

| Louisiana Office of Public Health Laboratories |  |
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| Test Name                                      | Rule out <i>Yersinia pestis</i>  |
| PHL Location                                   | Office of Public Health Laboratory Baton Rouge   |
| CPT Code                                       | N/A  |
| Synonyms                                       | BT Test, Bioterrorism Test, Clinical Rule Out  |
| Brief Description of Test                      | <p><b>Prior notification requested. Contact Infectious Disease Epidemiology at 800-256-2748 or BT Program Advisor at 225-219-5241.</b></p> <p>To rule out or confirm bacterial isolates as <i>Yersinia pestis</i> or to rule out or confirm presence/absence of <i>Yersinia pestis</i> in direct patient specimens.</p> <p><i>Y. pestis</i> is suspected and cannot be ruled out if the isolate fulfills the following characteristics:</p> <ul style="list-style-type: none"> <li>• Plump gram-negative bacilli</li> <li>• Slow growing at 35°C with either pinpoint colonies or no growth on SBA after 24 h; colonies after 48 h are 1-2 mm, gray-white to slight yellow and opaque; non-lactose fermenter on MAC/EMB.</li> <li>• Positive for catalase and negative for oxidase, indole, and urease.</li> </ul> |
| Possible Results                               | <p><b>Direct Sample Testing</b><br/> Presumptive Positive<br/> Inconclusive<br/> Negative</p> <p><b>Culture Isolate Testing</b><br/> Positive<br/> Negative</p>  |
| Reference Range                                | Negative   |
| Specimen Type                                  | <b>Direct Sample – clinical specimens require prior approval</b>   |

| A. Collection and Transport of Clinical Specimens for Laboratory Rule-Out Testing |   |
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| Lower respiratory tract   | <ul style="list-style-type: none"> <li>• Transport specimens in sterile, screw-capped containers at room temperature.</li> <li>• If it is known that material will be transported from 2-24 h after collection, then store and transport at 2-8°C</li> </ul>  |
| Blood   | <ul style="list-style-type: none"> <li>• Transport samples directly to the laboratory at ambient temperature and place onto the blood culture instrument</li> <li>• Do not refrigerate</li> <li>• Follow established laboratory protocols for processing blood cultures</li> </ul>  |
| Aspirate, tissue or biopsy specimen   | <ul style="list-style-type: none"> <li>• Submit tissue or aspirate in a sterile container.</li> <li>• For small samples, add 1–2 drops of sterile normal saline to keep the tissue moist.</li> <li>• Transport sample at room temperature for immediate processing. Keep the specimen chilled if processing will be delayed (&gt; 2 h).</li> </ul>  |
| Swabs   | <ul style="list-style-type: none"> <li>• A swab of tissue is not recommended.</li> <li>• However, if a swab specimen is collected, the swab should be reinserted into an appropriate transport package and sent to the laboratory at room temperature for immediate processing. Keep the specimen chilled if processing will be delayed (&gt; 2 h).</li> </ul>  |
| <b>DO NOT REFRIGERATE BLOOD SAMPLES</b>   |   |
| <b>Culture Isolate</b>  |   |
| Actively growing, pure culture inoculated in/on unexpired media                   |   |
| Specimen Container(s):  | Specimen must be transported in “triple” packaging (primary receptacle, water tight secondary packaging and durable outer packaging) required for a biological agent of human disease.  |
| Minimum volume accepted:  | 1mL of liquid specimens<br>Pea size piece of tissue   |
| Collection Instructions   | <p>BSL-3 practices, containment equipment, and facilities are recommended, for all manipulations of cultures of <i>Yersinia pestis</i>.</p> <p>Package such that each sample is kept separate and is individually labeled, contained in its own bag/container and labeled with a unique identifier.</p> <p>Decontamination of laboratory surfaces is easily accomplished using a fresh solution of 10% bleach.</p> <p>Label specimen with Patient Name and a 2nd Unique Identifier such as a chart number or medical record number. DOB is not considered unique.</p> <p>Complete a LAB Form 93 to accompany the sample. Lab submission form must be thoroughly completed with patient’s first and last name, 2<sup>nd</sup> patient identifier, gender, date of birth, date and time of collection, specimen source, test requested, submitter’s name, address, fax and contact number. Additional information regarding patients’ address is requested.</p> <p>The same two unique identifiers <b>MUST</b> be recorded on the tube <b>AND</b> the Lab 93 form.</p> <p>Transport specimen to laboratory as soon as possible after collection/incubation. Keep submission forms insulated from specimens.</p> |

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| <p>Storage and Transport Instructions</p> | <p>Culture may be shipped ambient. For storage and transport of clinical samples, contact <b>BT Program Advisor at 225-219-5241</b>.</p> <p>Send sample to the Office of Public Health Laboratory Baton Rouge, 1209 Leesville Avenue, Baton Rouge, LA 70802</p> <p>LRN (Laboratory Response Network) guidance for the packaging and shipping of infectious substances and biological agents should be consulted for recent changes. IATA and DOT publications continue to be revised frequently. Submitters should frequently and regularly consult IATA publications, the Federal Register, and the publications of other governing agencies for more complete instructions. It is the shipper’s responsibility to ensure adherence to the most current regulations.</p> <p>Useful web sites that address the shipping of infectious substances and biological agents:<br/> International Air Transport Association: <a href="https://www.iata.org">https://www.iata.org</a><br/> Department of Transportation: <a href="http://phmsa.dot.gov">http://phmsa.dot.gov</a><br/> American Society for Microbiology: <a href="http://www.asm.org">http://www.asm.org</a><br/> American Biological Safety Association: <a href="http://www.absa.org/">http://www.absa.org/</a><br/> Animal and Plant Health Inspection Service: <a href="http://www.aphis.usda.gov/">http://www.aphis.usda.gov/</a><br/> Centers for Disease Control and Prevention: <a href="http://www.cdc.gov/od/ohs/">http://www.cdc.gov/od/ohs/</a></p> |
| <p>Causes for Rejection</p>               | <ul style="list-style-type: none"> <li>• Incorrect source</li> <li>• Incorrect labeling</li> <li>• Expired collection tubes</li> <li>• Not approved for testing by Infectious Disease Epidemiology</li> </ul>   |
| <p>Limitations of the Procedure</p>       | <p>If inhibitors are present in a DNA extraction, PCR assays may produce a false negative result.</p> <p>A false negative result may occur if a sample is improperly collected, transported or handled. False negative results may occur if inadequate numbers of organisms are present in the sample.</p>  |
| <p>Interfering Substances</p>             | <p>N/A for direct culture testing</p>   |
| <p>References</p>                         | <p>Sentinel Level Clinical Laboratory Guidelines for Suspected Agents of Bioterrorism and Emerging Infectious Diseases – <i>Yersinia pestis</i>.<br/> <a href="https://www.asm.org/images/PSAB/LRN/Ypestis316.pdf">https://www.asm.org/images/PSAB/LRN/Ypestis316.pdf</a></p> <p>Laboratory Response Network</p>  |
| <p>Additional Information</p>             | <p>If <i>Yersinia pestis</i> is suspected, contact Infectious Disease Epidemiology at 1-800-256-2748 or BT Program Advisor at 225-219-5241.</p>   |
| <p>Release Date</p>                       | <p>05/18/2018</p>   |

Warning: If you have printed a copy of this information please be advised that the Louisiana Office of Public Health Laboratories website and methods are updated on a regular basis. Please check the on-line version of this document to ensure you are relying on the most recent release.