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**Lab Dept:** Microbiology/Virology

**Test Name:** CMV BY PCR, FLUID, TISSUE, URINE ( $\geq 21$  DAYS OLD) OR BONE MARROW

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***General Information***

**Lab Order Codes:** PCRC

**Synonyms:** Cytomegalovirus (CMV) detection by Polymerase Chain Reaction (PCR), Specimen Type Varies; CMV Detection by Real-Time PCR

**CPT Codes:** 87496 - Infectious agent detection by nucleic acid (DNA or RNA); cytomegalovirus, amplified probe technique

**Test Includes:** Detection of CMV by Real-Time PCR reported as positive or negative.

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***Logistics***

**Test Indications:** Useful for rapid qualitative detection of cytomegalovirus (CMV) DNA. This test is **not** intended for the monitoring of CMV disease progression.

For urine on patients  $\leq 20$  days old, order the in-house test Congenital Cytomegalovirus (CMV) PCR Urine (test code **CCMVU**). Lab will reorder appropriately, if needed.

**Lab Testing Sections:** Microbiology - Sendouts

**Referred to:** Mayo Clinic Laboratories (MML: CMVPV)

**Phone Number:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 – 4 days; test performed on Monday - Sunday

**Special Instructions:** Specimens grossly contaminated with blood may inhibit the PCR and produce false negative results.

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***Specimen***

<b>Specimen Type:</b>	<p>Body fluid (pleural, peritoneal, ascites, pericardial, amniotic, or ocular);</p> <p>Spinal Fluid (CSF);</p> <p>Respiratory fluid (bronchial washing, bronchoalveolar lavage, nasopharyngeal aspirate or washing, sputum, or tracheal aspirate);</p> <p>Genital swab (cervix, vagina, urethra, anal/rectal, or other genital sources);</p> <p>Swab (dermal, eye, nasal, saliva, or throat);</p> <p>Tissue (brain, colon, kidney, liver, lung, etc.);</p> <p>Urine (for patients <math>\geq</math> 21 days old);</p> <p>Bone Marrow Aspirate</p>
<b>Container:</b>	<p><b>Body Fluid/CSF/Respiratory/Urine:</b> Sterile container</p> <p><b>Swab (Dermal, genital, eye, nasal, saliva or throat):</b> Multimicrobe media (M4-RT, M4, or M5) and ESwabs (Note: Calcium alginate-tipped swab, wood swab, or transports swabs containing gel are NOT acceptable)</p> <p><b>Tissue:</b> Sterile container containing 1-2 mL of sterile saline or multi-microbe medium (M4-RT, M4, or M5)</p> <p><b>Bone Marrow:</b> Dry syringe <b>immediately</b> transferred at bedside to lavender vacutainer tube (EDTA).</p>
<b>Draw Volume:</b>	<p><b>CSF/Bone Marrow/Ocular fluid:</b> 0.5 mL (minimum: 0.3 mL)</p> <p><b>Other Body Fluid:</b> 0.5 mL (minimum: 0.5 mL)</p> <p><b>Respiratory Specimen:</b> 1.5 mL (minimum: 1 mL)</p> <p><b>Swab:</b> Entire collection</p> <p><b>Tissue:</b> Entire collection (2x2-mm biopsy)</p> <p><b>Urine:</b> 1 mL (minimum: 0.3 mL)</p>
<b>Processed Volume:</b>	Same as Draw Volume
<b>Collection:</b>	Aseptic collection and aliquot technique, deliver to the laboratory immediately after collection. Avoid hemolysis. Specify specific specimen source.

<b>Special Processing:</b>	Lab Staff: Send specimen refrigerated in a screw-capped sterile vial or other collection container specified above. Maintain sterility and forward promptly.  The high sensitivity of amplification by PCR requires the specimen to be processed in an environment in which contamination of the specimen by CMV DNA is not likely.  Specimen stable refrigerated (preferred) or frozen for 7 days.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Improperly labeled specimen. If an unacceptable specimen is received, the physician or nursing station will be notified and another specimen will be requested before the specimen is discarded.

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### ***Interpretive***

<b>Reference Range:</b>	Negative
<b>Critical Values:</b>	As defined by reference lab
<b>Limitations:</b>	A negative result does not eliminate the possibility of CMV infection.  This assay is only to be used for patients with a clinical history and symptoms consistent with CMV infection and must be interpreted in the context of the clinical picture.
<b>Methodology:</b>	Real-Time Polymerase Chain Reaction (PCR)/DNA Probe Hybridization
<b>References:</b>	<a href="#">Mayo Clinic Laboratories</a> September 2023
<b>Updates:</b>	8/31/2010: Test expanded to include other specimen types beyond CSF. 12/22/2022: Testing transitions to a new performing laboratory within Mayo Clinic to streamline processes of molecular microbiology. 9/21/2023: Added specimen stability 11/13/2023: Updated minimum required volumes. 7/16/2024: Updated title and test indications – urine on patients < 20 days of age will be tested in-house (code CCMVU).