

**EV****Enterovirus RNA by RT-PCR - Qualitative**

GA Test Code	4025
Method	Reverse Transcriptase - Polymerase Chain Reaction (RT-PCR)
Specimens	<p>CSF: 2.0 mL (1.0 mL), refrigerated (7 days) or frozen.</p> <p>Plasma (ACD, EDTA, or PPT): 3.0 mL (1.0 mL), separated/centrifuged within 6 hours, refrigerated or frozen (<i>do not freeze in PPT</i>). If storing longer than 24 hours, store frozen.</p> <p>Whole Blood (ACD or EDTA): 5.0 mL (3.0 mL), ambient (4 days), refrigerated (7 days).</p> <p>Urine: 10.0 mL (5.0 mL), refrigerated (7 days).</p> <p>Serum: 2.0 mL (1.0 mL), refrigerated (7 days) or frozen.</p> <p>Amniotic Fluid: 5.0 mL (1.0 mL), discard first 2 mL, and then collect 3-5 mL in a sterile plastic conical tube or one T-25 flask of confluent cells, refrigerated (7 days).</p> <p>Swab: upper respiratory or rectal, ambient. Ship in viral transport medium or sterile saline solution.</p> <p>Stool: 4-8 g of feces, screw-cap container, refrigerated (7 days). Do not dilute the specimen or use preservatives.</p> <p>Other Samples: Please contact GA for questions about other specimens.</p>
Causes for Rejection	Quantity not sufficient (QNS) for analysis; time and/or temperature instructions not followed; blood in heparin; plasma frozen in PPT.
Reference Range	Not Detected
Turnaround Time	24-48 hours
CPT Code	87498

Description

Enterovirus genomic RNA is targeted using Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) and then detected using Real-time PCR.

Clinical Utility

The enteroviruses (EV) are a group of RNA viruses that comprise approximately 72 serotypes of human enteroviruses including polioviruses, Coxsackie A or B viruses and echoviruses. These viruses are responsible for >85% of cases of aseptic meningitis and are particularly difficult to diagnosis in infants and young children. While cell culture remains the standard in isolating these viruses, it can take up to seven days to grow and identify the virus and up to three weeks to report a negative. Although unable to differentiate between individual viruses within the family, EV-specific group analysis by RT-PCR is particularly useful in suspected cases of aseptic meningitis because it enables rapid diagnosis.

Twenty-seven EV serotypes are identified in this PCR assay: Coxsackie viruses A3, A7, A9, A16, and B1 through B6; echoviruses 2 through 7, 9, 11, 14, 16, 18, 21, 24, 30, and 31; and EV's 70 and 71. These include the most commonly reported EV serotypes isolated from patients with meningitis.

Robert HA, Sawyer MH, Fast S. Diagnosis of Enteroviral Meningitis by Using PCR with a Colorimetric Microwell Detection Assay. *J Clin Micro* 1994;32:2590-2.