

THE AGA KHAN UNIVERSITY HOSPITAL CLINICAL LABORATORIES

UPDATE

Test Update: Film Array Multiplex PCR RTI Panel (Viruses and Atypical Pathogens)

VOL. XXV No. 7, 2019

INTRODUCTION:

Acute respiratory tract infections (RTIs) are frequent causes of acute illness requiring hospitalization in both children and adults, with significant impact on patient morbidity and mortality. Early and rapid diagnosis of RTIs improves patient outcomes through identification of correct antiviral or antibacterial therapy, with potential to avoid overuse and abuse of antibiotics. More importantly, early diagnosis of highly contagious pathogens, such as *Bordetella pertussis* (*B. pertussis*) and Influenza viruses, enables early isolation of patients. Conventional microscopy/ culture and serological methods are limited due to inability to culture for atypical and viral pathogens and lower sensitivity, respectively.

The Clinical Laboratory of Aga Khan University Hospital is introducing a sensitive, Film Array based test on nasopharyngeal samples for patients with acute respiratory tract infections. The Film Array RTI Panel tests for 18 viral and 4 atypical respiratory pathogens which can cause acute respiratory tract infections from a single sample, with a turnaround time of one hour.

Organisms tested include:

Viruses:

Adenovirus, influenza A viruses H1, 2009H1, H3 (FluA-H1, FluA-2009H1, FluA-H3), influenza B virus (FluB), parainfluenza virus types 1 to 4 (Para 1–4), coronaviruses 229E, HKU1, OC43, and NL63 (CoV-HKU1, NL63, 229E, OC43), MERS-CoV (MERS coronavirus), human metapneumovirus (hMPV), Respiratory Syncytial Virus (RSV), human rhinovirus/enterovirus (Rhino/Enterovirus)

Bacteria:

Chlamydia pneumoniae, *Mycoplasma pneumoniae*, *Bordetella pertussis*, and *Bordetella parapertussis*.

PRINCIPLE:

Multiplex PCR technique for amplification of multiple targets in a single reaction mixture.

SPECIMEN COLLECTION, STORAGE, and TRANSPORT:

Nasopharyngeal swab in viral transport media (VTM). The swab must be placed in VTM, making sure that the cap is securely tightened. If not transported within 4 hours to laboratory, store at 2°C to 8°C for up to 3 days.

REJECTION CRITERIA:

- Duplicate samples- Only one sample per patient will be tested. Specimens received in duplicate, whether same day or later follow up, will be rejected.
- Without VTM swab
- Leaking container

SCHEDULE:

The assay will be performed daily (Monday to Sunday) and reported same day by 7 pm (Cutoff time 11:00 am).

PLEASE FILE FOR QUICK REFERENCE

