JC Virus (JCV) Quantitative Real-time PCR
Test Code: 3500

Clinical and Procedure

Clinical Utility
JCV is the etiologic agent of progressive multifocal leukoencephalopathy (PML) which is mainly seen in HIV patients, organ transplant patients, and other immunodeficient syndromes. In addition to PML, JCV also causes nephropathy in the renal transplant setting, although with considerably less frequency than BKV. JCV should always be considered in an immunocompromised patient with progressively deteriorating CNS function. Quantitative JCV DNA PCR can be used to detect JCV in CSF in the setting of CNS disease, and blood and urine in the setting of renal dysfunction. Quantitative DNA PCR can be used to track the course of infection as well as monitor response to treatment.

Procedure
Extraction of JCV 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. 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 all known JCV strains based on similarity search algorithms. Additionally, no cross reactivity was detected when tested against adenoviruses, BKV, CMV, EBV, HSV-1, HSV-2, HHV-6 variant A, HHV-6 variant B, HHV-7, HHV-8, parvo B19, SV-40, and VZV.

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

Specimen Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Order Code</th>
<th>CPT Code</th>
<th>NY Approved</th>
<th>Volume</th>
<th>Assay Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSF</td>
<td>3503</td>
<td>87799</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>72 copies/mL to 1x10^8 copies/mL</td>
</tr>
<tr>
<td>plasma</td>
<td>3501</td>
<td>87799</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>40 copies/mL to 1x10^8 copies/mL</td>
</tr>
<tr>
<td>serum</td>
<td>3510</td>
<td>87799</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>40 copies/mL to 1x10^8 copies/mL</td>
</tr>
</tbody>
</table>

Special Instructions
- Collect in a sterile, screw top tube.
- Store frozen and ship on dry ice for overnight delivery.

- Collect 4-5 mL whole blood in EDTA or ACD tube.
- Avoid using gel separator tubes; samples collected in gel separator tubes have increased rate of PCR inhibition.
- 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.

- Collect 4-5 mL whole blood in red top tube.
- Avoid using gel separator tubes; samples collected in gel separator tubes have increased rate of PCR inhibition.
<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Order Code</th>
<th>CPT Code</th>
<th>NY Approved</th>
<th>Volume</th>
<th>Assay Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>urine</td>
<td>3502</td>
<td>87799</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>151 copies/mL to 1x10^8 copies/mL</td>
</tr>
</tbody>
</table>

**Special Instructions**
- 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.

**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**
Specimens beyond their acceptable length of time from collection as listed in the specimen handling 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.