specimen chilled may be required for shipping. To prevent breakage of specimen, packing should include cushioning material between glass specimen containers. Check tops of specimen containers to ensure specimens do not leak during transportation and that the bucket and lid are labelled with the correct clinic code. Specimens must reach the Public Health Laboratory within the time indicated for all testing to be performed. The test request should be placed between the secondary and tertiary packaging to prevent damage to the requisition in case of sample leakage. See specific tests for shipping requirements.

Collection of Serology Specimens

1. Use a serum separator tube (SST) that is 3mL or less filled to 90%. Fill 3.5 mL tubes to 3.0 mL
2. Invert 5 times before allowing to clot.
3. Place tube in the vertical position and allow to clot for a minimum of 30 minutes.
4. Centrifuge within 2 hours of collection.
5. Centrifuge for at least 15 minutes.
6. Inspect tube to assure all cellular products and visible matter are separated from serum (No visible cellular products should be seen in gel after centrifugation).



- Gently invert 5 times to mix clot activator with blood.
- Allow blood to clot for a minimum of 30 minutes in a vertical position
- Centrifuge at FULL SPEED for 15 minutes (balance tube in centrifuge)

Newborn Screening – Heel Stick Collection Procedures

Fill out the Neonatal Screening form. Ensure that ALL data elements are complete, accurate and consistent. PRINT clearly in ballpoint pen. Press firmly to assure legibility of all copies.

1. Hold infant's limb in a dependent position to increase venous pressure.
2. Clean heel thoroughly. Wipe with alcohol and air dry before puncturing.
3. Puncture heel with sterile lancet deep enough to assure free flow of blood.
4. Gently wipe off first drop of blood.
5. Apply gentle pressure and allow a large drop of blood to form.
6. Touch the filter paper directly to the blood drop and fill each circle with a single application of blood. The circle must be filled completely and uniformly. Total saturation of the circles must be evident when the paper is viewed on both sides.
7. Fill all circles COMPLETELY.
8. Allow blood spots to air dry thoroughly for a minimum of three hours at ambient temperature. Keep away from sunlight. Do not stack or heat during the drying process.
9. Cover dried blood spots with fold-over tab. DO NOT tape shut.
10. Transport the dried blood spot specimens in a paper envelope. Do not package in an airtight, leak-proof plastic bag. Heat buildup and moisture accumulation in a sealed bag can adversely affect the specimen. DO NOT fold the forms but mail flat in an appropriately sized envelope. Mark the envelope "Newborn Screening".
11. Send specimens to the Public Health Laboratory Slot 47 or the address:

Public Health Laboratory
Attention: Newborn Screening Laboratory
Arkansas Department of Health
201 S. Monroe Street
Little Rock, AR

Note: The recommended method for collection is the heel stick. Do not use EDTA or citrate tubes or capillaries for collection. Infant weights should be recorded in grams on the Newborn Screening form.

Note: A video on newborn screening and specimen collection can be found on the Arkansas Department of Health website.
Visit www.healthy.arkansas.gov/programs-services/topics/health-professionals to view the "Newborn Screening Video" listed under the Downloads and Information section.

Plastic Tubes

1. A group of plastic tubes may have several paper towels wrapped around them. Use the same number of paper towels as tubes in the group. Place group of tubes in biohazard bag.
2. Place additional paper towels in the secondary container outside the biohazard bag to cushion tubes.

Gonorrhea/Chlamydia Specimen Packaging

All swab and urine specimens collected must be packaged individually to avoid contamination between specimens. The use of small “snack bags” is acceptable if each of the individual bags is collectively placed in the biohazard bag. Zip-lock biohazard bags currently in use are acceptable; however, only one specimen per bag is allowed.

Rejection Information

Specimens are rejected for the following reasons:

- Not collected in the appropriate containers
- Expired collection containers
- Inadequate specimen volume for all testing, including repeat or confirmatory testing
- Not submitted with two unique identifiers
- Not submitted with correct barcode and, when scanned, name appearing in LIMS does not match name on the container
- Not shipped within acceptable temperature ranges
- Not shipped in appropriate transport containers
- Not received within acceptable timeframe for testing
- Lab accidents
- Tests requested not available

*All specimens except TB/Mycology specimens must be pre-packaged by the private submitter before shipping to the Public Health Laboratory via LHU Courier.

See additional causes for rejection listed in each specific test section.

Private Submitter Submissions

Private submitters delivering packages to the Local Health Unit will be asked to record information about the package on the Private Submitter Shipping Log. A fluorescent sticker and duplicate green barcode will be place on the package to help track packages as they are transported by the courier to the Public Health Laboratory.

Communicable Disease Reporting

Arkansas statutes require reporting of certain diseases to the Arkansas Department of Health. In addition, the following bacterial isolates must be submitted to the Public Health Laboratory for further testing: any suspected agent of Bioterrorism, *Neisseria meningitidis*; *Salmonella sp*.; *Enterotoxigenic E. coli; Listeria sp*.; *Staph. aureus*, vancomycin resistant or intermediate susceptible; outbreak-related *Campylobacter sp.* and *Shigella sp*., or on request; *Haemophilus influenzae* (invasive). See DOS-10 for instructions.

Forms

If you are already a client of the Arkansas Department of Health Public Health Laboratory, you should have an electronic copy of the Public Health Laboratory's test request with your submitter number. Please use that form to submit tests specimens to the Public Health Laboratory. If you cannot locate the form, please contact the IT supervisor at 501-661-2450.

If you are a new client of the Public Health Laboratory, please call 501-661-2363 for approval from the PHL Lab Director and test requisition forms.

In cases of emergency - see DOS-10 and DOS-15 for miscellaneous form and rabies form.

Contact Information

Contact the Public Health Laboratory with questions, comments, or complaints.

E-mail address: adhlab@arkansas.gov

Website: www.phl.arkansas.gov

Arkansas Department of Health (ADH) Mandatory Reportable Diseases List and Instructions

The "Rules and Regulations Pertaining to Reportable Disease" adopted and promulgated by the Arkansas State Board of Health pursuant to the authority expressly conferred by the Laws of the State of Arkansas including, without limitation, Ark. Code Ann. §§ 20-7-101 et seq. Section III, states "It shall be the duty of every physician, practitioner, nurse; every superintendent or manager of a dispensary, hospital, clinic, nursing or extended care home; any clinical or private laboratory; any person in attendance on a case of any of the diseases or conditions declared notifiable; or the local health department to report the disease or condition to the Department..."

The following diseases/conditions (*suspected or confirmed*) are to be reported immediately to the ADH:

Anthrax***	Meningococcal infection**	Poliomyelitis***	Variola (Smallpox)***
Botulism (all types)***	Novel Coronavirus***	Q Fever***	Middle Eastern Respiratory Syndrome (MERS; MERS-CoV)
Chemical agents of terrorism***	Novel influenza A virus**	Tularemia**	Severe Acute Respiratory Syndrome (SARS; SARS-CoV-1)
Emerging threat agents***	Plague (*Yersinia pestis*)**	Typhus***	Viral hemorrhagic fevers***

TO REPORT DISEASES IMMEDIATELY VIA TELEPHONE, CALL 1-501-661-2381 (8:00 AM - 4:30 PM)
AFTER HOURS, HOLIDAYS AND WEEKENDS, PLEASE CALL 1-800-554-5738

All outbreaks of diseases on this list or any unusual outbreak/cluster should be reported immediately by phone to the ADH. All unusually drug resistant infections should be reported within 24 hours to the ADH.

The following diseases of public health significance are to be reported to the Arkansas Department of Health within 24 hours of diagnosis. Reports should include: 1) the reporter's name, location and phone number; 2) the name and onset date of the disease; 3) the patient's name, address, phone number, age, sex and race; 4) the attending physician's name, location and phone number; 5) any pertinent clinical, laboratory, and treatment information. Report by fax to 501-661-2428; or by phone to 501-280-4115.

Acute flaccid myelitis (AFM)
Alpha-gal syndrome
Anaplasmosis (*Anaplasma phagocytophilum*)
Arboviral, neuro and non-neuroinvasive
Babesiosis
Bacillus cereus
Bacillus species that cannot be ruled out as *B. anthracis* or *B. cereus* biovar anthracis**
Blastomycosis
Brucellosis**
CD4+ T-lymphocyte count
Campylobacteriosis**
*Candida auris***
Carbapenemase producing organisms (CPO)**
Chagas disease
Chancroid
Chikungunya
Chlamydial infections
Coccidioidomycosis (caused by *Coccidioides*)
COVID-19 (SARS-CoV-2)
Creutzfeld-Jakob disease
Cryptococcosis
Cryptosporidiosis
Cyclosporiasis
Dengue virus infections
Diphtheria
Ehrlichiosis
E. coli, Shiga toxin producing**
Encephalitis, all types (including Powassan, California, EEE, St. Louis, West Nile, WEE)
Food poisoning, all types
Giardiasis
Glanders (*Burkholderia mallei*)**
Gonorrhea
Haemophilus influenzae, invasive**
Hansen's disease (leprosy)
Hantavirus pulmonary syndrome
Hemolytic-uremic syndrome (HUS)
Hepatitis (type A, B, C, or E) viruses
Hepatitis B surface antigen (HBsAg) positive in pregnant woman
Histoplasmosis
HIV (human immunodeficiency virus)* (qualitative, quantitative, and genotyping included even if no virus is detected)
Influenza deaths/hospitalizations, all ages†
Legionellosis
Leptospirosis
Listeriosis**
Lyme disease
Malaria
Measles (rubeola)
Melioidosis (*Burkholderia pseudomallei*)**
Meningitis, all types**
Mpox (monkeypox)
Multisystem inflammatory syndrome (MIS)
Mumps
Pertussis
Psittacosis
Rabies, human and animal; plus mammalian animal bites‡
Rickettsiosis, spotted fever (RMSF)
Rubella, including congenital infection
Salmonellosis (including typhoid fever)**
Shigellosis**
Streptococcus infection, invasive, including *S. pneumoniae*, *S. pyogenes*/group A; indicate antibiotic susceptibility if known.
Syphilis, including congenital infection*
Tetanus
Toxic shock syndrome
Toxoplasmosis
Trichinellosis
Tuberculosis
Vancomycin-intermediate/resistant *Staphylococcus aureus* (VISA/VRSA)**
Varicella (chickenpox), disease or death
Vibriosis (cholera and non-cholera)**
West Nile virus
Yellow fever
Yersiniosis, non-pestis (any species)
Zika virus

REPORTABLE OCCUPATIONAL AND ENVIRONMENTAL DISEASES AND OTHER CONDITIONS
*(For acute disease consultation on the diseases listed below please call the Poison Control Center at: **800-376-4766**)*
Asbestosis
Blood lead levels****
Byssinosis
Chemical exposure, all types
Clinical radiation adverse event
Elevated blood heavy metal (e.g.: mercury, arsenic, cadmium)
Pesticide exposure
Pneumoconiosis (coal workers)
Mesothelioma
Silicosis
Suspected unintentional radiation exposure

* Any pregnant woman infected with AIDS, HIV or Syphilis must be reported indicating the trimester of pregnancy. This applies each time the woman becomes pregnant.

** Non-viral isolates must be submitted to the ADH Laboratory for further testing. For enteric, if no isolate is available, please send raw stool.

*** Isolates must be retained and ADH contacted to determine whether sample needs to be submitted for further testing.

**** Blood lead levels over 3.5 µg/dl for patients 72 months old and younger and levels over 10 µg/dl for patients 73 months and older.

† Web reporting for influenza is available at: https://flureport.adh.arkansas.gov

‡ https://www.healthy.arkansas.gov/programs-services/topics/rabies-animal-bites

Other diseases not named in this list may at any time be declared notifiable as the necessity and public health demand, and these regulations shall apply when so ordered by the Director.

TO REPORT DISEASES IN THE SECOND LIST ABOVE, PLEASE FAX THE DISEASE REPORT TO 1-501-661-2428

09/11/2023 Download the reporting form at: https://www.healthy.arkansas.gov/images/uploads/pdf/CommunicableDiseaseReportingForm.pdf

MISCELLANEOUS EXAMINATION FORM

ARKANSAS
DEPARTMENT OF HEALTH
PUBLIC HEALTH LABORATORY
201 South Monroe
Little Rock, AR 72205

Patient Information (Required fields)**

Patient's Last Name** | First Name** | Middle initial

Address**

City** | State** | Zip** | Co. of Residence**

DOB(mm/dd/yy)** | Sex** O Male O Female | Race** O White O Black or American African O American Indian/Native Alaska O Asian O Native Hawaiian/Pacific Islander O Other

Ethnicity** O Hispanic O Non-Hispanic O Unknown

Pregnant? O Yes O No O Unknown If Yes, Expected Date of Delivery? MM DD YY

Submitter Information (Required fields)**

Submitter ID or #** | Submitter's Name**

Submitter's Address**

City** | State** | Zip**

Phone | Contact

Fax

MISCELLANEOUS EXAMINATION

____ :____ Time Collected**

Date of Onset of Symptoms: ___ / ___ / _____
(required for Arboviral / Rickettsial tests) MM DD YYYY

Specimen:** _____

Examination Requested:** _____

Requestor Information (Required)

Requestor' s Name**

(Required)

____ /____ /____ Date Collected **

PURPOSE (Select One)

O Tuberculosis O Family Planning
O Diagnostic O Recheck specimen
O Contact O Cluster – Suspect
O Rash Present O Lesion Present
O Prenatal O Routine Physical

Notes: This form is for **PRIVATE** submitters only.
O = Select only ONE; ☐ = Check ALL that apply; ** = Required fields; For times, use Military format HH:MM

HL-06
REV. 06/01/2009

ARKANSAS
DEPARTMENT OF HEALTH
PUBLIC HEALTH LABORATORY
201 South Monroe
Little Rock, AR 72205

Mycobacteriology/Mycology Form

Patient Information (Required fields)**

Patient's Last Name** | First Name** | Middle initial

Address**

City** | State** | Zip** | Co. of Residence**

DOB(mm/dd/yy)** | Sex** O Male O Female | Race** O White O Black or American African O American Indian/Native Alaska O Asian O Native Hawaiian/Pacific Islander O Other

Ethnicity** O Hispanic O Non-Hispanic O Unknown

Pregnant? O Yes O No O Unknown If Yes, Expected Date of Delivery? MM DD YY

Submitter Information (Required fields)**

Submitter ID or #** | Submitter's Name**

Submitter's Address**

City** | State** | Zip**

Phone | Contact

Fax

MYCOBACTERIOLOGY / MYCOLOGY

____:____ Time Collected**

Test Requested
O Mycobacteriology Smear & Culture
O Mycobacteriology ID Referred Culture
O MTB/ RIF(requires physician approval)
O Mycology Culture
O Mycology ID Referred Culture

Specimen Type (Source of Specimen)
O Natural Sputum
O Urine
O Nebulized Sputum □ Bronchial Wash
O Other (specify): _____
Clinical Information _____

Requestor Information (Required)

Requestor' s Name** _____

(Required)

____/____/____ Date Collected **

PURPOSE (Select One)

O Tuberculosis O Family Planning
O Diagnostic O Recheck specimen
O Contact O Cluster – Suspect
O Rash Present O Lesion Present
O Prenatal O Routine Physical
O Lab Referral

Notes: This form is for **PRIVATE** submitters only.
O = Select only ONE; ☐ = Check ALL that apply; ** = Required fields; For times, use Military format HH:MM

ARKANSAS DEPARTMENT OF HEALTH SERVICES
PUBLIC HEALTH LABORATORY
201 South Monroe, Mail Slot H47
Little Rock, AR 72205 3867

Clinical Microbiology Form

(BT Clinical, Enterics, Special Micro, Parasitology)

Patient Information (** Required fields)

Patient's Last Name** | First Name** | Middle initial

Address**

City** | State** | Zip** | Co. of Residence**

DOB(mm/dd/yy)** | Sex** O Male O Female

Race** O White O Black or American African O American Indian/Native Alaska O Asian O Native Hawaiian/Pacific Islander O Other

Ethnicity** O Hispanic O Non-Hispanic O Unknown

Pregnant? O Yes O No O Unknown If Yes, Expected Date of Delivery? MM DD YY

Submitter Information (** Required fields)

Submitter ID or #** | Submitter's Name**

Submitter's Address**

City** | State** | Zip**

Phone | Contact

Fax

Requestor Information (Required)

Requestor's Name**

(Required)

_____/_____/_____Date Collected **

PURPOSE (Select One)

O Diagnostic O Confirmation

ENTERICS

__:____Time Collected**

Test Requested**
- ☐ Salmonella Shigella
- ☐ Campylobacter
- ☐ Shiga Toxin Producing
- ☐ E.coli Vibrio
- ☐ Yersinia
- ☐ Other _____

Specimen Source**
O Blood
O Feces/stool
O Urine
O Wound/Abscess
O Other:_____

Specimen Type**
O Isolate
O Stool
O Broth
O Other: _____

SPECIAL MICRO

____:____Time Collected**

Pure Cultures:
☐ Aerobe
Organism suspected:_____

☐ Anaerobe
Organism suspected:_____

ID and typing
- ☐ Haemophilus Influenzae
- ☐ Neisseria Meningitidis
- ☐ Other

Specimen Source**
O Blood
O Feces/stool
O Urine
O Wound/Abscess
O Other:_____

BT Clinical

__:____Time Collected**

BT Rule-Out**
O R/O Bacillus anthracis/cereus
O R/O Brucella
O R/O Burkholderia mallei/pseudomallei
O R/O Francisella tularensis
O R/O Yersinia pestis

Specimen Source**
O Blood
O Feces/stool
O Urine
O Wound/Abscess
O Other:

Parasitology

____:____Time Collected**

Test Requested**
O Ova and Parasites
O Identification
O Acid Fast Stain (Cryptosporidium, Cyclospora, Isospora)

Specimen Source**
O Feces
O Ectoparasite
O Worm
O Other specify):

Notes: This form is for **PRIVATE** submitters only.
O = Select only ONE; ☐ Check ALL that apply; ** = Required fields; For times, use Military format HH:MM REV. 03/30/2021

Rabies

The rabies test is a test conducted on animals. Human testing is not conducted at ADH and must be prearranged with the CDC prior to collection. Contact the Rabies Lab at 501-671-1429 or 501-661-2220 for instructions. The specimen (head of the animal) must be removed from the animal and stored at 35-46ºF. Removal of the head from the animal should be performed by veterinarian or competent personnel with rabies pre-exposure vaccination.

1. Ship the specimen on cold packs (provided with the rabies kit). For large animals, submit the whole brain only. Do not ship live animals.
2. Pack rabies specimens by placing the specimen in the leak-proof zip-lock bag.
3. Chill the bag containing the specimen prior to packaging.
4. Place in the Styrofoam bucket with at least two frozen cold packs. Do not use heat or dry ice.
5. Place Styrofoam lid on bucket
6. Include a completed Rabies Examination Form (HL-12) outside the Styrofoam bucket or use QR code to enter information (use QR code when available).
7. Seal the plastic shipping container with the plastic lid and place sealed bucket in the fiberboard box.
8. Place your return address label and the Arkansas Department of Health address label on the plastic shipping container before transporting.

   Send to:
   Arkansas Department of Health Public Health Laboratory
   201 S. Monroe St. Little Rock, AR 72205.
9. Deliver the specimen as soon as possible. If a person has been bitten, it is strongly recommended that someone bring the specimen to the laboratory. Deliver to Specimen Receiving on Palm Street, not front door on Monroe Street (342 S. Palm Street, Little Rock, AR 72205).

During normal business hours (8:00 to 4:30) on Monday through Thursday, specimens may be dropped off at your nearest local health unit for delivery to the laboratory by the next day. Specimens can also be delivered directly to the laboratory by UPS. Specimens that are collected on Fridays, weekends or holidays should be kept cool until the following Monday for shipment.

The laboratory must be notified of all specimens arriving after normal business hours and the method of shipment by calling 501-671-1429 or 501-661-2220.

Rabies buckets and boxes can be obtained from the nearest Local Health Unit. Specimens received that are decomposed, damaged, or without completed paperwork are rejected. Specimens collected after courier pick- up, weekends, or holidays must be kept cool until next courier pick-up.

See the Rabies Submission Form on the following pages.

Rabies Submission Form

Submitter Information		
Contact Name:	Type of Submitter: Veterinarian Animal Control Officer Police Officer Local Health Unit Owner of the animal being submitted or individual who found the animal Other (please specify): _____	
Address:	City:	State:
Zip Code:	County:	
Phone Number:	Submitter Email:	

Suspected Rabid Animal Information	
What species of animal is being submitted for testing? Bat Cat Cow Dog Ferret Fox Horse Racoon Skunk Other	
Date animal died:	How did the animal die? Found dead Natural causes Killed Unsure
Was the animal symptomatic? Yes No Unknown	
If yes, which symptoms did the animal exhibit? Mark all that apply. Difficulty swallowing Choking Sagging jaw Straining Restlessness and excitability Seizures	Unusual aggression Slobbering Loss of appetite Wandering from home Paralysis Other (please specify):_____
Was the submitted animal being held for rabies observation at the time of death? Yes No Unknown	
What is the rabies vaccination status of the animal being tested? Current Not current Unvaccinated Vaccination with unknown last date Unknown	
The animal submitted was: Pet/owned Stray/un-owned Wild Unknown	
If the animal was stray/un-owned, mark the age category of the animal: Juvenile Adult Unknown	
If the animal was a pet/owned, state the age of the animal:	
The name of animal being submitted:	
Are the submitter and the owner the same person? Yes No	

Exposure Information
Were other humans or animals exposed to the suspected rabid animal? Mark all that apply.

Human Animal Unknown
Briefly describe the circumstances of the exposures.
How many people were exposed? 1 2 3 More than 3 Unknown
Please list any additional human exposure notes.

1. Exposed Person Contact Information		
Name:		
Address:	City:	State:
Zip Code:	County:	
Phone Number:	Email:	
Type of Exposure: Bite (Any penetration of the skin by teeth) Other		
If other, what type of non-bite exposure? A scratch that broke the skin		

Saliva or neural tissue contacting an open wound or break in the skin.
Saliva or neural tissue contacting mucus membranes such as the eyes, nose, or mouth.
Other, please specify:

Has the exposed person received post exposure rabies treatment?
Yes No Unknown

If yes, please list the name of the hospital or clinic where treatment was given and date post exposure treatment began.

2. Exposed Person Contact Information

Name:		
Address:	City:	State:
Zip Code:	County:	
Phone Number:	Email:	

Type of Exposure: Bite (Any penetration of the skin by teeth) Other

If other, what type of non-bite exposure?
A scratch that broke the skin
Saliva or neural tissue contacting an open wound or break in the skin.
Saliva or neural tissue contacting mucus membranes such as the eyes, nose, or mouth.
Other, please specify:

Has the exposed person received post exposure rabies treatment?
Yes No Unknown

If yes, please list the name of the hospital or clinic where treatment was given and date post exposure treatment began.

3. Exposed Person Contact Information

Name:		
Address:	City:	State:
Zip Code:	County:	
Phone Number:	Email:	

Type of Exposure: Bite (Any penetration of the skin by teeth) Other

If other, what type of non-bite exposure?

A scratch that broke the skin
Saliva or neural tissue contacting an open wound or break in the skin.
Saliva or neural tissue contacting mucus membranes such as the eyes, nose, or mouth.
Other, please specify:

Has the exposed person received post exposure rabies treatment?
Yes No Unknown

If yes, please list the name of the hospital or clinic where treatment was given and date post exposure treatment began.

1. Animal Exposure Information

Were any domestic animals exposed to the tested animal?
Yes No Unsure

How many animals were exposed?
1 2 3 More than 3 Unsure

Species of animal exposed:
Cat Cow Dog Ferret Horse Other

Owner Name:		
Address:	City:	State:
Zip Code:	County:	

2. Animal Exposure Information

Species of animal exposed:
Cat Cow Dog Ferret Horse Other

Is the owner contact information the same as the previous animal?
Yes No (if no, please fill out owner information below)

Owner Name:		
Address:	City:	State:
Zip Code:	County:	

3. Animal Exposure Information

Species of animal exposed:
Cat Cow Dog Ferret Horse Other

Is the owner contact information the same as the previous animal?
Yes No (if no, please fill out owner information below)

Owner Name:		
Address:	City:	State:
Zip Code:	County:	

Test Menu

ASYMPTOMATIC BACTERIURIA FOR PRENATAL SCREENING

Synonyms	Bacteriuria
Patient Requirements	Collect on all pregnant women at 12-16 weeks gestation. Document if patient is allergic to penicillin.
Collection Requirements	Must be a clean-voided midstream urine collection. Do not freeze.
Specimen or Source	Urine
Volume	≥3 ml
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. Form (HL-06). See page 10.
Container	BD Vacutainer Urine Collection cup (for collection) and BD Vacutainer Plus C&S Preservative tube (for transport).
Storage Conditions	Room temperature after collection. Testing must begin within 48 hours of collection.
Shipping Requirements	Room temperature (62-77°F). Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned. **NOTE: Specimens must be received into the lab by 4:00pm on Wednesdays. Do not collect specimens on Thursdays or Fridays.**
Specimen Processing	Transfer urine from collection cup to transport tube.
Causes for Rejection	Specimens not collected from approved site, specimens not in approved collection kits, specimens not received within 48 hours of collection, specimens frozen or shipped cold, and expired BD vacutainer supplies. See 'Rejection Information' for other causes for rejection (page 7).
Normal Values	Negative < 100,000 colonies/ml
Methods	Standard ASM reference methodology
Turnaround Time	7 days
Clinical Significance and Interpretation	Possible harmful impact for patient and developing fetus.

BACTERIAL/CONFIRMATION OF ISOLATES

(REQUIRED SUBMISSION BY ADH EPIDEMIOLOGY)

Synonyms	*Neisseria meningitidis, Salmonella sp., Enterotoxigenic E. coli, Listeria, Staphylococcus aureus* vancomycin resistant/intermediate, *Campylobacter sp., Shigella sp., Strep pneumo* for subtyping (invasive), *Haemophilus influenzae* (invasive)
Patient Requirements	N/A
Collection Requirements	Active bacterial isolate.
Specimen or Source	Varies by isolate.
Volume	Actively growing culture.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Test Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Media appropriate for organism survival.
Storage Conditions	Room temperature (62-77°F) in atmosphere suitable for survival of isolate.
Shipping Requirements	Room temperature (62-77°F) in atmosphere suitable for survival of isolate. Ship as infectious substance by ADH ground courier, certified overnight mail, submitter courier, or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Indicate source of organism, results of any test performed, suspected infection, and any other pertinent information.
Causes for Rejection	Leaking/broken container. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	N/A
Methods	Standard reference procedures for bacterial identification/confirmation.
Turnaround Time	Turnaround time is isolate dependent. It may require referral to CDC.
Clinical Significance and Interpretation	Varies by isolate identified.
Comments	N/A

BIOFIRE FILMARRAY GASTROENTEROLOGY PANEL

Synonyms	Biofire Filmarray Gastroenterology Panel, BioFire, GI Panel
Patient Requirements	None
Collection Requirements	**Collect 2 stool specimens**, one in Cary Blair transport media and one in a non-preservative container. Place container inside of biohazard bag in case of leakage.
Specimen or Source	Stool
Volume	Minimum 0.2 ml (200 ul)
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. Form (HL-06). See page 10.
Container	Sterile container with Cary Blair and sterile container with non-preservative.
Storage Conditions	Store specimen at Room Temp. 15-25 C for up to 4 days
Shipping Requirements	Ship at room temperature. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	NA
Causes for Rejection	Unlabeled specimen, incomplete form, expired collection container, specimen that has leaked, or specimen that is greater than 4 days after collection.
Normal Values	Negative
Methods	Biofire Filmarray
Turnaround Time	Same day from receipt if received before 3 pm. Turnaround may be extended if there is need to repeat the test.
Clinical Significance and Interpretation	A positive result could indicate any of 20 possible enteric pathogens.
Comments	Test should be requested for acute diagnosis only and not used as a follow-up test after treatment.

BIOFIRE FILMARRAY RESPIRATORY PANEL

Synonyms	Biofire Filmarray Respiratory Panel, BioFire, RP Panel
Patient Requirements	None
Collection Requirements	Collect a nasopharyngeal swab and place in viral transport media.
Specimen or Source	Nasopharyngeal swab
Volume	Minimum of 300uL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. Form (HL-06). See page 10.
Container	Nasopharyngeal swab in Viral Transport Medium
Storage Conditions	May store in refrigerator 2-8 C up to 3 days or room temperature up to 4 hours.
Shipping Requirements	Ship at room temperature. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	NA
Causes for Rejection	Unlabeled specimen, incomplete form, expired collection container, specimen that has leaked, or specimen that is greater than 3 days old.
Normal Values	Negative
Methods	Biofire Filmarray
Turnaround Time	Same day from receipt if received before 3 PM. Turnaround may be extended if there is need to repeat the test.
Clinical Significance and Interpretation	A positive result could indicate an infection with any of 20 possible respiratory pathogens.
Comments	A positive influenza specimen will be confirmed by RT-PCR performed at the ADH state lab for typing and subtyping.

BLOOD TYPE AND ANTIBODY SCREEN

Synonyms	Type/Screen
Patient Requirements	N/A
Collection Requirements	Blood collected in purple top (ETDA) is preferred, or red top (unseparated). Label specimen with the patient's full name and barcode. If LIMS is down, label with patient's name and date of birth. Ensure tubes are filled.
Specimen or Source	Whole blood
Volume	Full tube (7 mL or 3 mL)
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. Form (HL-06). See page 10.
Container	EDTA Tube (Purple top), Red top tube
Storage Conditions	At 35-46°F in: Purple top up to 7 days. Do not freeze. Red top up to 14 days. Do not freeze.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	If there is a delay in testing, refrigerate specimen at 35-46°F.
Causes for Rejection	Hemolysis, specimen older than 7 days, specimen not cold when received, and quantity insufficient. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	N/A
Methods	Tube, Solid Phase System
Turnaround Time	3 days
Clinical Significance and Interpretation	Rh negative patient must be monitored for any antibody that may cause hemolytic disease of the newborn. Rh negative patients are given Rhogam at 28- 32 weeks into the pregnancy.
Comments	Positive antibody screen result must be reported to Perinatal Health. Any antibody screen positive patient needs to be referred to a private MD.

BRUCELLA ABORTUS SEROLOGY

Synonyms	*B. Abortus*
Patient Requirements	N/A
Collection Requirements	Include date of onset.
Specimen or Source	Serum only
Volume	1 mL of serum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Miscellaneous Form (HL-06) and include date of onset. See page 10.
Container	Collect in SST and centrifuge.
Storage Conditions	Refrigerate (35-46°F) serum in plastic tube for the first 72 hours.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate specimens off the clot before sending to Public Health Laboratory. Transfer serum into a plastic tube.
Causes for Rejection	Too old, not shipped at correct temperature, and hemolyzed.
Normal Values	Negative
Methods	Sent to CDC.
Turnaround Time	4 – 6 weeks
Clinical Significance and Interpretation	Confirmatory tube test will be performed. Titer of > 1:80 indicates exposure at some undetermined time.

CAMPYLOBACTER CONFIRMATION

Synonyms	CAMPY
Patient Requirements	N/A
Collection Requirements	Stool (feces) collected in Cary-Blair stool transport media. Pure isolate, preferred.
Specimen or Source	Any source. Submit preserved stool or pure isolate.
Volume	For Cary-Blair – Fill container with feces until liquid is at line on vial. Mix well.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Test Requisition Requirements	Complete test request in Common Customer under Clinical Microbiology section or use of Clinical Specimen Submission Downtime form (HL-360).
Container	Cary-Blair or any media appropriate for the growth of the organism with gas pack.
Storage Conditions	Specimens should be stored and shipped at room temperature (62-77˚F). in microaerophilic atmosphere suitable for survival of isolate.
Shipping Requirements	Clary-Blair kits must be received and set up within 4 days of collection. Ship as infectious substance by ADH ground courier, certified overnight mail, submitter courier, or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Leaking specimens, specimens no in Cary-Blair, specimens not received within 4 days of collection. Specimen not received in proper atmosphere.
Normal Values	Negative for Campylobacter
Methods	Standard reference methods for organism isolation and identification.
Turnaround Time	Final Report- 7 business days. Possible referral to CDC.
Clinical Significance and Interpretation	N/A indicates exposure at some undetermined time.

CONGENITAL ADRENAL HYPERPLASIA 2nd TIER TESTING

Synonyms	CAH
Patient Requirements	N/A
Collection Requirements	The blood spots are collected as described in NBS protocol. See page 6.
Specimen or Source	Dried blood spot
Volume	The optimal amount of specimen that fills the blood spot uniformly.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Internal second tier test for NBS.
Container	FDA approved filter paper, form HL-11
Storage Conditions	Room temperature, returned to NBS immediately after processing.
Shipping Requirements	Room temperature, in-house transfer.
Specimen Processing	According to NBS protocol
Causes for Rejection	The criteria for unacceptable specimens are described in NBS protocol. See page 6.
Normal Values	Reportable range: 17-OHP: 4.5 – 500ng/mL Cortisol: 10.8 – 500ng/mL Androstenedione: 1.7 – 500ng/mL. will provide a pseudo ratio if out of range.
Methods	17α-Hydroxyprogesterone in Newborn Blood Spots by LC-MS/MS
Turnaround Time	Within 3 working days of receipt.
Clinical Significance and Interpretation	N/A
Comments	CAH <1.4 as reference; will be flagged if ≥ 17-OHP <9.4 as reference; will be flagged if ≥

CULTURE, ROUTINE FECES

Synonyms	Routine enteric pathogen isolation – includes *Salmonella, Shigella*, STEC, and *Campylobacter*
Patient Requirements	Should be symptomatic with diarrhea
Collection Requirements	Collect feces in MCC C&S Medium or other comparable Cary-Blair stool transport media. Fill container with feces until liquid is at line on vial. Mix well. (Follow kit instructions.) Rectal Swab **(children only)**: Collect on a culturette with Cary-Blair transport media. Collect according to instructions on package. Label container with patient's name, date of birth, and date of collection.
Specimen or Source	Feces
Volume	Fill container with feces until liquid is at line on vial. Mix well. (Follow kit instructions.)
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Cary-Blair culture vial or MCC Transport kits supplied by ADH Central Supply.
Storage Conditions	Room temperature (62-77°F). Specimen must be received within 4 days of collection. DO NOT REFRIGERATE.
Shipping Requirements	Room temperature (62-77°F). Specimen must be shipped by courier, certified overnight mail, submitter courier, or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned. **NOTE: Specimens must be received into the lab by 4:00pm on Wednesdays. Do not collect specimens on Thursdays or Fridays.**
Specimen Processing	Fill to line on container and mix well.
Causes for Rejection	Overfilled, leaking/broken containers, multiple specimens (more than 1 in a 24-hour period), dry specimen, and swab in Cary- Blair transport vial, expired transport medium. Diapers are not acceptable.
Normal Values	Negative for Enteric Pathogens
Methods	Standard reference methods for above organism isolation and identification.
Turnaround Time	Negative results within 72 hours. Results depend on organism isolated.
Clinical Significance and Interpretation	Varies by isolate identified.
Comments	N/A

CULTURE, VIBRIO

Synonyms	Stool culture for Vibrio
Patient Requirements	N/A
Collection Requirements	Collect stool in MCC C&S Medium or other comparable Cary-Blair stool transport media. Fill container with stool until liquid is at line on vial. Mix well. (Follow kit instructions.) Rectal Swab **(children only)**: Collect on a culturette with transport media. Collect according to instructions on package. Label container with patient's name, date of birth, and date of collection.
Specimen or Source	Feces
Volume	Fill container with stool until liquid is at line on vial. Mix well. Follow kit instructions.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Cary-Blair culture vial or MCC transport vial only kits supplied.
Storage Conditions	Room temperature (62-77°F). Specimen must be received within 4 days of collection. DO NOT REFRIGERATE.
Shipping Requirements	Room temperature (62-77°F). Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned. **NOTE: Specimens must be received into the lab by 4:00pm on Wednesdays. Do not collect specimens on Thursdays or Fridays.**
Specimen Processing	Fill to line on vial, label with patient's name and date of collection.
Causes for Rejection	Leaking/broken containers, multiple specimens (more than 1 in a 24-hour period), dry specimen, and swab in Cary-Blair transport vial. Diapers are not acceptable.
Normal Values	Negative for Vibrio.
Methods	Standard Reference methods for culture and identification of Vibrio.
Turnaround Time	Results by 7 days, unless referred to CDC.
Clinical Significance and Interpretation	Possible cause of disease process.
Comments	N/A

CULTURE, YERSINIA

Synonyms	Stool culture for Yersinia
Patient Requirements	N/A
Collection Requirements	Collect stool in MCC C&S Medium or other comparable Cary-Blair stool transport media. Fill container with stool until liquid is at line on vial. Mix well. (Follow kit instructions.) Rectal Swab (Children only) - Collect on a culturette with Cary-Blair transport media. Collect according to instructions on package. Make sure transport media ampoule is broken. Label container with patient's name, date of birth, and date of collection.
Specimen or Source	Feces
Volume	Fill container with stool until liquid is at line on vial. Mix well. Follow kit instructions.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Cary-Blair vial or MCC transport vial only kits supplied.
Storage Conditions	Room temperature (62-77°). Specimen must be received within 4 days of collection. DO NOT REFRIGERATE.
Shipping Requirements	Room temperature (62-77°). Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned. **NOTE: Specimens must be received into the lab by 4:00pm on Wednesdays. Do not collect specimens on Thursdays or Fridays.**
Specimen Processing	Fill to line on vial. Label with patient's name and date of collection.
Causes for Rejection	Leaking/broken containers, multiple specimens (more than 1 in a 24-hour period), dry specimen, and swab in Cary-Blair transport vial. Diapers are not acceptable.
Normal Values	Negative for Yersinia
Methods	Standard Reference methods for culture of Yersinia.
Turnaround Time	Results by 7 days, unless referred to CDC.
Clinical Significance and Interpretation	Possible cause of disease process.
Comments	N/A

CYSTIC FIBROSIS 2nd TIER TESTING

Synonyms	CFTR
Patient Requirements	N/A
Collection Requirements	The blood spots are collected as described in NBS protocol. See page 6.
Specimen or Source	Dried blood spot
Volume	The optimal amount of specimen that fills the blood spot uniformly.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Internal second tier test for NBS.
Container	FDA approved filter paper, form HL-11
Storage Conditions	Room temperature, returned to NBS immediately after processing.
Shipping Requirements	Room temperature, in-house transfer.
Specimen Processing	According to NBS protocol
Causes for Rejection	The criteria for unacceptable specimens are described in NBS protocol. See page 6. Examples: insufficient quantity, incomplete form, filter paper expired
Normal Values	No mutation detected
Methods	DNA extraction, xTAG Cystic Fribrosis CFTR 60 KH v2
Turnaround Time	5 working days
Clinical Significance and Interpretation	Homozygous mutation cells, heterozygous cells, variant cells
Comments	N/A

EHRLICHIA CHAFFEENSIS

Synonyms	*E. Chaffeenis, Ehrlichia*, EHR
Patient Requirements	N/A
Collection Requirements	Collect in red top or SST. If collected in red top, separate serum into a plastic screw-cap serum tube.
Specimen or Source	Serum only
Volume	1 mL of serum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Use MISC. form (HL-06) and include date of onset. See page 10.
Container	Collect in SST and centrifuge.
Storage Conditions	Store in plastic tube at 35-46°F for up to 30 days. After 30 days, store at less than -4°F.
Shipping Requirements	Ship cold (35-46°F) with cold packs or with dry ice if frozen. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate specimens off the clot before sending to Public Health Laboratory.
Causes for Rejection	Too old, not shipped at correct temperature, or hemolyzed.
Normal Values	Titer < 32
Methods	Sent to CDC.
Turnaround Time	Sent to CDC (4-6 weeks).
Clinical Significance and Interpretation	Titer < 32. No significant antibodies were observed. 2nd specimen requested Titer > 64. Titer indicates exposure at some undetermined time.
Comments	Ehrlichia, Rocky Mountain Spotted Fever, and F. tularensis are all performed on the specimen as part of the tickborne disease panel.

FRANCISELLA TULARENSIS SEROLOGY

Synonyms	*F. tularensis*, part of tickborne disease panel.
Patient Requirements	N/A
Collection Requirements	Collect in red top or SST.
Specimen or Source	Serum only.
Volume	1 mL of serum.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. test form (HL-06), on page 10.
Container	Collect in red top or SST. Centrifuge. If collected in red top, separate serum into a plastic screw-cap serum tube.
Storage Conditions	Refrigerate (35-46°F) serum in plastic tube for the first 72 hours. After 72 hours, store at <-4°F.
Shipping Requirements	Ship cold (35-46°F) with cold packs, or dry ice if frozen. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate specimens off the clot before sending to Public Health Laboratory. Include a completed Miscellaneous Examination Form. Include date of onset.
Causes for Rejection	Too old, not shipped at correct temperature, hemolyzed.
Normal Values	Negative
Methods	Febrile agglutination (CDC send out)
Turnaround Time	4-6 weeks.
Clinical Significance and Interpretation	Presence of antibodies indicates prior exposure to *F. tularensis*. Confirmatory tube test will be performed. Titer of > 1:160 indicates exposure at some undetermined time.
Comments	Ehrlichia, Rocky Mountain Spotted Fever, and F. tularensis are all performed on the specimen as part of the tickborne disease panel.

FUNGUS (MYCOLOGY), CLINICAL SPECIMEN

Synonyms	Definitive identification of yeast and molds
Patient Requirements	N/A
Collection Requirements	Collect a series of three single, early morning specimens on successive days. Transport to Laboratory as quickly as possible. Private submitters must submit completed test requisition. See page 12.
Specimen or Source	Lung secretions, extrapulmonary
Volume	5-10 mL each
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete TB/Mycology test request form. See page 12.
Container	Sterile, one-use plastic disposable container. Label specimen with the patient's full name and hospital number (where applicable).
Storage Conditions	Refrigerate specimen (35-46°F) until tested.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Leaked in transit, no name on tube, and specimen received more than seven days from collection date.
Normal Values	No fungi seen.
Methods	CFW smear, culture, biochemical, and MALDI-TOF. Specimens are inoculated onto culture plates, and identifications are made by morphology, biochemicals, and LPcB.
Turnaround Time	4-8 weeks
Clinical Significance and Interpretation	The presence of hyphae or cells in a smear may be evidence of a disease. Culture will confirm an identification of a specific fungus. Molds that demonstrate growth, but no spores after 6 weeks, are reported as saprophytic molds. Molds that cannot be speciated are reported with genus only. Clinical correlation required.
Comments	N/A

FUNGUS (MYCOLOGY), REFERRED SPECIMEN

Synonyms	Mycology ID, Mycology Reference
Patient Requirements	N/A
Collection Requirements	Solid media appropriate for culture.
Specimen or Source	Isolates from culture.
Volume	Viable isolate.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Test Requisition Requirements	Complete test request in Common Customer or use Clinical Specimen Submission Downtime Form (HL-360).
Container	Solid media. If not from a Local Health Unit, label specimen with the patient's full name, hospital number (where applicable), and date of birth.
Storage Conditions	Transport to Laboratory as soon as possible. Incubate at room temperature until tested.
Shipping Requirements	Room temperature (62-77°F). Indicate on outside of the package “Mycology” or “Fungal”. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Specimens may be tested as soon as growth is visible. Growth can be removed with a 1 µl disposable plastic loop or sterile cotton- tipped applicator.
Causes for Rejection	No growth seen on media; subcultures inoculated by placing a piece of Agar on media. See ‘Rejection Information’ for other causes (Page 7).
Normal Values	N/A
Methods	MALDI-TOF, microscopy/ morphology
Turnaround Time	6-8 weeks
Clinical Significance and Interpretation	Suspected Blastomyces dermatitidis, Histoplasma capsulation, and Coccidiodes species will need to be sent to CDC for identification.

GONORRHEA/CHLAMYDIA SCREENING

Synonyms	GC/CT screen
Patient Requirements	**Must meet HIV/STD program requirements.**
Collection Requirements	Use powderless gloves when handling collection container.
Specimen or Source	Vaginal swab specimen from female. Urine specimens from male. Urine specimens from female (collected only if the APTIMA multitest Swab Collection Kit is not available). Pharyngeal specimens (using Aptima multitest swab collection kit—same collection kit used for vaginal specimens). Rectal specimens (using Aptima multitest swab collection kit—same collection kit used for vaginal specimens).
Volume	Fill urine containers between fill lines on container.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. test request form (see page 10) or contact the Public Health Lab for a request form.
Container	Label Aptima vaginal swab or urine collection container with the patient's full name and barcode.
Storage Conditions	Urine/swab stored at room temperature. Urine stored at room temperature up to 30 days. Vaginal swab stored at room temperature up to 60 days.
Shipping Requirements	Ship at room temperature. See page 7. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Any specimen collection site other than indicated for specimen or source, name not on specimen or request form, wrong collection device, expired collection kit, overfilled or under filled urine containers, shaft of swab not broken at score (too long for testing) and no swab in container.
Normal Values	Negative
Methods	GenProbe Aptima Combo 2 Assay On Tigris DTS System
Turnaround Time	7 business days
Clinical Significance and Interpretation	Indicates presence of Chlamydia trachomatis or Neisseria gonorrhea. Diagnosis should not be based on results of single laboratory tests. If the laboratory test is presumed negative and clinical symptoms indicate infection, collect specimens for further testing.

Comments	Results for gonorrhea/chlamydia testing are reported as follows: Positive results for gonorrhea are reported as “Pos for N. gonorrhea rRNA.” Positive results for chlamydia are reported as “Pos for C. trachomatis rRNA.” Negative results for gonorrhea are reported as “Presumed negative for N. gonorrhea rRNA.” Negative results for chlamydia are reported as “Presumed negative for C. trachomatis rRNA.” **Note: Clinical diagnosis and therapy should not be based solely on this molecular assay. The result should be considered in conjunction with clinical information and/or additional tests.** Indeterminate results are reported when two “equivocal” results have been obtained. Invalid results are reported when two or three invalid results have been obtained. In either case, a valid result was not obtained, and the specimen must be recollected.

GROUP B STREPTOCOCCUS (GBS) FOR PRENATAL SCREENING

Synonyms	Group B *Streptococcus*
Patient Requirements	Collect on all prenatal women at 36-37 weeks gestation unless patient has had GBS bacteriuria this pregnancy or a previous infant with invasive GBS disease. Document if patient is allergic to penicillin.
Collection Requirements	Must be a vaginal/ rectal collection process. Refrigerate immediately.
Specimen or Source	Vaginal/Rectal
Volume	N/A
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete test request in Common Customer or in downtime use Clinical Specimen Submission Downtime Form (HL-360).
Container	Culture transport swab (kits supplied by ADH). No charcoal or gel.
Storage Conditions	Refrigerate (35-46°F) after collection. Must be received and set up within 4 days of collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Vaginal/rectal swab with supplied kit. **Refrigerate immediately.** Complete request in common customer.
Causes for Rejection	Specimens not collected from approved site, specimens not in approved collection kits, specimens not received within 4 days of collection, specimen not refrigerated or shipped cold, ***and*** kit expired. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	Negative
Methods	Standard CDC reference methodology
Turnaround Time	Positives within 24-72 hours. Negatives available minimum 48 hours; positives with penicillin allergy minimum 72 hours.
Clinical Significance and Interpretation	Possible cause of disease process
Comments	Specimens collected Monday and Tuesday must be received by 4:00pm on Wednesday. Samples collected on Thursday and Friday (must be collected on those days) are held for processing on Monday, providing the 4-day limit is not exceeded. DO NOT COLLECT ON WEDNESDAYS. Exceptions are holidays.

HEMOGLOBIN A1c

Synonyms	HbA1c, glycohemoglobin, glycated hemoglobin
Patient Requirements	None
Collection Requirements	EDTA (purple-top tube)
Specimen or Source	Whole blood, collected by venipuncture
Volume	3 mL, minimum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete test request in Common Customer or in downtime use Clinical Specimen Submission Downtime Form (HL-360). Indicate the date and time of collection on the test requisition.
Container	Collect in EDTA, mix thoroughly.
Storage Conditions	Refrigerate at 35-46°F up to 7 days.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Invert tube 5 times to ensure mixing of EDTA and blood.
Causes for Rejection	Old, not shipped on cold packs or warm when received, samples exceed 7 days, not collected in the appropriate container, collection container not within expiration date, and collection container not marked with patient identifiers. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	HbA1c <5.7%
Method	High performance liquid chromatography (HPLC)
Turnaround Time	5 business days
Clinical Significance and Interpretation	Results 5.7% and greater may be indicative of pre- diabetes or diabetes. We recommend the patient to follow up with their primary care physician for further evaluation. <5.7% = Normal 5.7% - 6.4% = Prediabetes ≥6.5% = Diabetes
Comments	The presence of a hemoglobin variant may invalidate the HbA1c result.

HEMOGLOBINOPATHIES

Synonyms	Sickle cell disease, sickle cell trait, hemoglobin disorders
Patient Requirements	Adult or child older than 6 months, not recently transfused
Collection Requirements	Collect on filter paper card.
Specimen or Source	Fingerstick
Volume	A large drop sufficient to soak through to completely fill a preprinted circle on filter paper. Fill all spots.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete test requisition. See page 11.
Container	Filter paper card, provided by Laboratory.
Storage Conditions	Store refrigerated (35-46°F) if delivery to Laboratory is delayed.
Shipping Requirements	Room Temperature (62-77°F). Place in paper envelope labeled “adult sickle cell specimen” and send to Laboratory. Do not place in plastic bag or on or near ice packs. Specimen must be received in Laboratory within 14 days after collection.
Specimen Processing	Allow blood specimen to dry in horizontal position for at least 3 hours at room temperature (18-25°C), not in direct light. Do not heat or stack the specimens during the drying process.
Causes for Rejection	Insufficient quantity of blood in circles, specimen layered from repeat blood applications, specimen leached out or contaminated, specimen more than 14 days old, and no name on specimen.
Normal Values	Hemoglobin A
Reference Normal	Hemoglobin A
Methods	Isoelectric focusing (IEF)
Turnaround Time	7 business days
Clinical Significance and Interpretation	N/A
Comments	Blood transfusion prior to specimen collection may make interpretation inconsistent.

HEPATITIS A IgM ANTIBODY (HAV IgM)

Synonyms	Hepatitis A
Patient Requirements	N/A
Collection Requirements	Blood collected in purple top tube (EDTA tube)
Specimen or Source	Whole blood
Volume	Fill tube
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	EDTA collection tube (purple top tube)
Storage Conditions	35-46°F up to 7 days after collection
Shipping Requirements	Ship cold (35-46°F) with cold packs. **Specimens must have an orange tag on the shipping container.** Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Mix properly
Causes for Rejection	Old, not shipped on cold packs, warm when received, and quantity insufficient.
Normal Values	Negative, not previously infected with HAV
Method	Enzyme Immunoassay
Turnaround Time	4 business days
Clinical Significance and Interpretation	Acute HAV
Comments	Presence of HAV IgM antibody indicates acute HAV.

HEPATITIS B IgM CORE ANTIBODY (HBcIgM)

Synonyms	Hepatitis B
Patient Requirements	N/A
Collection Requirements	SST. Ensure tube is filled. See pages 4 and 5.
Specimen or Source	Serum, NOT cadaver or heat inactivated.
Volume	3 mL serum separated from clot within 2 hours after collection
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen.
Container	Collect in SST. Centrifuge. **Separate serum from cells within 2 hours after collection.**
Storage Conditions	Refrigerate 35-46°F up to 7 days after collection
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping.
Causes for Rejection	Old, hemolyzed, lipemic, not shipped on cold packs or warm when received, shipped on cells, or containing particulate matter, quantity insufficient, and incomplete centrifugation.
Normal Values	Negative, not previously infected with HBV
Method	Enzyme Immunoassay
Turnaround Time	4 business days
Clinical Significance and Interpretation	Acute HBV
Comments	Presence of HBsAg and Total HBcAb indicates the need to investigate for chronic persistent or aggressive HBV. Presence of HBcIgM antibody indicates an acute case of HBV. Presence of HBsAb with or without presence of Total HBcAb indicates immunity to HBV.

HEPATITIS B SURFACE ANTIBODY (HBsAb)

Synonyms	Hepatitis B
Patient Requirements	N/A
Collection Requirements	SST. Ensure tube is filled. See pages 4 and 5.
Specimen or Source	Serum, NOT cadaver or heat inactivated
Volume	3 mL serum separated from clot within 2 hours after collection
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	Collect in SST. Centrifuge. **Separate serum from cells within 2 hours after collection.**
Storage Conditions	Refrigerate (35-46°F) up to 7 days after collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping.
Causes for Rejection	Old, hemolyzed, lipemic, not shipped on cold packs or warm when received, shipped on cells, or containing particulate matter, quantity insufficient, and incomplete centrifugation.
Normal Values	Negative, not previously infected with HBV
Method	Enzyme Immunoassay
Turnaround Time	6 days
Clinical Significance and Interpretation	Immunity to HBV or previous exposure to HBV.
Comments	Presence of HBsAg and Total HBcAb indicates the need to investigate for chronic persistent or aggressive HBV. Presence of HBcIgM antibody indicates an acute case of HBV. Presence of HBsAb with or without presence of Total HBcAb indicates immunity to HBV.

HEPATITIS B SURFACE ANTIGEN (HBsAg)

Synonyms	Hepatitis B
Patient Requirements	N/A
Collection Requirements	SST. Ensure tube is filled. See pages 4 and 5.
Specimen or Source	Serum, NOT cadaver or heat inactivated
Volume	3 mL serum separated from clot within 2 hours after collection
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	Collect in SST. Centrifuge. **Separate serum from cells within 2 hours after collection.**
Storage Conditions	Refrigerate (35-46°F) up to 7 days after collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping.
Causes for Rejection	Old, hemolyzed, lipemic, not shipped on cold packs or warm when received, shipped on cells, or containing particulate matter, quantity insufficient, and incomplete centrifugation.
Normal Values	Negative, not previously infected with HBV
Method	Enzyme Immunoassay
Turnaround Time	6 business days
Clinical Significance and Interpretation	Acute or chronic infection of HBV
Comments	Presence of HBsAg and Total HBcAb indicates the need to investigate for chronic persistent or aggressive HBV. Presence of HBcIgM antibody indicates an acute case of HBV. Presence of HBsAb with or without presence of Total HBcAb indicates immunity to HBV.

HEPATITIS B TOTAL CORE ANTIBODY (TOTAL HBcAb)

Synonyms	Hepatitis B
Patient Requirements	N/A
Collection Requirements	SST. Ensure tube is filled. See pages 4 and 5.
Specimen or Source	Serum, NOT cadaver or heat inactivated
Volume	3 mL serum separated from clot within 2 hours after collection
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	Collect in SST. Centrifuge. **Separate serum from cells within 2 hours after collection.**
Storage Conditions	Refrigerate (35-46°F) up to 7 days after collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping.
Causes for Rejection	Old, hemolyzed, lipemic, not shipped on cold packs or warm when received, shipped on cells, or containing particulate matter, quantity insufficient, and incomplete centrifugation.
Normal Values	Negative, not previously infected with HBV
Method	Enzyme Immunoassay
Turnaround Time	4 business days
Clinical Significance and Interpretation	Immunity or chronic HBV
Comments	Presence of HBsAg and Total HBcAb indicates the need to investigatepregna for chronic persistent or aggressive HBV. Presence of HBcIgM antibody indicates an acute case of HBV. Presence of HBsAb with or without presence of Total HBcAb indicates immunity to HBV.

HEPATITIS C (HCV) SCREENING & CONFIRMATION TEST

Synonyms	Hepatitis C, HCV
Patient Requirements	All adults aged 18-79, one-time testing for HCV. Persons with continued risk factors may be offered subsequent testing.
Collection Requirements	SST, Ensure tube is filled. See page 4 and page 5.
Specimen or Source	Serum
Volume	3 mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	Collect in SST. Centrifuge. **Separate serum or plasma from cells within 2 hours after collection**.
Storage Conditions	Refrigerate (35-46°F) up to 5 days.
Shipping Requirements	Ship cold (35-46°F) with cold packs the same day of collection or the following day. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping.
Causes for Rejection	Old, hemolyzed, lipemic, not shipped on cold packs or warm when received, shipped on cells, or containing particulate matter, quantity insufficient, incomplete centrifugation, and samples more than 5 days (for confirmatory testing).
Normal Values	Nonreactive
Method	Enzyme Immunoassay and HCV Quantitative RNA Assay
Turnaround Time	6 business days for enzyme immunoassay and additional 7 business days for HCV Quantitative RNA confirmation test
Clinical Significance and Interpretation	Reactive EIA results indicate recent or past infection of Hepatitis C. <10 Detected HCV RNA detected but not quantified. HCV RNA concentration is below the Lower Limit of Quantification of the assay. Follow- testing is recommended as per national HCV guidelines for viral load assessment, and results must be interpreted within context of all relevant clinical and laboratory findings for diagnosis of HCV. 10 to 25 HCV RNA detected and quantified. HCV RNA concentration is within linear range of the assay ≥ 10 IU/mL and < 25 IU/mL. Provide guidance for treatment and care based on current national HCV treatment guidelines for diagnosis of HCV and viral load assessment. 25 to 100,000,000 HCV RNA is detected and quantified. HCV RNA

	concentration is within the linear range of 25 to 100,000,000 IU/mL. Current HCV Infection. Provide guidance for treatment and care based on current national HCV treatment guidelines for diagnosis and viral load assessment of HCV. >100,000,000 HCV RNA is detected above the Upper Limit of Quantification. Current HCV Infection. For HCV Diagnosis and Viral Load Assessment, provide guidance for treatment and care based on current national HCV treatment guidelines.
Comments	Maternal antibodies may persist in children less than 18 months of age. It is essential that the serum is stored properly and delivered in a timely manner for the integrity of the HCV RNA in the specimens to be tested.

HUMAN IMMUNODEFICIENCY VIRUS (HIV)

Synonyms	HIV 1-2 + O antibody, p24 antigen for HIV-1
Patient Requirements	NA
Collection Requirements	SST. Ensure tube is filled. See page 4 and page 5. **Large SST tubes are not accepted for testing and will be rejected**.
Specimen or Source	Serum
Volume	2 mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters should send MISC. form (HL-06) with specimen. See page 10.
Container	Collect in SST. Centrifuge.
Storage Conditions	Refrigerate (35-46°F) for up to 5 days after collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from cells.
Causes for Rejection	Specimen too old, quantity insufficient, and incomplete centrifugation.
Normal Values	Nonreactive
Methods	Combo Antigen Antibody ELISA for screening, Geenius HIV-1/2 Supplemental Assay for confirmation.
Turnaround Time	4 business days if nonreactive, 6 business days if ELISA is reactive.
Clinical Significance and Interpretation	The presence of HIV antibodies or antigen indicates prior exposure to HIV. Results must be confirmed with the Geenius HIV-1 / 2 Supplemental Assay.
Comments	If ELISA is reactive, Geenius HIV-1 / 2 Supplemental Assay will be performed. Specimens tested for confirmation by the Geenius assay with HIV negative or HIV-1 indeterminate results can be forwarded to another facility for HIV-1 nucleic acid testing (NAT) testing.

ISOLATE IDENTIFICATION, ANAEROBIC AND AEROBIC/CONFIRMATION

Synonyms	Organism identification
Patient Requirements	N/A
Collection Requirements	Pure isolate on appropriate media for growth. Contact PHL for questions about appropriate media.
Specimen or Source	Any source; actively growing pure isolate
Volume	N/A
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete MISC. form (HL-06) on Clinical Microbiology Form. See page 13.
Container	Any media/atmosphere appropriate for growth of organism.
Storage Conditions	Room temperature (62-77°F) **IN ATMOSPHERE APPROPIATE FOR ORGANISM.** Tube/plate with media appropriate for organism survival.
Shipping Requirements	Room temperature (62-77°F) **In Atmosphere Appropriate For Organism**. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Indicate source of organism, results of any tests performed, suspected infection and any other pertinent information.
Causes for Rejection	Leaking Container.
Normal Values	N/A
Method	Standard reference procedures for bacterial identification/confirmation
Availability/Turnaround Time	Turnaround time is isolate dependent; may require referral to CDC.
Clinical Significance and Interpretation	Possible cause of disease process
Comments	Contact ADH Clinical Microbiology Laboratory.

MEASLES VIRUS REAL-TIME PCR ASSAY

Synonyms	Rubeola, MeV
Patient Requirements	Detection of measles RNA by RT-PCR is most successful when specimens are collected during the first four days of rash onset. Viral RNA may not be detectable in specimens that have been collected, stored, or transported improperly.
Collection Requirements	Specimens should be collected on swabs with a synthetic tip, such as nylon, polyester, or Dacron. Do not collect with cotton, calcium alginate, or wooden swabs, as these may contain PCR-inhibiting substances.
Specimen or Source	Throat swab or Nasopharyngeal (NP) swab
Volume	NP swab: place swab in 2-3 mL VTM Throat swab: place swab in 2-3 mL VTM
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	MISC. form (HL-06). See page 10.
Container	Standard viral transport media (VTM) tube containing 2-3 mL VTM for oral specimens.
Storage Conditions	Store refrigerated (2-8˚C) before shipment to ADH.
Shipping Requirements	Ship cold (2-8°C) with cold packs, Ship by ADH courier, certified overnight mail, submitter courier or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned. The PHL Molecular laboratory must receive specimens within 72 hours of collection date and time.
Specimen Processing	Notify Molecular laboratory immediately when specimens have arrived.
Causes for Rejection	Specimens other than throat or NP swab, Specimen not received refrigerated within 24 hours after collection, Specimens received without submission forms, Specimens >72 hours from time of collection, Specimens received frozen, Specimens collected with cotton or calcium alginate swabs, Swab specimens not in VTM, No swab in VTM Swab in expired VTM, Incomplete specimen label, Multiple swabs in same tube VTM
Normal Values	Negative
Methods	Real Time-PCR
Turnaround Time	7 business days from date received.
Clinical Significance and Interpretation	Any amplification above the threshold Ct value is considered positive for measles RNA.
Comments	Submitters should contact Epidemiology prior to submitting measles specimens to report a case as suspect and to coordinate receipt of the specimen**.** **Main Epidemiology number:** 501-537-8969 **After hours:** 1-800- 554-5738.

MUMPS VIRUS REAL-TIME PCR ASSAY

Synonyms	Rubeola, MuV
Patient Requirements	Detection of mumps RNA by RT-PCR is most successful when specimens are collected during the first four days of rash onset.
Collection Requirements	Specimens should be collected on swabs with a synthetic tip, such as nylon, polyester, or Dacron. Do not collect with cotton, calcium alginate, or wooden swabs, as these may contain PCR-inhibiting substances.
Specimen or Source	Buccal swab only.
Volume	Place swab in 2-3 mL viral transport media (VTM) after specimen collection.
Specimen Label	If from an LHU - patient's name and barcode, or patient's name and DOB. If not from an LHU - patient's name, DOB, and hospital or clinical ID (where applicable).
Lab Form/Test Requisition Requirements	Miscellaneous Form (HL-06). See page 10.
Container	Standard viral transport media (VTM) tube containing 2-3 mL VTM for oral specimens.
Storage Conditions	Store refrigerated (2-8°C) if <24 hours before shipment to PHL. Store frozen (≤70°C) if >24 hours before shipment to PHL.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, submitter courier, certified overnight mail, Federal express, or UPS in a diagnostic 6.2 container. Specimens may also be shipped on dry ice. The PHL Molecular laboratory must receive specimens within 72 hours of collection date and time.
Specimen Processing	Notify Molecular laboratory immediately when specimens have arrived.
Causes for Rejection	Specimens not refrigerated (2-8°C) or frozen (≤70°C) after collection, specimens collected with cotton, calcium alginate, or wooden swabs, specimens with no swab in the VTM, swabs not submitted in VTM, specimens collected in expired VTM, specimen leakage, inappropriate specimen type, multiple specimens containers in one shipment that are not individually bagged to prevent specimen contamination, insufficient specimen volume, incomplete specimen labeling, patient identifiers on container and submission form do not match. See 'Rejection Information' for other causes (Page 7).
Normal Values	Negative
Methods	Real-time PCR
Turnaround Time	7 business days from date received.

Clinical Significance and Interpretation	Any amplification above the threshold Ct value is considered positive for mumps RNA.
Comments	Submitters should contact Epidemiology prior to submitting mumps specimens to report a case as suspect and to coordinate receipt of the specimen. Main Epidemiology number: 501-537-8969 After hours: 1-800-554-5738

MYCOBACTERIA RAPID SUSCEPTIBILITY

Synonyms	Sensitivity Test for TB, TB DST, TB AST, DSST
Patient Requirements	N/A
Collection Requirements	A completed Mycobacteriology/Mycology requisition must accompany all specimens. (HL-341). See page 12.
Specimen or Source	Tuberculosis isolate on Slant or Broth
Volume	Viable Isolate
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	A completed Mycobacteriology/Mycology requisition must accompany all specimens. (HL-341). See page 12.
Container	Slant or broth.
Storage Conditions	Incubate at room temperature until tested.
Shipping Requirements	Room temperature (62-77°F). Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Slant dehydrated, contaminated, and/or nonviable.
Normal Values	Susceptible
Methods	MGIT 960 SIRE/PZA Method
Turnaround Time	Up to 21 days after M. Tb identification.
Clinical Significance and Interpretation	Susceptibility tests are performed on first time positive TB isolates. Susceptibility testing allows identification of multi-drug resistant TB isolates and assists the physician in treatment of the patient.
Comments	Drugs tested – Streptomycin, Isoniazid, Rifampin, Ethambutol, Pyrazinamide

NEWBORN SCREENING PANEL

Congenital Hypothyroidism by TSH, Hemoglobinopathies (Sickle Cell, Sickle C & Sickle B-thal), Galactosemia by GALT, Congenital Adrenal Hyperplasia, Cystic Fibrosis, Biotinidase Deficiency, Amino Acid Disorders, Fatty Acid Oxidation Disorders, Organic Acid Disorders, Severe Combined Immunodeficiency, Spinal Muscular Atrophy, X-linked Adrenoleukeoystrophy

Synonyms	TSH, Sickle Cell, GALT, CAH, CF/IRT, BIO, AA, FA, OA, SCID, SMA, X-ALD, Pompe, MPS-1
Patient Requirements	Infant less than 6 months of age
Collection Requirements	Collect at least 24 hours after birth. See DOS-6 for collection information.
Specimen or Source	Heel stick
Volume	A large drop of blood sufficient to soak through to completely fill a preprinted circle on the filter paper. Fill all circles. See page 6 for more information.
Specimen Label (no label)	Label paper card with date and time of collection, patient's name, and date of birth. Complete all demographics requirements on form HL-11.
Lab Form/Requisition Requirements	No test request on form HL-11.
Container	Filter paper card, HL-11, provided by Laboratory Office. Collection form must be filled out completely.
Storage Conditions	Specimens must be packaged and shipped as soon as possible. If shipping is delayed, specimens must be kept refrigerated until shipping.
Shipping Requirements	Room Temperature. Send specimen to Laboratory within 24 hours after collection via LHU courier or overnight delivery service. Place in paper envelope and send to Laboratory. Do not place in plastic bag or send on or near ice packs. Specimen should be received in lab within 2 days after collection.
Specimen Processing	Allow blood specimen to dry in horizontal position for at least 3 hours at room temperature (64-77°F), not in direct light. Do not heat or stack cards during the drying process.
Causes for Rejection (NBS rejection codes may also be forum on the back of form HL-11)	Insufficient number of circles filled, specimen distribution in circles not uniform, insufficient quantity of blood in circles, no blood on filter paper, specimen layered from repeat applications to circle, circles overfilled with blood, specimen appears leached out or contaminated, form incompletely filled out, filter paper expired, and specimen more than 14 days old. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	Available from the Newborn Screening Laboratory.
Methods	Amino Acids, Fatty Acids, Organic Acids & Peroxisomal Disorders by MS/MS assay Biotinidase,Congenital Adrenal Hyperplasia, Congenital Hypothyroidism, Cystic Fibrosis by GSP (Immunofluorescent assay) Galactosemia by GSP (Enzymatic assay) Hemoglobinopathies by HPLC assay SCID_SMA by Real-time PCR assay

Turnaround Time	All specimens received by the Laboratory are initially examined within 5 working days of receipt. Abnormal results are reported to the submitter within two working days of determination.
Clinical Significance and Interpretation	Early identification allows for more rapid follow-up of potential disorders. Early intervention, either with medication or a change in diet, can greatly affect the health of the baby.
Comments	If specimen is collected prior to 24 hours of age, a repeat specimen is requested. **Congenital Hypothyroidism** – TSH is the primary screen in this lab for the detection of congenital hypothyroidism. Those specimens with elevated TSH levels are supplemented with T4 test. Please provide dates and times of birth and collection to get an accurate interpretation of the TSH result. **Congenital Adrenal Hyperplasia** – Please provide weight at time of birth and collection to get an accurate interpretation of the CAH result. CAH is the primary screen for this lab for the detection of congenital adrenal hyperplasia. Those specimens with elevated CAH levels are supplemented with 2nd tier CAH test. **Cystic Fibrosis** – IRT is the primary screen for this lab for the detection of Cystic fibrosis. Those specimens with borderline and abnormal IRT levels are supplemented with a 2nd tier CF test that detects possible CF-causing mutations if present. **Hemoglobinopathies** – HLPC is the primary screen for the detection of abnormal hemoglobinopathies. All abnormal specimens are supplemented with IEF (isoelectric focusing). **SCID** - Gestational age of baby at collection is required for correct interpretation of results. For more information, refer to Rules Pertaining to Testing on Newborn Infants (Effective February 10, 2024). ** All disorders are printed at the bottom of the NB mailer.

NON-VARIOLA ORTHOPOXVIRUS

Synonyms	Mpox
Patient Requirements	N/A
Collection Requirements	Collect 2 swabs (synthetic tip swabs) for each collection site. Both swabs can be placed in the same biohazard bag with one form for each site.
Specimen or Source	Collect 2 swabs for each collection site. Both swabs can be placed in the same biohazard bag with one form for each site.
Volume	N/A
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	ADH MISC. form (HL-06). See page 10.
Container	Sterile collection tube and swabs. No media required.
Storage Conditions	Store refrigerated (2-8˚C) until packaged and shipped.
Shipping Requirements	Ship cold (2-8°C) with cold packs or on dry ice if frozen. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Arrived warm to lab, collection tube received without 2 identifiers (patient's full name and date of birth)
Normal Values	Negative for Non-variola orthopoxvirus
Methods	RT-PCR
Turnaround Time	7 business days
Clinical Significance and Interpretation	Positive indicates probable monkeypox infection.
Comments	N/A

OVA AND PARASITES, FECAL

Synonyms	Fecal Parasites (This does not include *Cryptosporidium, Cyclospora*, or *Cystoisospora* test. These must be ordered separately (modified acid test).
Patient Requirements	Routine examination for parasites prior to treatment. A minimum of three specimens collected on alternate days is recommended. Collect specimens to determine the efficacy of treatment three to four weeks after completion of therapy. Order if patient has diarrhea.
Collection Requirements	Collect fecal specimens before use of barium, bismuth, etc. Collect in MCC Unifix or Total Fix single vial (or comparable transport system containing 10% formalin and PVA vials without Mercury). Add bloody, watery portions of stool to fill line marked on vial, seal and shake vigorously.
Specimen or Source	Stool
Volume	To fill line on collection vials
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	MCC Unifix or Total Fix single vial or dual vial system with 10% formalin and PVA without Mercury. ADH Central Supply provides collection kits.
Storage Conditions	Room temperature (62-77°F).
Shipping Requirements	Room temperature (62-77°F). Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Must be in acceptable preservative along with completed Clinical Microbiology Form
Causes for Rejection	Overfilled specimens; dry specimens; leaking container; specimen contaminated with oil, barium, or urine; multiple specimens in a 24- hour period; and expired collection kits.
Normal Values	No ova and parasites seen by concentration procedure and trichrome stain.
Methods	Concentration technique and trichrome stain by microscopic examination. Modified Kinyoun or modified acid-fast stain upon request.
Turnaround Time	Results within 6 days
Clinical Significance and Interpretation	Possible cause of disease process
Comments	Accepted from all submitters. Order this test if the patient has had foreign travel or continued symptoms. Cryptosporidium, Cyclospora, and Cystoisospora is a special test order (modified acid fast).

RABIES

Synonyms	Rabies Virus
Patient Requirements	Bite from household pet or wild animal or contact with saliva, brain, or spinal fluid from a pet or wild animal.
Collection Requirements	Collect and chill brain as soon as possible after euthanasia.
Specimen or Source	Animal brain tissue
Volume	N/A
Lab Form/Requisition Requirements	Complete Rabies Examination Form (HL-12) or use QR code to enter information. See page 15 for form.
Container	Provided rabies kits at Local Health Unit or from Specimen Receiving at the Public Health Lab.
Storage Conditions	Refrigerate (35-46°F).
Shipping Requirements	Ship cold (35-46°F) with cold packs using rabies buckets/boxes.
Specimen Processing	Remove the head of all animals, except bats which can be shipped whole.
Causes for Rejection	Damaged or decomposed brain tissue. See 'Rejection Information' for other causes for rejection (DOS-7).
Normal Values	Negative
Methods	Direct Fluorescent Antibody Test
Turnaround Time	72 hours
Clinical Significance and Interpretation	Exposure to a positive rabid animal requires post exposure prophylaxis from a qualified medical professional.

ROCKY MOUNTAIN SPOTTED FEVER

Synonyms	Rocky Mountain, RMSF
Patient Requirements	N/A
Collection Requirements	Collect in red top or serum separator tube SST. If collected in red top, transfer serum into plastic tube.
Specimen or Source	Serum
Volume	1 mL of serum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included.
Lab Form/Test Requisition Requirements	Complete test request using the Miscellaneous Form (HL-06) and include the date of onset. See page 10.
Container	Collect in red top or SST. Centrifuge. If collected in red top, transfer serum into plastic tube.
Storage Conditions	Store in plastic tube at 35-46°F for up to 30 days; After 30 days store at < -4°F.
Shipping Requirements	Ship cold (35-46°F) with cold packs or ship with dry ice if frozen. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate specimens off the clot before sending to the Public Health Laboratory. Transfer serum into plastic tube.
Causes for Rejection	Too old, not shipped at correct temperature, and hemolyzed. See 'Rejection Information' for more causes (pg. 18).
Normal Values	Titer < 32
Methods	Sent to CDC.
Turnaround Time	4-6 weeks
Clinical Significance and Interpretation	Titer < 32. No significant antibodies were observed. 2nd specimen requested. Titer > 64. Titer indicates exposure at some undetermined time.
Comments	Ehrlichia, Rocky Mountain Spotted Fever and Francisella tularensis are all performed on the specimen as part of the tickborne disease panel. Acute and convalescent phase specimens preferred.

RUBELLA IgG

Synonyms	German Measles
Patient Requirements	Patient must be older than 6 months of age.
Collection Requirements	Ensure SST is correctly filled. See pages 4 and 5.
Specimen or Source	Serum
Volume	1 mL of serum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Send MISC. form (HL-06) with specimen. See page 10.
Container	SST tubes. Centrifuge within 2 hours of collection.
Storage Conditions	Refrigerate (34-46°F) for 2 days. Specimens must be received in testing lab within 48 hours from collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from clot before shipping to Public Health Laboratory.
Causes for Rejection	Too old, hemolyzed, not shipped at correct temperature, quantity insufficient, and incomplete centrifugation.
Normal Values	Positive indicates the specimen has Rubella IgG antibodies. Negative indicates the specimen does not have Rubella IgG antibodies. Equivocal results require a second specimen to be collected and tested.
Methods	EIA
Turnaround Time	4 business days
Clinical Significance and Interpretation	Positive result indicates immunity (vaccination or infection).
Comments	Maternal antibodies may be present in specimens from infants younger than 6 months of age and may interfere with accurate testing.

SALMONELLA CONFIRMATION

Synonyms	Salmonella Confirmation
Patient Requirements	N/A
Collection Requirements	**Stool** (feces) collected in Cary-Blair stool transport media. **Rectal Swab** (**for children only**): Collect on a culturette with Cary- Blair transport media. Collect according to instructions on package. Make sure transport media ampoule is broken. **Pure isolate**, preferred.
Specimen or Source	Any source. Submit feces or pure isolate.
Volume	For Cary-Blair- Fill container with feces until liquid is at line on vial. Mix well.
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Test Requisition Requirements	Complete test request in Common Customer under Clinical Microbiology section or use Clinical Specimen Submission Downtime Form (HL-360).
Container	Any media appropriate for growth of organism. Any Cary-Blair kit (or enteric kit) can be obtained from the LHU.
Storage Conditions	Room temperature (15-35°C) for isolates and feces. **Note:** Cary-Blair kits must be received and set up within 4 days of collection.
Shipping Requirements	Room temperature (15-35°C) for isolates and feces. Feces in Cary-Blair must be received within 4 days of collection. Do **not** refrigerate. Ship by courier, certified overnight mail, submitter courier or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned. Specimens can be submitted Monday through Friday.
Specimen Processing	Follow appropriate procedure for media being utilized or place enough fresh raw stool in container to raise fluid level to fill line. Label with patient's name, date, and time of collection. DO NOT OVERFILL. Pure isolate on media appropriate for growth.
Causes for Rejection	Leaking specimens, specimens not in Cary- Blair, specimens not received within 4 days of collection, overfilled vials, and kit expired.

Normal Values	Negative for Salmonella
Methods	Standard CDC reference methodology for Salmonella identification.
Turnaround Time	Final report – 7 business days. Possible referral to CDC.
Clinical Significance and Interpretation	N/A

SARS-COV-2, INFLUENZA, AND RSV NUCLIEIC ACID DETECTION REAL-TIME PCR ASSAY

Synonyms	4-plex (COVID-19/ Flu A & B, RSV)
Patient Requirements	Patients with symptoms of respiratory infection
Collection Requirements	Collect a nasopharyngeal or a nasal swab and place in viral transport media
Specimen or Source	Nasopharyngeal swab
Volume	3mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Test Requisition Requirements	Request the test in Common Customer or in Lab Web Portal
Container	Nasopharyngeal swab in Viral Transport Medium
Storage Conditions	Refrigerate 2º-8ºC
Shipping Requirements	Ship cold (35-46°F) with cold packs. Label package with Molecular sticker (red sticker) or write Molecular on box. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Missing unique identifiers on container, specimen other than NP or N swab, expired collection container, unique identifiers do not match requisition, leaked sample, dry swab, quantity insufficient. See 'Rejection Information' for other causes for rejection (page 7).
Normal Values	Not Detected
Methods	Nucleic acid amplification
Turnaround Time	7 business days

Clinical Significance and Interpretation	Detected indicates sample is positive for SARS-CoV-2, Influenza A and/ or Influenza B
Comments	See Fact Sheet here: https://www.fda.gov/medical-devices/emergency- situations-medical-devices/coronavirus-covid-19-and-medical-devices
Reference Range	Qualitative test with a cutoff (detected-not detected)

SHIGATOXIN PRODUCING ESCHERICHIA COLI CONFIRMATION

Synonyms	STEC/EHEC, *E. coli* shiga toxin positive, *E. coli* 0157:H7
Patient Requirements	Collect on all patients with bloody diarrhea, patients associated with positive cases.
Collection Requirements	Stool (feces) in Cary-Blair or pure isolate.
Specimen or Source	Stool (feces) or any other source for pure isolate. GN or MAC broth recommended for STEC submissions.
Volume	N/A
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Cary-Blair Stool culture kits supplied by ADH for diagnostic stool. Pure isolate on media appropriate for growth. GN or MAC broth recommended for STEC submissions.
Storage Conditions	Room temperature (62-77°F) for isolates and broths should be refrigerated but not frozen. **Cary-Blair kits must be received and set up within 4 days of collection.**
Shipping Requirements	Isolates: Room temperature (62-77°F). Broths: Ship cold (35-46°F) with cold packs, but not frozen. Ship by courier, certified overnight mail, submitter courier, or Federal Express in diagnostic 6.2 container. Specimens can be submitted Monday through Friday.
Specimen Processing	Place enough fresh raw stool in container to raise fluid level to fill line. Label with patient's name, date, and time of collection. DO NOT OVERFILL. Pure isolate on media appropriate for growth.
Causes for Rejection	Leaking specimens, specimens not in Cary- Blair, specimens not received within 4 days of collection, overfilled vials, and kit expired.
Normal Values	Negative for STEC
Methods	Standard CDC reference methodology for STEC identification
Turnaround Time	Varies depending on type of sample submitted.
Clinical Significance and interpretation	Possible cause of disease process

SHIGELLA CONFIRMATION AND SEROTYPING

Synonyms	*Shigella* serotype
Patient Requirements	N/A
Collection Requirements	N/A
Specimen or Source	Any source. Submit pure isolate.
Volume	N/A
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Clinical Microbiology Form. See page 13.
Container	Any media appropriate for growth of organism.
Storage Conditions	Room temperature (62-77°F)
Shipping Requirements	Room temperature (62-77°F) Ship by courier, certified overnight mail, submitter courier or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Leaking or broken containers. Isolates from multiple specimens (more than 1 in a 24-hour period).
Normal Values	N/A
Methods	Standard CDC reference methodology for Shigella.
Turnaround Time	Final report by 7 business days. Problematic organisms could require longer.
Clinical Significance and Interpretation	Possible cause of disease process

SYPHILIS

Synonyms	RPR: Non-treponemal test for syphilis TPPA: Treponemal test for syphilis.
Patient Requirements	If patient consents, indicate if patient has a previous reactive result or symptomatic on the test requisition form.
Collection Requirements	SST. Ensure tube is filled. See pages 4 and 5.
Specimen or Source	Serum only. CSF is not acceptable for testing. Cord blood may be used for baseline screening when no other specimen is available for infants.
Volume	Minimum 2 mL of serum
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Complete Miscellaneous Examination Form . See page 10.
Container	Collect in SST (allow blood to clot no more than 2 hours at room temperature). Centrifuge.
Storage Conditions	Refrigerate (35-46°F) for up to five days from collection.
Shipping Requirements	Ship cold (35-46°F) with cold packs. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Separate serum from cells.
Causes for Rejection	Older than 5 days, not shipped cold (35-46°F), hemolyzed, turbid serum or bacterial contamination, serum not separated from cells if collected in a red top, and not sufficient specimen to test. See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	Non-reactive
Methods	Nontreponemal Reagin flocculation test for screening and antibody particle agglutination for confirmatory.
Turnaround Time	4 business days
Clinical Significance and Interpretation	Reactive test may indicate past or present infection but must be confirmed by additional testing. All reactive or weakly reactive specimens are tested with TP-PA (PAS).
Comments	Spinal fluid is not acceptable for testing.

TB AND OTHER MYCOBACTERIA CLINICAL SPECIMENS

Synonyms	AFB culture, TB culture, Mycobacteriology smear & culture
Patient Requirements	N/A
Collection Requirements	Collect a series of three single, early morning specimens on successive days.
Specimen or Source	Lung secretions, extrapulmonary
Volume	5-10 mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters must send a completed TB/ Mycology test request form with all specimens. See page 12.
Container	Sterile, one-use plastic disposable container. Label specimen 50 mL conical tube preferred with the patient's full name, date of birth, and the date and time of collection.
Storage Conditions	Refrigerate (35-46°F).
Shipping Requirements	Ship at 35-46°F. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Leaked in transit, specimen more than 7 days old, and no name on form or collection containers.
Normal Values	Negative
Methods	Acid fast stain, traditional culture methods. Identifications are made by using, Inno-LiPA, Gene Xpert, and MALDI-TOF
Turnaround Time	Acid-Fast Stain-24 hours. Up to 6 weeks for growth and ID.
Clinical Significance and Interpretation	A positive culture will confirm the presence of mycobacteria, such as the M. tuberculosis
Comments	Specimen identification is performed by the Inno-LiPA test method. Drug susceptibility testing is done on all first-time positive TB patients and tested again three months later if cultures continue to be positive for the M. tuberculosis complex.

TB (MYCOBACTERIA) ISOLATE IDENTIFICATION

Synonyms	Definitive identification INNO-LiPA mycobacteria test, or MALDI-TOF, AFB ID, Mycobacteriology ID referred culture
Patient Requirements	N/A
Collection Requirements	Viable growth on solid media or liquid culture except Blood culture media.
Specimen or Source	Isolates from culture
Volume	Viable growth
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Private submitters must send a completed TB/ Mycology test request form with all specimens. See page 12.
Container	Solid media or liquid culture. Label specimen with the patient's full name, date of birth, and hospital number (where applicable). At least 2 unique identifiers.
Storage Conditions	Transport to Laboratory as soon as possible. Incubate at room temperature until tested.
Shipping Requirements	Ship at 34-46°F. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Specimens may be tested as soon as growth is visible.
Causes for Rejection	No viable growth.
Normal Values	N/A
Methods	INNO-LiPA; MALDI-TOF
Turnaround Time	Up to 7 business days
Clinical Significance and Interpretation	The treatment of mycobacterial infections can be difficult, and the severity of the infection requires rapid diagnosis.
Comments	The INNO-LiPA mycobacteria test is used for identification of both liquid and solid cultures. MALDI-TOF may also be used. If patient is identified as having M. tuberculosis for the first time, then drug susceptibility testing is done and repeated three months later if patient continues to grow positive cultures.

TB RAPID IDENTIFICATION

Synonyms	Xpert MTB/RIF Assay, TB PCR, Cepheid, MTD
Patient Requirements	N/A
Collection Requirements	Collect specimen in sterile, plastic container.
Specimen or Source	Raw sputum or non-sputum.
Volume	5-10 mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. The collection date, collection time, and hospital number (if applicable) need to be included also.
Lab Form/Requisition Requirements	Private submitters must send a completed TB/ Mycology test request form with all specimens. See page 12.
Container	Sterile, one-use plastic disposable container
Storage Conditions	Refrigerate (35-46°F) prior to and during shipping. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Shipping Requirements	N/A
Specimen Processing	Digested-decontaminated using N-acetyl-L- cysteine-(NALC) sodium hydroxide
Causes for Rejection	Specimens that are grossly bloody, specimens with obvious food particles.
Normal Values	MTB not detected
Methods	Cepheid Xpert MTB/RIF Assay
Turnaround Time	24-48 hours after receipt of specimen into the laboratory.
Clinical Significance and Interpretation	The Xpert MTB/RIF assay is a semi- quantitative nested real- time PCR assay that detects the presence of Mycobacterium tuberculosis complex DNA and possible Rifampicin resistance associated mutation (s) located within the rPoB gene.

WHOLE GENOME SEQUENCING (Bacteriology Organisms)

Synonyms	WGS (bacteriology organisms)
Patient Requirements	Should be symptomatic with diarrhea and testing must be approved by the Communicable Disease Section of the Arkansas Department of Health.
Collection Requirements	Collect feces in MCC C&S Medium or other comparable Cary-Blair stool transport media. Fill container with feces until liquid is at line on vial. Mix well. (Follow kit instructions.) Rectal Swab – Note: For children only. Collect on a culturette with Cary-Blair transport media. Collect according to instructions on package. Make sure transport media ampoule is broken. Label container with two unique identifiers which includes patient name, date of birth and date of collection.
Specimen or Source	Feces
Volume	Fill container with feces until liquid is at line on vial. Mix well. (Follow kit instructions.)
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Clinical Micro Form. See page 13.
Container	Cary-Blair culture vial, MCC Transport kit supplied by ADH or Cary-Blair culturette Label with two unique identifiers which includes patient name, date of birth and date of collection.
Storage Conditions	Room temperature (15-35°C per manufacturer)
Shipping Requirements	Specimen must be received within 4 days of collection. DO NOT REFRIGERATE. Room temperature (15-35 C per manufacturer). Specimen must be shipped by courier, certified overnight mail, submitter courier or Federal Express in an infectious 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	Fill to line on container, label with two unique identifiers which includes patient name, date of birth and date of collection include the Clinical Microbiology Form. Container must not be over filled.
Causes for Rejection	Over filled containers, leaking/broken containers, multiple specimens (more than 1 in a 24-hour period), dry specimen, swab in Cary-Blair transport vial, expired transport medium. Diapers are not acceptable. See page 7 for other causes for rejection.
Normal Values	Negative for Enteric Pathogens
Methods	Molecular subtyping using the Illumina MiSeq platform and CDC protocols.
Turnaround Time	N/A
Clinical Significance and Interpretation	Varies by isolate identified.
Comments	Reflex test for positive cultures for *Listeria, Campylobacter*, *Salmonella, Shigella, E. coli 0157:H7, Shiga toxin E. coli and Vibrio.*

WHOLE GENOME SEQUENCING (COVID-19 Variants)

Synonyms	WGS (COVID-19 Variants)
Patient Requirements	None
Collection Requirements	Collect a nasopharyngeal or a nasal swab and place in viral transport media.
Specimen or Source	Nasopharyngeal swab or nasal swab
Volume	3 mL
Specimen Label	Specimen must be labeled with 2 unique identifiers: patient's full name and date of birth. Collection date and collection time may need to be included also.
Lab Form/Requisition Requirements	Use COVID-19/Flu Multiplex Test Request Form (PHL-17-20). Form must be filled out.
Container	Nasopharyngeal swab or nasal swab in Viral Transport Medium.
Storage Conditions	Refrigerate 35-46˚F
Shipping Requirements	Ship cold (35-46˚F) with cold packs or on dry ice if frozen. Ship by ADH courier, certified overnight mail, submitter courier, or Federal Express in a diagnostic 6.2 container. Include a prepaid return address label and container will be returned.
Specimen Processing	N/A
Causes for Rejection	Missing unique identifiers on container, specimen other than NP or N swab, expired collection container, leaked specimen, dry swab, quantity insufficient
Normal Values	Specific variant
Methods	Next-Generation Sequencing (NGS) in vitro diagnostic test on the Illumina sequencing platform
Turnaround Time	N/A
Clinical Significance and Interpretation	Performed for epidemiology purposes only.
Comments	Intended for epidemiology purposes only. Only SARS-CoV-2 specimens meeting our requirements will be sequenced

VARICELLA-ZOSTER VIRUS (VZV) REAL-TIME PCR DNA ASSAY

Synonyms	Varicella-zoster virus, chicken pox, VZV
Patient Requirements	Detection of VZV DNA by RT-PCR is most successful when specimens are collected after vesicles or lesions have formed dried crusts, usually 3-7 days after rash onset.
Collection Requirements	Specimens should be collected on swabs with a synthetic tip, such as nylon, polyester, or Dacron. Do not collect with cotton, calcium alginate, or wooden swabs, as these may contain PCR-inhibiting substances.
Specimen or Source	Scab or roof of vesicle, plus swab from the skin under the scab to collect vesicular fluid or cellular material.
Volume	N/A
Specimen Label	If from an LHU - patient's name and barcode, or patient's name and DOB. If not from an LHU - patient's name, DOB, and hospital or clinical ID (where applicable).
Lab Form/Test Requisition Requirements	Miscellaneous Form (HL-06). See page 10.
Container	Transfer scabs and vesicular swabs directly into a dry 15mL conical tube.
Storage Conditions	Store at room temperature (15-25°C).
Shipping Requirements	Ship room temperature by ADH courier, submitter courier, certified overnight mail, Federal express, or UPS in a diagnostic 6.2 container. The PHL Molecular laboratory must receive specimens within 7 business days of collection date and time.
Specimen Processing	Notify Molecular laboratory immediately when specimens have arrived.
Causes for Rejection	Specimens collected with cotton, calcium alginate, or wooden swabs, specimen leakage, inappropriate specimen type, multiple specimens' containers in one shipment that are not individually bagged to prevent specimen contamination, incomplete specimen labeling, patient identifiers on container and submission form do not match.

	See 'Rejection Information' for other causes for rejection (Page 7).
Normal Values	Negative
Methods	Real-time RT-PCR
Turnaround Time	7 business days from date received
Clinical Significance and Interpretation	Any amplification above the threshold Ct value is considered positive for VZA DNA.
Comments	This assay is intended for use in conjunction with clinical observations and other diagnostic assays to determine infection with varicella-zoster virus (VZV) in specimens collected from patients presenting with pustular or vesicular rash illness.