Cytomegalovirus (CMV) Viral Load by Real-Time PCR

Clinical Indication and Relevance
The test is used to assist in identification and monitoring of plasma levels of CMV, primarily in transplant recipients and in AIDS patients. Common circumstances where elevated levels of CMV may be found include: CMV gastroenteritis in transplant recipients, hepatitis in liver transplant recipients, CMV pneumonia in bone marrow or lung transplant recipients, and CMV retinitis in AIDS patients.

Methodology
Viral DNA is isolated from plasma and amplified with specific primers and a TaqMan probe targeting the CMV Polymerase I gene using a quantitative real-time PCR assay. Results are reported as CMV copies per ml.

Sensitivity
This assay can detect CMV load to a sensitivity of 300 copies per ml of plasma.

Turn-around Time
Three working days

Sample Requirements
Collect
- Peripheral blood (PB): 3 mL, in purple top (sodium EDTA) tube; yellow top (ACD) tube acceptable.
- Frozen plasma: 1-2 mL, prepared by centrifuging anticoagulated blood at 1500g for 10 minutes, and carefully transferring the plasma supernatant to a new tube without disturbing the buffy coat layer.

Transport
Deliver PB immediately at 2-8°C (wet ice or cold packs). Do not freeze PB, but plasma samples may be frozen.

Stability
Refrigerated - 24 hours; frozen plasma is acceptable.
Note: do not leave PB or plasma samples at room temperature.

Unacceptable Samples
Frozen peripheral blood; clotted blood; severely hemolyzed samples.

CPT Code(s)
87799: Quantification, each organism

References