ePlex® RP Panel: Improved Diagnosis of Upper Respiratory Infections in Pediatric Patients

GenMark Customer Spotlight

Dr. Marie Gueudin
Virologist at the Laboratory of Virology, University Hospital Charles Nicolle in Rouen, France

Dr. Gueudin is an advocate for improving testing in pediatric patients to deliver more accurate and timely results to clinicians.

Q. Based on your experience, what recommendations do you have for other labs also considering the move to a multiplex respiratory panel?

A. The ePlex ease-of-use allows it to be compatible with any lab, even those with no molecular biology experience. We did provide education for our pediatricians regarding the ePlex RP panel and preference for the collection of nasopharyngeal swabs. As a result, we are receiving more nasopharyngeal swab samples, but we also run nasal aspirate and BAL samples successfully*.

Q. What feedback have you received from clinicians since you implemented the ePlex RP panel?

A. Some physicians have been surprised by the rate of co-infection and by the detection of additional viruses that we were not able to detect previously. They are very happy to finally get the etiology of non-RSV bronchiolitis and they have been able to avoid inappropriate use of antibiotics for some patients. Some initial clinical impacts have been the appropriate isolation of more patients to reduce the rate of hospital acquired respiratory virus infections which have always been difficult to track and quantify. As a result, we have initiated some internal studies with our physicians to make respiratory virus diagnostics mandatory with the goal to further enhance the prevention of hospital acquired infection in our institution.

Q. When you implemented the ePlex RP panel you were transitioning from Direct Fluorescent Antibody (DFA) testing. What led to you make the change?

A. As a virology lab in a university hospital setting, our goal is to deliver our physicians complete, fast and clinically useful information. In this regard, our DFA method was no longer sufficient as we were conscious of the lack of sensitivity of DFA versus PCR and also that we were missing major viruses like rhinoviruses and coronaviruses. In addition, it would have been difficult to get accreditation of this method and would have required us to maintain specialized training of the technician staff to read the DFA slides.

Q. Upon implementing the ePlex RP panel, what were some of the immediate laboratory and clinical benefits compared to your prior methodology?

A. It was quite easy to install and implement ePlex in our lab. The footprint is much smaller than the equipment we were using for DFA. One immediate major benefit realized from the LIS integration of ePlex is we have been able to provide automated and secure results transmission to the physicians. Avoiding the use of paper results and manual transcription not only saved time, but helps reduce potential errors. Due to the ease-of-use, training our staff to use ePlex has been very easy and quick.

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* ePlex RP CE-IVD intended use is limited to NPS samples
Q. What have you observed in regards to overall respiratory virus positivity in your patient population since the implementation of the ePlex RP panel?

A. The virus positivity rate raised from 15% with DFA over the 2015-2016 winter season to 66% with ePlex over the last winter season and summer period. Even if RSV and Flu are not circulating during summer we were still detecting other viruses in a high proportion of patients. Viral co-infection has been found in 31% of the patients. In our experience, the co-infection rate is much more common within pediatric patients less than 1 year old and nearly absent for patients over 5 years old. We have also observed higher positivity in BAL samples. Out of the 184 BAL samples tested, we found a positivity rate of 16.3% versus DFA, which was almost always negative with this sample type.

Q. How has the ePlex RP panel impacted your overall respiratory diagnostic testing in regards to bacteriology or providing testing services to other hospitals?

A. After implementing ePlex RP we began promoting our testing capability to peripheral hospitals. As a result, we have seen a significant increase in these samples from peripheral hospitals often related to difficult or high risk patient cases. In addition, we were contacted by a retirement home for testing during a presumed outbreak situation in which we were able to quickly identify rhinovirus as the cause which assisted in managing the outbreak more effectively.

For more information on ePlex® and the RP Panel, please visit www.genmarkdx.com