

Cytomegalovirus (CMV) Quantitative Real-time PCR

Test Code: 5500

Clinical and Procedure

Clinical Utility

CMV is an important pathogen in the transplant setting causing pneumonitis, colitis, hepatitis, CNS disease, neutropenia, and disseminated disease. Prior to the availability of rapid and sensitive DNA PCR, CMV was a leading cause of morbidity and mortality in the transplant population. Quantitative CMV DNA PCR can be used for early detection of CMV reactivation, primary infections, and monitoring response to treatment.

Procedure

Extraction of CMV DNA from specimen followed by amplification and detection using real-time, quantitative PCR. An internal control is added to ensure the extraction was performed correctly and the PCR reaction was not inhibited. Viracor Eurofins' assay design includes multiple targets to account for viral mutations, which significantly reduces the chance of false negative results. This test has not been cleared or approved for diagnostic use by the U.S. Food and Drug Administration.

Specificity

The primers and probes used in this assay are specific for known CMV strains based on similarity search algorithms. Additionally, no cross reactivity was detected when tested against adenoviruses, BKV, EBV, HSV-1, HSV-2, HHV-6 variant A, HHV-6 variant B, HHV-7, HHV-8, JCV, parvovirus B19, SV-40, and VZV.

Turnaround Time

Same day (within 8 - 12 hours from receipt of specimen), Monday through Saturday.

Specimen Information

Specimen Type	Order Code	CPT Code	NY Approved	Volume	Assay Range
amniotic fluid	5507	87799	Yes	2 mL (min. 0.5 mL)	104 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions					
<ul style="list-style-type: none"> - Collect 2 mL in sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped ambient temperature must be received within 96 hours of collection 					
aqueous fluid	5545	87799	Yes	1 mL (min. 0.05 mL)	1,423 copies/mL to 1x10 ⁸ copies/mL
Special Instructions					
<ul style="list-style-type: none"> - Transfer collected amount to sterile, screw top tube for shipment. - Do not add water, saline or other fluid media to container. - Do not ship specimen in syringe. - Store frozen and ship on dry ice. 					
BAL	5509	87799	Yes	2 mL (min. 0.5 mL)	79 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions					
<ul style="list-style-type: none"> - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection. 					

Specimen Type	Order Code	CPT Code	NY Approved	Volume	Assay Range
bone marrow	5504	87799	Yes	2 mL (min. 0.5 mL)	1,039 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect in EDTA tube. - Do not centrifuge. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
bronch wash	5526	87799	Yes	2 mL (min. 0.5 mL)	79 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
CSF	5503	87799	Yes	2 mL (min. 0.5 mL)	142 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect in a sterile, screw top tube. - Store frozen and ship on dry ice for overnight delivery.					
eye swab	5527	87496	Yes	2 mL	Detected/Not Detected
Special Instructions - Place sterile swab placed in 2 mL sterile saline, M4, or viral transport media in a sterile, screw top tube. - Do not use calcium alginate swab or wood shafted swab. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
fecal	5508	87496	Yes	Size of pea, or 2 mL liquid stool	Detected/Not Detected
Special Instructions - Collect and place in a sterile, screw top tube. - Store frozen and ship on dry ice for overnight delivery.					
pericardial fluid	5512	87799	Yes	2 mL (min. 0.5 mL)	104 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
plasma	5501	87799	Yes	2 mL (min. 0.5 mL)	96 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect 4-5 mL whole blood in EDTA or ACD tube. - Centrifuge and transfer 2 mL plasma to sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
pleural fluid	5511	87799	Yes	2 mL (min. 0.5 mL)	104 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection.					
serum	5510	87799	Yes	2 mL (min. 0.5 mL)	96 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions - Collect 4-5 mL whole blood in red top tube.					

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Specimen Type	Order Code	CPT Code	NY Approved	Volume	Assay Range
<ul style="list-style-type: none"> - Centrifuge and transfer 2 mL serum to sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection. 					
tissue [Qual]	5506	87496	Yes	5 mg fresh tissue (approximately ½ of a pencil eraser size)	Detected/Not Detected
Special Instructions <ul style="list-style-type: none"> - Place fresh tissue in a sterile, screw top container. - The preferred handling is to not add water, saline or other fluid media to the tissue container; however, fluid media filled containers will be accepted for qualitative results. - Store frozen and ship on dry ice for overnight delivery. - Formalin fixed, paraffin embedded tissue will not be accepted. 					
tissue [Quant]	5505	87799	Yes	5 mg fresh tissue (approximately ½ of a pencil eraser size)	37 IU/mg to 1.88x10 ⁷ IU/mg
Special Instructions <ul style="list-style-type: none"> - Place fresh tissue in a sterile, screw top container. - Do not add water, saline or other fluid media to container. - Store frozen and ship on dry ice for overnight delivery. - Formalin fixed, paraffin embedded tissue will not be accepted. 					
trach asp	5519	87799	Yes	2 mL (min. 0.5 mL)	79 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions <ul style="list-style-type: none"> - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection. 					
trach wash	5548	87799	Yes	2 mL (min. 0.5 mL)	79 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions <ul style="list-style-type: none"> - Collect in a sterile, screw top tube. - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection. 					
urine	5502	87799	Yes	2 mL (min. 0.5 mL)	475 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions <ul style="list-style-type: none"> - Collect in a sterile urinalysis container then transfer to sterile, screw top tube for shipment - Can be shipped at ambient or frozen temperature Monday through Friday. - Specimens shipped at ambient temperature must be received within 96 hrs. of collection. 					
vitreous fluid	5514	87799	Yes	1 mL (min. 0.05 mL)	1,423 IU/mL to 1.88x10 ⁸ IU/mL
Special Instructions <ul style="list-style-type: none"> - Transfer collected amount to sterile, screw top tube for shipment. - Do not add water, saline or other fluid media to container. - Do not ship specimen in syringe. - Store frozen and ship on dry ice for overnight delivery. 					

Shipping

Ship Monday through Friday. Friday shipments must be labeled for Saturday delivery. All specimens must be labeled with patient's name and collection date. A Viracor Eurofins test requisition form must accompany each specimen. Multiple tests can be run on one specimen. Ship specimens FedEx Priority Overnight® to: Viracor Eurofins, 1001 NW Technology Dr, Lee's Summit, MO 64086

Causes for Rejection

Whole blood frozen, specimens beyond their acceptable length of time from collection as listed in the specimen handling, specimens received in trap containers, or specimen types other than those listed.

Disclaimer

Specimens are approved for testing in New York only when indicated in the Specimen Information field above.

The CPT codes provided are based on Viracor Eurofins' interpretation of the American Medical Association's Current Procedural Terminology (CPT) codes and are provided for informational purposes only. CPT coding is the sole responsibility of the billing party. Questions regarding coding should be addressed to your local Medicare carrier. Viracor Eurofins assumes no responsibility for billing errors due to reliance on the CPT codes illustrated in this material.

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