



Technical Bulletin

Quantitative Cytomegalovirus (CMV) Testing Available Locally

TO: Medical Staff and Clients

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SUBJECT: Quantitative CMV testing by qPCR available at DLS Central Laboratory

Cytomegalovirus (CMV) is a common infection, but may cause severe disease in immunocompromised patients such as retinitis, polyradiculopathy, gastroenteritis, hepatitis, encephalitis, esophagitis, enterocolitis, pancreatitis, nephritis, donor organ rejection, pneumonitis, and CMV viral syndrome. It is one of the most important viral infections in transplant recipients. Risk factors include seropositive donors and seronegative recipients, lymphocyte depleting and antibody therapy.

In general, higher CMV viremia (viral load) is more closely associated with the risk of development of CMV disease. Although historic methods have had high variability, this assay is referenced to standardized international units (IU) which decreases, but does not eliminate, variation.

This is a quantitative molecular test, that has a larger linear range than our reference lab test (34.5 - 10,000,000 IU/mL versus 200 – 2,000,000 for Quest). Current guidelines based on the precision of PCR tests suggest that the changes in serial viral load measurements should be at least 3-fold ($0.5 \log_{10}$) to represent biologically important changes.^{1,2} Results will be reported in both formats.

Weekly monitoring for CMV replication by quantitative nucleic acid amplification testing (NAAT; such as qPCR) is recommended for as little as 3 months in transplant recipients. Measuring CMV viral load in immunosuppressed patients or amniotic fluid may also be useful. We expect values to be somewhat different from those reported by the current reference laboratory (e.g., lower linear range), so providers may wish to continue with the send-out option until patients complete their current viral load monitoring period.

Effective October 7, 2019, Quantitative CMV testing by qPCR will be available at DLS Central Laboratory

Order codes: 6010 CMV, Quantitative
 5093 (Send out) Cytomegalovirus DNA, Quant., RT-PCR

References:

1,2: Kotton, et al. Transplantation 2010 & 2013.

Please refer any questions to Amy Woron, Manager - DLS Molecular Laboratory at 441-5436, or DLS Client Services at 589-5101.
