
Lab Dept: Microbiology/Virology

Test Name: VIRAL CULTURE, NON-RESPIRATORY

General Information

Lab Order Codes: VIRNR

Synonyms: N/A

CPT Codes: 87252-Viral culture, non-respiratory
87176-Tissue processing (if appropriate)
87253-Additional testing virus, identification (if appropriate)
87254-Viral smear, shell vial (if appropriate)

Test Includes: All routine viral cultures are inoculated into cell culture tubes for viral detection. The most common specimens received for routine testing include body fluid, rectal, spinal fluid, and feces. A rapid (16-hour incubation) shell vial cell culture assay will be inoculated when specimens are designated for herpes simplex virus (HSV) or cytomegalovirus (CMV) detection, or as appropriate for source indicated.

Blood, lymph node tissue, and bone marrow/bone tissue specimens are not good sources for viral culture and are frequently toxic to cell culture lines. Most molecular methods are appropriate for these specimen types (exception: bone tissue). See individual real-time PCR assay descriptions.

Logistics

Test Indications: Diagnosing viral infections in non-respiratory specimens

Lab Testing Sections: Microbiology/Virology Sendouts

Referred to: Mayo Clinical Laboratory (Mayo test: VIRNR)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1 – 14 days
Positive results are reported when virus is isolated. Negative culture are held for 14 days.

Special Instructions: Indicate the virus suspected. Requisition must stat **specific site** of the specimen and **date/time of collection**. Collect specimens early in the

course of the illness to yield highest viral titers. **Do not use calcium alginate swabs.**

Specimen

Specimen Type:	<ul style="list-style-type: none">• Dermal specimens are only acceptable for enterovirus. Clearly indicate "Enterovirus" on test request.• Feces-a rectal swab is preferred but a random fecal specimen is acceptable.• Brain tissue is acceptable.• Liver tissue (for CMV and Herpes) is acceptable if refrigerated in saline or phosphate buffered saline.• Esophageal tissue, swabs, or brushings are acceptable.• Ocular fluids (vitreous and aqueous): viral culture is not recommended due to usually inadequate volumes. PCR testing is recommended. See individual real-time PCR assay descriptions.• Genital, synovial fluid, wound swab or tissue (includes pus, drainage, or abscess fluid) specimens are not acceptable for viral culture.
Container:	<p>Body fluid/CSF: (Pericardial, peritoneal, amniotic, CSF) Sterile container Lip: Swab, Sterile Polyester, Multimicrobe media (M4-RT) Rectal: Swab, Multimicrobe media (M4-RT) Stool/Feces: Sterile container Tissue (Brain, colon, kidney, liver, etc) Container: Sterile container containing 1-2 mL sterile saline or multimicrobe medium (M4-RT, M4 or M5)</p>
Draw Volume:	<p>Body Fluids: 1 mL fluid (Minimum: 1 mL) Feces/Stool: 5-10 grams Rectal: Swab Tissue: Entire collection (Minimum: 5 mm) Dermal (Enterovirus only): Swab</p>
Collection:	<p>Body Fluids/CSF: Sterile collection Lip: Place swab into multimicrobe media (M4-RT, M4, or M5) Rectal: Place swab into multimicrobe media (M4-RT, M4, or M5) Tissue: Sterile container containing 1-2 mL sterile saline or multimicrobe medium (M4-RT, M4 or M5) Dermal: 1. Place swab in M4-RT media or other viral transport media (M4 or M5). 2. Clearly label "enterovirus" to ensure proper handling and test setup.</p>
Special Processing:	Lab Staff: Ensure collection is appropriate for sample type and forward specimen to Sendouts.
Patient Preparation:	None
Sample Rejection:	Gel swab, swab with wood handle, E-swab. Blood, serum, bile (toxic), deep seated tissues, lymph nodes, synovial fluid, bone marrow/bone tissue, wound swabs, tissue swabs, pus, abscess and/or drainage material; mislabeled or unlabeled specimens

Interpretive

Reference Range:

Negative
If positive, virus is identified

Interpretation:

A positive result indicates that virus was present in the specimen submitted. Clinical correlation is necessary to determine the significance of this finding.

Negative results may be seen in a number of situations including absence of viral disease, inability of the virus to grow in culture (examples of organisms not detected by this culture test include Epstein-Barr virus, rubella virus, papilloma, and Norwalk virus), and nonviable organisms submitted.

Critical Values:

N/A

Limitations:

Viral isolation and detection depends on the proper collection and transport of the specimen.

Some viruses (eg, cytomegalovirus) take up to 2 weeks to grow in viral cell culture. Molecular tests (ie, real-time PCR) should be used for rapid diagnosis.

This test is not useful for viruses (not listed above) that cannot be grown in cell culture.

Methodology:

Cell Culture
Shell Vial Assay for Herpes Simplex Virus or Cytomegalovirus

References:

[Mayo Clinical Laboratories](#) August 2019