Herpes Simplex Virus 1 & 2 (HSV-1 & HSV-2) Quantitative Real-time PCR
Test Code: 8500

Some specimen types for this assay are reported as qualitative results; please see our Specimen Information section below for more information.

Clinical and Procedure

Clinical Utility
HSV-1 and HSV-2 are well known etiologic agents of gingivostomatitis, conjunctivitis, keratitis, herpetic whitlow, and genital infections as well as encephalitis, aseptic meningitis, atypical pneumonias and a wide variety of other clinical conditions. Quantitative HSV DNA PCR is the ideal diagnostic tool for CNS specimens, since HSV will rarely grow from CSF in cell culture. Quantitative PCR can be used to detect the presence of the virus as well as track the course of infections and response to treatment.

Procedure
Extraction of Herpes Simplex viral 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 HSV-1 and HSV-2 primers and probes used in this assay are specific for HSV-1 & 2 only and detect known HSV-1 & 2 strains based on similarity search algorithms. The individual primers and probes for HSV-1 and HSV-2 are unique and specific, with no cross reactivity between the HSV-1 and HSV-2 primers. Additionally, no cross reactivity was detected when tested against adenoviruses, BKV, CMV, EBV, 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

<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>aqueous fluid</td>
<td>8545</td>
<td>87799</td>
<td>Yes</td>
<td>1 mL (min. 0.05 mL)</td>
<td>HSV 1 is 2,176 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>HSV 2 is 748 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td>BAL</td>
<td>8509</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 58 copies/mL to 1x10^8 copies/mL.</td>
</tr>
</tbody>
</table>

Special Instructions
- 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.
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<tbody>
<tr>
<td>bronch wash</td>
<td>8526</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 58 copies/mL to 1x10^8 copies/mL. HSV 2 is 248 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td>CSF</td>
<td>8503</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 50 copies/mL to 1x10^8 copies/mL. HSV 2 is 71 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td>eye swab</td>
<td>8527</td>
<td>87529</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>genital swab</td>
<td>8528</td>
<td>87529</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>mouth swab</td>
<td>8520</td>
<td>87529</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>NP swab</td>
<td>8525</td>
<td>87529</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
</tbody>
</table>

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

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<td>plasma</td>
<td>8501</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 37 copies/mL to 1x10⁸ copies/mL. HSV 2 is 73 copies/mL to 1x10⁸ copies/mL.</td>
</tr>
<tr>
<td>rectal swab</td>
<td>8521</td>
<td>87529</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>serum</td>
<td>8510</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 37 copies/mL to 1x10⁸ copies/mL. HSV 2 is 73 copies/mL to 1x10⁸ copies/mL.</td>
</tr>
<tr>
<td>skin swab</td>
<td>8529</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>tissue [Qual]</td>
<td>8506</td>
<td>87529</td>
<td>Yes</td>
<td>5 mg fresh tissue (approximately ½ of a pencil eraser size)</td>
<td>Detected/Not Detected</td>
</tr>
<tr>
<td>tissue [Quant]</td>
<td>8505</td>
<td>87530</td>
<td>Yes</td>
<td>5 mg fresh tissue (approximately ½ of a pencil eraser size)</td>
<td>HSV 1 is 3 copies/mg to 1x10⁷ copies/mg.</td>
</tr>
</tbody>
</table>

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.

- 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.
- 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.

- 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.
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<tr>
<td>trach asp</td>
<td>8519</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 58 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>HSV 2 is 248 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td>trach wash</td>
<td>8548</td>
<td>87530</td>
<td>Yes</td>
<td>2 mL (min. 0.5 mL)</td>
<td>HSV 1 is 58 copies/mL to 1x10^8 copies/mL.</td>
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<td>HSV 2 is 248 copies/mL to 1x10^8 copies/mL.</td>
</tr>
<tr>
<td>vitreous fluid</td>
<td>8514</td>
<td>87530</td>
<td>Yes</td>
<td>1 mL (min. 0.05 mL)</td>
<td>HSV 1 is 2,176 copies/mL to 1x10^8 copies/mL.</td>
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</table>

Special Instructions
- 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.

**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 Eurowins 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, 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 Eurowins' 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.