Lab Dept: Microbiology

Test Name: ENTEROVIRUS RNA BY PCR, CSF

General Information

Lab Order Codes:	EVPCR
Synonyms:	Enterovirus RT PCR; PCR for Enterovirus; Coxsackievirus; Echovirus
CPT Codes:	87198 – Enterovirus, amplified probe technique
Test Includes:	Detection of Enterovirus RNA by Reverse Transcription and Real-Time Polymerase Chain Reaction (PCR) in spinal fluid

Logistics

Lab Testing Sections:	Microbiology
Phone Numbers:	MIN Lab: 612-813-5866
Test Availability:	Daily, 24 hours Testing performed in Minneapolis: 6:00 AM – 12:00 PM
Turnaround Time:	3 – 24 hours from receipt in Minneapolis
Special Instructions:	Requisition must state specific date/time of collection

Specimen

Specimen Type:	CSF
Container:	Sterile CSF Collection Tube
Draw Volume:	0.5 mL CSF
Processed Volume:	Same as Draw Volume
Collection:	Aseptic Technique: Refer to the CSF collection procedure
Storage/Transport:	Transport to the laboratory immediately to maintain specimen integrity. Specimens can be stored at refrigerated temperatures (2-8 °C) for 3 days.

Sample Rejection:	Samples not submitted in appropriate transport container; improperly labeled specimen; insufficient volume; specimens subjected to prolonged transport time at inappropriate conditions. If an unacceptable specimen is received, the patient's caregiver will be notified and another specimen will be requested before the specimen is discarded.

Interpretive

Reference Range:	Negative
Alert Value:	Positive results will be phoned to the patient's Caregiver.
Limitations:	● Results from the Xpert EV assay should be interpreted in conjunction with lab results and clinical data. ● The Xpert EV assay is for the detection of enterovirus only. ● An EV Positive result does not rule out the presence of another pathogen like bacteria in CSF. ● An EV Negative result does not rule out the presence of enterovirus. ● The EV Assay does not rule out Herpes-induced or fungal meningitis; additional testing is required to rule out these infections. ● A negative test result does not exclude the possibility of infection because the test result may be affected by improper specimen collection, technical error, sample mix-up, or because the number of organisms in the sample is below the limit of detection of the test. ● Because the detection of Enterovirus is dependent on the organism's RNA present in the sample, reliable results are dependent on proper sample collection, handling, and storage. ● The Xpert EV test provides qualitative results and does not provide the quantitative value of the organism detected in the specimen. ● The performance of the Xpert EV test was evaluated using the procedures provided in the package insert only. ● During Cepheid's validation studies endogenous interfering substances were tested. No interference was found upon testing samples containing white blood cells up to 7,140 WBC/mm3, red blood cells up to 125,000 RBC/mm3, CSF proteins up to 1,071 mg/dL, blood up to 2.5% v/v, and hemoglobin up to 3.6 g/dL. Samples tested with levels beyond these concentrations may give erroneous results
Methodology:	Reverse Transcription and Real Time Polymerase Chain Reaction (RT-PCR).
References:	Xpert Epress SARS-CoV-2 Package Insert, 3023562, Rev B, April 2020. In. Sunnyvale, CA: Cepheid Zou L, Ruan F, Huang M, et al. SARS-CoV-2 viral load in upper respiratory specimens of infected patients. 2020 Xu X-W, Wu X-X, Jiang X-G, et al. Clinical findings in a group of patients infected with the 2019 novel coronavirus (SARS-Cov-2) outside of Wuhan, China: retrospective case series. 2020;368

Lai C-C, Shih T-P, Ko W-C, Tang H-J, Hsueh P-RJIjoaa. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and corona virus disease-2019 (COVID-19): the epidemic and the challenges. 2020:105924

Updates: 6/16/2020: Updated Limitations