Upper Respiratory Panel TEM-PCR™
Test Code: 220400P

Tests in this Panel

Adenovirus
Enterovirus group
Human bocavirus
Human coronavirus (4 types)
Human metapneumovirus
Influenza A - Human influenza
Influenza A - H1N1-09
Influenza B
Parainfluenza types 1, 2, 3, 4
Respiratory Syncytial Virus
Rhinovirus
Bordetella pertussis
Chlamydophila pneumoniae
Haemophilus influenzae
Haemophilus influenzae (Type B)
Mycoplasma pneumoniae
Neisseria meningitidis
Streptococcus pneumoniae
Streptococcus pyogenes (Group A)
Moraxella catarrhalis

Clinical and Procedure

Clinical Utility
The Upper Respiratory Panel detects nineteen viral and bacterial pathogens using TEM-PCR™ (Target Enriched Multiplex Polymerase Chain Reaction) technology - a multiplex PCR amplification technology to detect multiple targets simultaneously. Multiple target panel testing helps identify co-infections, provides physicians with valuable diagnostic insight into unknown causes of infection, reduces unnecessary antibiotic administration and hospital acquired infections, allows for molecular testing in patients with concurrent therapy, and more targeted therapy for better patient management and overall reduced hospital costs.

Procedure
Target Enriched Multiplex PCR™ diagnostic panel testing consists of three major steps: extraction, amplification and detection. The key to making TEM-PCR™ occur successfully lies in these primer mixes and how they allow the enrichment of multiple targets. The use of target-specific nested primers at low concentrations at the initial enrichment step allows high specificity of multiplexing amplification. After initial target enrichment is complete, Super Primers within the reaction carry out the exponential amplification and produce tagged PCR products for subsequent detection. The detection phase of the process is accomplished by measuring the fluorescence of special tags that are bound to the target sequences, which have been attached during amplification. This test has not been cleared or approved for diagnostic use by the U.S. Food and Drug Administration.

Specificity
The Adenovirus assay detects Serotypes B and E. Detection of Serotype C may be limited. The Rhinovirus and Enterovirus assays show considerable cross-reactivity. The Respiratory Syncytial Viral assay detects both types A and B, however it does not distinguish between the two. The Human Coronavirus assay detects Human coronavirus types 229E, OC43, NL63, and HKU1.
**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>BAL</td>
<td>220409P</td>
<td>87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1)</td>
<td>No</td>
<td>2 mL (min. 0.5 mL)</td>
<td>Positive/Not Detected</td>
</tr>
</tbody>
</table>

*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 7 days of collection.

| bronch wash | 220426P | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No           | 2 mL (min. 0.5 mL) | Positive/Not Detected    |

*Special Instructions*
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| nasal asp | 220431P | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No           | 2 mL (min. 0.5 mL) | Positive/Not Detected    |

*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 7 days of collection.

| nasal swab | 220430P | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No           | 2 mL            | Positive/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 7 days of collection.

| nasal wash | 220413P | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No           | 2 mL (min. 0.5 mL) | Positive/Not Detected    |
### Upper Respiratory Panel TEM PCR

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</tr>
</thead>
<tbody>
<tr>
<td>NP aspirate</td>
<td>220424P</td>
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<td>No</td>
<td>2 mL (min. 0.5 mL)</td>
<td>Positive/Not Detected</td>
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- Collect in a sterile, screw top tube.
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| NP swab        | 220425P    | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No          | 2 mL            | Positive/Not Detected |

**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 7 days of collection.

| NP wash        | 220447P    | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No          | 2 mL (min. 0.5 mL) | Positive/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 7 days of collection.

| throat gargle  | 220423P    | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No          | 2 mL (min. 0.5 mL) | Positive/Not Detected |

**Special Instructions**
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| trach asp      | 220419P    | 87798 (x5), 87486 (x1), 87581 (x1), 87632 (x1), 87651 (x1) | No          | 2 mL (min. 0.5 mL) | Positive/Not Detected |

**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 7 days of collection.
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<td>87651 (x1)</td>
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<td>Positive/Not Detected</td>
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<td>87651 (x1)</td>
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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 7 days 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
Wood shafted swab, calcium alginate swab, specimens received in trap containers, 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.

References
TEM-PCR, Diatherix Laboratories, LLC