

CDC Pertussis and Diphtheria Laboratory, Meningitis and Vaccine Preventable Disease Branch
Division of Bacterial Diseases, National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

Instructions for specimen collection and transport for laboratory testing of
Corynebacterium diphtheriae and *C. ulcerans*

Specimens for culture:

Swabs taken from the nose, throat or wounds may be submitted to the Pertussis and Diphtheria Laboratory (PDL) for culture of *C. diphtheriae* and *C. ulcerans*. Polyester, rayon or nylon swabs should be used. The swabs should be placed in transport media such as Amies or Stuart and shipped overnight with ice packs. Dry swabs submitted in silica gel sachets are also acceptable.

Pieces of pseudo-membrane may also be submitted for culture. Pseudo-membrane should be placed in sterile saline (not formalin) and shipped overnight with ice packs.

Specimens for PCR:

CDC does not perform PCR to rule out diphtheria unless diphtheria anti-toxin (DAT) has been requested to treat the patient. CDC may perform PCR as part of surveillance activities.

Please contact your state or local health department or the CDC Emergency Operations Center (770-488-7100) to make arrangements to receive DAT.

Swabs taken from the nose, throat or wounds can be tested by PCR for the presence of diphtheria toxin gene (*tox*). The presence of *tox* does not necessarily indicate that toxin is being produced. This PCR assay distinguishes *C. diphtheriae* from *C. ulcerans*/*C. pseudotuberculosis*, but does not separate the latter two species. Swabs for PCR can be shipped in the same manner as swabs for culture, or they may be placed in a sterile tube or silica gel sachet. Swabs for PCR should be shipped overnight with ice packs.

Pieces of pseudo-membrane may also be submitted for PCR testing. Pseudo-membrane should be placed in sterile saline (not formalin) and shipped overnight with ice packs.

Isolates for confirmation and toxigenicity testing:

Isolates of *C. diphtheriae* and *C. ulcerans* may be submitted for confirmation and toxigenicity testing in the Elek assay. Pure isolates should be cultured on trypticase soy agar slants (TSA), blood agar slants, or other common agar slants. Isolates should be sent overnight at ambient temperature.

Specimens for serology:

At this time, CDC does not test sera for antibodies to *C. diphtheriae*. Please do not submit sera for testing.

Shipping Specimens:

Each specimen submitted should be accompanied by a completed DASH form. CDC Specimen Submission Form 50.34, which can be found online here: www.cdc.gov/laboratory/specimen-submission/form.html.

Specimens should be shipped overnight to:

Centers for Disease Control and Prevention

Attention: STAT Unit 12

1600 Clifton Road NE

Atlanta, GA 30329-4027

If you have questions or require additional information, please contact:

CDC Emergency Operations Center

770-488-7100