

Cytomegalovirus Qualitative/Quantitative Real-time PCR

Cytomegalovirus (CMV), a member of the herpes virus family, is capable of remaining latent in infected individuals for life. When reactivated, the virus can be spread by urine, saliva, blood, and contact. Infections with CMV are usually asymptomatic. However, in high- risk, premature newborns, morbidity and mortality are significant, including hepatosplenomegaly, thrombocytopenia, atypical lymphocytosis, and hemolytic anemia. In immunocompromised patients, including transplant recipients, symptoms may include fever, leukopenia, thrombocytopenia, pneumonitis, hepatitis, retinitis, and encephalitis. Death may occur in these patients as a result of secondary infections. Therefore, quantitative monitoring of viremia is essential when making treatment decisions. Real-time PCR provides a rapid and sensitive method to determine the presence of target-specific amplifiable nucleic acids in all samples intended for PCR¹⁻³. For more information, call the lab at 513-636-9820.

Reporting Units:

Qualitative: Positive/Negative

Quantitative: International Units/mL (or Log₁₀ IU/mL for BAL or Copies/μg DNA for tissues)

Unacceptable Specimens:

- Frozen whole blood
- Swabs in gel or charcoal media

Shipping Conditions:

- Ambient if sent within 24 hours
- On cold packs if sent >24 hours after collection

Sample Type	Qualitative	Quantitative	Volume Needed	Collection Container
Anticoagulated Blood or Bone Marrow*	✓	✓	1mL	Lavender Top (EDTA)
Aspirate: endotracheal tube, tracheal	✓		1mL	Sterile Container
Body Fluids (i.e. amniotic, pericardial, pleural, vitreous)	✓		1mL	Sterile Container
Bronchoalveolar Lavage (BAL) fluid	✓	✓	1mL	Sterile Container
Cerebrospinal Fluid (CSF)	✓	✓	1mL	Sterile Container
Plasma*	✓	✓	1mL	Lavender Top (EDTA)
Serum	✓	✓	1mL	Gold Top (SST)
Stool	✓		1mL or 0.3 g	Sterile Container
Swab**: conjunctival, labial, lesion, mouth, nasal, naso- pharyngeal, rectal, skin, throat, vaginal, vesicle, wound	✓		n/a	Red or Green Culturette Swab
Tissue***	✓	✓	0.3 g	Sterile Container
Urine	✓		1mL	Sterile Container

* EDTA is preferred, sodium heparin is acceptable.

** Red or green top culturette swabs preferred; viral transport media acceptable.

*** Wrap tissue in gauze wetted slightly with sterile saline to keep moist during transport.

Testing Schedule:

Testing for Cytomegalovirus is performed Mon-Fri on first and second shift. For testing outside of this schedule, call the lab at 513-636-9820. **TAT:** 1-3 days

EPIC Test Codes:

Qualitative: 8004004

Quantitative: 9009180

CPT Codes:

Qualitative: 87496

Quantitative: 87497

Contact Information:

Cincinnati Children's Division of Pathology
Molecular and Genomic Pathology Services (MGPS)

Phone: 513-636-9820

Fax: 513-517-7099

Email: pathology@cchmc.org

Website: cincinnatichildrens.org/pathology

For pricing or billing questions, call 513-636-4261.

Shipping Address:

Cincinnati Children's Hospital Medical Center
Attn: Molecular and Genomic Pathology Services (MGPS)
3333 Burnet Ave, R2.001
Cincinnati, OH 45229

References:

1. Bohórquez S, Díaz J, Rincón C, et al. Shedding of HSV-1, HSV-2, CMV, and EBV in the saliva of hematopoietic stem cell transplant recipients at Fundación HOMI. *Biomedica*. 36:201-210. 2016.
2. Gilden D, Mahalingam R, Cohrs R, et al. Herpesvirus infections of the nervous system. *Nature Clin Practice*. 3:82-94. 2006.
3. Murray P, Baron E, Pfaller F, et al, eds. *Manual of Clinical Microbiology*. 7th ed. American Society of Microbiology Press, Washington D.C. 1999.