Plague (*Yersinia pestis*)

Louisiana Office of Public Health Laboratory Services (LA SPHL) (504) 219-4664 or (504) 219-4646, 24 Hour Number (504) 458-9537

Louisiana Office of Public Health Infectious Disease Epidemiology (800) 256-2748 (24 hours)

Remember that these samples may be highly infective! Extreme caution should be taken in collecting, preparing for shipment and transporting any material suspected of being contaminated with a biological agent.

Specimen Collection and Transport

Clinical:

Specimens best suited for culturing include: Bronchial wash or transtracheal aspirate (>1ml), fluid aspirated from bubo, sputum and blood. Also, lymph node, bone marrow and lung tissues are suitable, but may be available only at autopsy. Swabs should be placed into Cary-Blair [enteric] transport media or, if that is unavailable, into any sterile container and transported to the LA SPHL as quickly as possible. Samples should be kept cold (2-8ºC), not frozen and transported to the laboratory as soon as possible.

Reference cultures:

Any culture may be submitted to the LA SPHL for ruling in/out of *Y. pestis*. Cultures suspected of being *Yersinia pestis* can be submitted on a blood or chocolate agar slant.

Environmental samples:

Plague is enzootic in some southwestern states and the risks of acquiring the disease are associated with contact between human and plague-susceptible rodents and their attendant fleas. If environmental sampling is indicated, consult the LA SPHL for guidelines on sample selection and submission.

Testing available:

Culture, isolate identification, real-time Polymerase Chain Reaction

(PCR), Direct Fluorescent Antibody (DFA) and rapid direct antigen detection by Time Resolved Fluorescence (TRF).

Reporting:

All reporting times are the minimum time. Any individual specimen could take longer.

Yersinia pestis is not fastidious and may grow in 24-48 hours from clinical or environmental specimens. The LA SPHL can perform a DFA, real-time PCR and TRF testing on the organism as soon as growth is apparent. With these assays, a presumptive positive could be reported in 4-6 hours after growth becomes apparent. Biochemical confirmation is presumptive at 24 hours and final at 48 hours. DFA, real-time PCR and TRF can be performed on isolates upon receipt at the LA SPHL, with results in 1-6 hours.