eSensor®
Respiratory Viral Panel

The clinical performance you need.
The laboratory efficiency you expect.
GenMark’s Respiratory Viral Panel (RVP) uses innovative eSensor® technology to provide sensitive and specific respiratory virus detection and subtyping with an optimized workflow to maximize laboratory efficiency.

- The most sensitive RVP test based on independent studies including 99.2% agreement with qPCR\textsuperscript{1,2}
- Less than 60 minutes of hands-on-time, including extraction\textsuperscript{3}
- Over 3\textsuperscript{1/2} hours of walk-away time\textsuperscript{4}
- Scalable workflow to meet peak demand

**Respiratory Viral Panel Targets**

The eSensor RVP offers comprehensive detection of 14 respiratory virus types and subtypes to drive informed clinical decisions.

Influenza A
Influenza A H1
Influenza A H3
Influenza A 2009 H1N1
Influenza B
Respiratory Syncytial Virus (RSV) A
Respiratory Syncytial Virus (RSV) B
Parainfluenza Virus (PIV) 1
Parainfluenza Virus (PIV) 2
Parainfluenza Virus (PIV) 3
Human Metapneumovirus (hMPV)
Human Rhinovirus (HRV)
Adenovirus B/E
Adenovirus C

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3,4 Based on actual workflow studies conducted by GenMark scientists at customer sites. Times used are averages across multiple sites for calculations.
The Clinical Performance You Need

There is nothing more important in respiratory virus testing than delivering clinically accurate results. The eSensor RVP offers industry leading sensitivity and co-infection detection to enhance critical performance attributes that influence clinical management.

Sensitivity

Molecular detection of respiratory viruses is widely accepted as more sensitive than DFA and culture. The increased sensitivity positively impacts patient diagnosis for improved clinical management, infection control, and patient cohorting.¹

<table>
<thead>
<tr>
<th>Target</th>
<th>GenMark Dx</th>
<th>Luminex xTAG® RVP</th>
<th>BioFire FilmArray® RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADV</td>
<td>100%</td>
<td>74.3%</td>
<td>57.1%</td>
</tr>
<tr>
<td>FLU A</td>
<td>100%</td>
<td>100%</td>
<td>86.2%</td>
</tr>
<tr>
<td>H1N1</td>
<td>100%</td>
<td>100%</td>
<td>73.3%</td>
</tr>
<tr>
<td>H3</td>
<td>100%</td>
<td>92.9%</td>
<td>100%</td>
</tr>
<tr>
<td>FLU B</td>
<td>100%</td>
<td>95.5%</td>
<td>77.3%</td>
</tr>
<tr>
<td>HMPV</td>
<td>100%</td>
<td>100%</td>
<td>96.2%</td>
</tr>
<tr>
<td>PIV 1</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>PIV 2</td>
<td>100%</td>
<td>100%</td>
<td>92.3%</td>
</tr>
<tr>
<td>PIV 3</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>RSV A</td>
<td>100%</td>
<td>86.4%</td>
<td>86.4%</td>
</tr>
<tr>
<td>RSV B</td>
<td>100%</td>
<td>92.9%</td>
<td>100%</td>
</tr>
<tr>
<td>HRV/EV</td>
<td>97.5%*</td>
<td>93.0%</td>
<td>83.7%</td>
</tr>
</tbody>
</table>

¹ GenMark only detects Rhinovirus, removed three samples confirmed as Enterovirus


Co-Infection Detection

Prevalence of respiratory viral co-infections was recently reported at ~30% in pediatric populations. Co-infections of RSV and HRV in children led to a longer length of hospital stay and the recommendation to change patient cohorting strategies.¹

<table>
<thead>
<tr>
<th>Viral Co-Infection</th>
<th>Luminex xTAG® RVP</th>
<th>BioFire FilmArray® RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>H3-RSV</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>H3-FLU B</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>H1N1-HRV</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>H1N1-PIV 3</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>H1N1-RSV</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>RSV-ADV</td>
<td>X</td>
<td>?</td>
</tr>
<tr>
<td>HMPV-RSV</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>HMPV-ADV</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>HRV-RSV</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

* Demonstrates co-infection detection
? Co-infection studies not performed
X Does not demonstrate co-infection detection

* Source for co-infection table: Luminex xTAG RVP Package Insert, Table 30-31; GenMark eSensor RVP Table 30.

Clinical Utility

A sensitive and specific RVP test with same-day results can improve antibiotic stewardship and enhance patient cohorting. Sensitive, accurate, and timely RVP diagnosis is critical in effectively managing patients.

One clinical outcome study illustrates the impact of false negative results that led to a delay in treatment and resulted in a nosocomial outbreak of RSV in hematopoietic stem cell transplant (HSCT) patient population.²

Only eSensor RVP accurately detected RSV in all five HSCT patients, emphasizing the value of a highly sensitive and specific RVP test.*

<table>
<thead>
<tr>
<th>Case</th>
<th>Luminex xTAG® RVP</th>
<th>RSV Rapid Antigen</th>
<th>Shell Vial Culture</th>
<th>Time to Diagnosis from initial Luminex RVP Negative (Days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>72 year old male</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>54 year old male</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>4</td>
</tr>
<tr>
<td>30 year old male</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>59 year old male</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>7</td>
</tr>
<tr>
<td>64 year old male</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>28</td>
</tr>
</tbody>
</table>

* All patients were infected with RSV. GenMark RVP result obtained retrospectively.

² Hawkinson D, et al, Delayed RSV diagnosis in stem cell transplant population due to mutations that result in negative polymerase chain reaction, Diagn Microbiol Infect Dis (2013), http://dx.doi.org/10.1016/j.diagmicrobio.2012.12.014
The Laboratory Efficiency You Expect

Today’s molecular laboratories face pressure to deliver high quality results with optimized efficiency both in use of labor and laboratory space. The eSensor RVP features 3.75 hours of walk-away time and is scalable to meet peak demand, making it the clear choice for laboratories looking to optimize workflow.

Compared to the Luminex xTAG RVP, GenMark offers 75% less hands-on time and 45% more walk-away time, allowing your laboratory staff to focus on more than a single test.¹

GenMark (24 samples, 1 system) vs. BioFire (24 samples, 5 systems)

Laboratory bench space is critical, so selecting platforms that can scale to meet peak demand is important to preserve precious space. Compared to the BioFire FilmArray, a single GenMark XT-8 system can accommodate increased test volume while using 80% less bench space, a cost savings of up to $15,000.²

¹ Based on actual workflow studies conducted by GenMark scientists at customer sites. Times used are averages across multiple sites for calculations.
² Average bench space costs in molecular labs: $1,250 to $1,500/SF. Source: JAMA, 2003;290(7):875-877
To learn more about the eSensor® Respiratory Viral Panel or to schedule a demonstration, contact us at info@genmarkdx.com or call 1-800-373-6767.