# Looking For a Confident Way to Diagnose, Manage, and Treat Respiratory Tract Infections?

## Don't guess. Know.

BIOMÉRIEUX

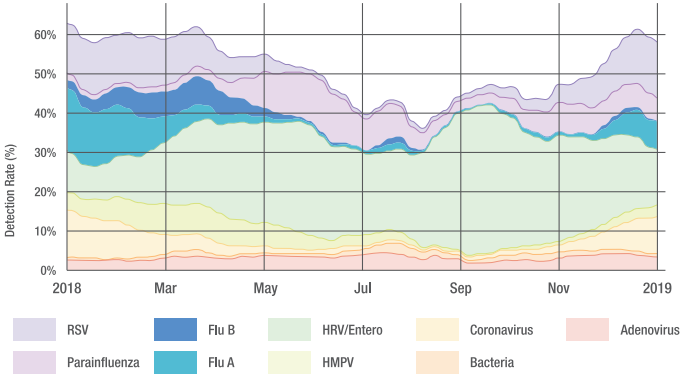
BIOFIRE®

BIOFIRE® Respiratory

## What's the Problem?

In Europe, approximately 16,500,000 cases of acute bronchitis are seen each year. Of those, almost 90% are related to viruses. In children, acute respiratory infections account for almost 50% of visits to the doctor and hospitalizations. Furthermore, bronchiolitis is the most common cause of admission to the hospital in the first 12 months of life.[1]

### Distribution of respiratory pathogens over several seasons[11]




## Challenges

Treating respiratory tract infections (RTIs) can be very challenging and the inappropriate use of antibiotics for viral RTIs is a main contributor to increasing antimicrobial resistance. It is estimated that 55% of antibiotic prescriptions for RTIs in outpatients are unnecessary.[2]

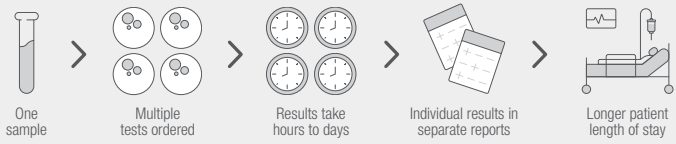
The BioFire® Respiratory 2.1*plus* (RP2.1*plus*) Panel is a first-line test to help clinicians quickly diagnose respiratory infections that present with nearly indistinguishable symptoms.

# 2.1 *plus* Panel

## The Right Test, the First Time

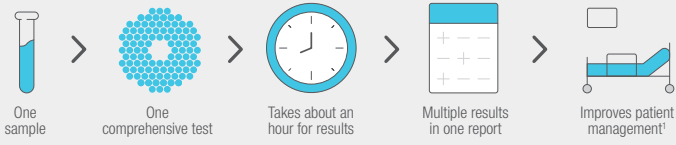
Syndromic testing is a symptom-driven broad grouping of probable pathogens into one, rapid test that maximizes the chance of getting the right answer in a clinically relevant timeframe.

## Traditional Testing




VS.

## Syndromic Testing




## Who Should Get Tested?

This test identifies multiple respiratory viral and bacterial nucleic acids in nasopharyngeal swabs (NPS) obtained from individuals suspected of respiratory tract infections. We recommend to use the BioFire RP2.1*plus* Panel on the following high-risk patient groups:


Young infants


Immuno-compromised patients


Elderly patients

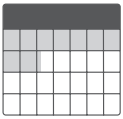

Patients with co-morbidities

## Sample Requirements

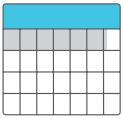
300 µL nasopharyngeal swab collected in viral transport media.

# Reduce the Total Cost of Care

Mean ICU Days per ICU Visit[3]



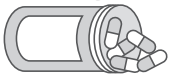
**9.2 Days** Before BioFire Adoption



**6.2 Days** After BioFire Adoption

Duration of Antibiotic Use[4]

Using Standard Testing
**3.2 Days**



Using BioFire RP Panel
**2.7 Days**

Overall Treatment Costs[3]

Potentially significant cost savings after BioFire® FilmArray® Respiratory (RP) Panel adoption for an ICU patient with positive or negative respiratory virus test results.

**$9,109 savings** Positive RP Results

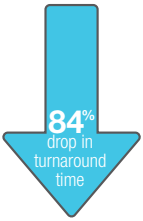
**$8,104 savings** Negative RP Results

# Speed to Results

The BioFire® FilmArray® Respiratory 2 *plus* (RP2*plus*) Panel can dramatically reduce time to diagnosis compared to traditional testing methods.[3,4,5,6,7,8,9]

**25.3 HOURS** Before BioFire Adoption

**3.2 HOURS** After BioFire Adoption




# Overall Performance of the BioFire RP2.1*plus* Panel[10]

**97.4%** Sensitivity

**99.4%** Specificity

## Guidelines

A. ESCMID Guidelines for the management of adult lower respiratory tract infections, M. Woodhead et al, Clin Microbiol Infect 2011; 17 (Suppl. 6): 1–24.

B. European Respiratory Society – ERS Guidelines for Respiratory Medicine - http://www.ers-education.org/guidelines.aspx

C. CDC Guidelines for preventing Health-Care Associated Pneumonia, 2003.

D. NICE guidelines on antimicrobial prescribing (APGs): www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/antimicrobial-prescribing-guidelines

## Clinical Best Practices

No antibiotic prescribing should be considered for the following conditions[D]:

- Acute otitis media
- Acute sore throat/ acute pharyngitis/ acute tonsillitis
- Common cold
- Acute rhinosinusitis
- Acute cough/acute bronchitis

## References


1. Gibson GJ, Loddenkemper R, Sibille Y, Lundback B. The European Lung White Book: Respiratory Health and Disease in Europe. European Respiratory Society, 2013. ISBN 1849840431, 9781849840439.
2. Ralph Gonzales, Daniel C. Malone, Judith H. Maselli, Merle A. Sande; Excessive Antibiotic Use for Acute Respiratory Infections in the United States. Clin Infect Dis 2001; 33 (6): 757-762. doi: 10.1086/322627.
3. Martinez RM. Implementation of non-batched respiratory virus assay significantly impacts patient outcomes in the ICU, CVS 2016.
4. Rogers, BB. OA. Impact of a Rapid Respiratory Panel Test on Patient Outcomes. Arch Pathol Lab Med 2014.
5. Xu M *et al.* Implementation of Filmarray respiratory viral panel in a core laboratory improves testing turnaround time and patient care. Am J Clin Pathol. 2013(1);139:118-123.
6. Poelman R, et al. Future Microbiol. 2020 May;15:623-632.
7. Pettit N., *et al.* J. Med Microbiol., March 2015 64:312-313.
8. Gelfer G *et al.* Diag Micro Infect Dis. 2015;83:400-406.
9. Rappo U *et al.* J. Clin. Microbiol. JCM.00549-16; Accepted manuscript posted online 25 May 2016.
10. Stated performance is the aggregate of the prospective data from the BioFire RP2.1*plus* Panel clinical study.
11. US Respiratory Trends, 2018-2019. www.syndromictrends.com.


CE-marked

Product availability varies by country. Consult your bioMérieux representative.

# BIOFIRE® Respiratory 2.1 *plus* Panel

Fast Accurate Comprehensive

## BioFire® Respiratory 2.1 *plus* Panel

1 Test. 23 Targets. 45 Minutes.

**VIRUSES**

- Adenovirus
- Coronavirus 229E
- Coronavirus HKU1
- Coronavirus NL63
- Coronavirus OC43
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)
- Human Metapneumovirus
- Human Rhinovirus/Enterovirus
- Influenza A
- Influenza A/H1
- Influenza A/H1-2009
- Influenza A/H3
- Influenza B
- Parainfluenza Virus 1
- Parainfluenza Virus 2
- Parainfluenza Virus 3
- Parainfluenza Virus 4
- Respiratory Syncytial Virus

**BACTERIA**

- *Bordetella parapertussis*
- *Bordetella pertussis*
- *Chlamydia pneumoniae*
- *Mycoplasma pneumoniae*

## Diseases Under EU Surveillance

- Influenza – including influenza A (H1N1)
- Pertussis
- Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
- Severe Acute Respiratory Coronavirus 2 (SARS-CoV-2)

## Where to Order This Test?

BFDX-MKT-0074-02 9315033 007/GB/A



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