



# Respiratory Pathogens

# TandemPlex®

Respiratory pathogens are difficult to distinguish due to overlapping clinical presentation. A multiplexed approach is advantageous in efficient symptomatic screening of common respiratory viruses, bacteria, and fungi. Molecular methods are also ideal for genotyping of Influenza A and determination of SARS-CoV-2 lineages.







TandemPlex® panels feature our proprietary multiplex-tandem PCR (MT-PCR) technology, a highly multiplexed molecular method that empowers users with the added capability to detect DNA and RNA viruses, bacteria, fungi and genotypes in a single run. MT-PCR enables comprehensive syndromic diagnosis and earlier medical intervention. In addition, a comprehensive test allows the detection of multiple pathogens that are responsible for a symptom.

The patented 2-step process mitigates competition during amplification, ensuring reliable detection of targets with differing concentration levels in the specimen.

Multiplexed molecular methods are becoming the gold standard for the detection of respiratory pathogens due to their superior sensitivity, rapid turnaround time, simplicity, and ability to identify multiple pathogens, some of which are slow growing or difficult to culture.

## Benefits of TandemPlex® panels

- Detect up to 40 targets with a single panel
- High specificity for reliable results
- Separated 2-step process that allows parallel processing for greater efficiency
- Low volume of sample required, allowing for further analysis on the remainder of the sample
- Low number of multiplexed amplification cycles which limits competition and preserves relative quantitation

-  TandemPlex® panel compatible with HighPlex instrument
-  TandemPlex® panel compatible with UltraPlex 3 instrument
-  8-well TandemPlex® panel
-  12-well TandemPlex® panel
-  16-well TandemPlex® panel
-  24-well TandemPlex® panel

# Respiratory Pathogens TandemPlex® Panels

## SARS-CoV-2, Influenza & RSV

Panels for the detection and typing of important respiratory viruses for efficient screening, optimised for high-throughput workflows.

### SARS-CoV-2, Influenza and RSV 8-well REF 80081



SARS-CoV-2 – 3 assays  
Influenza A  
Influenza A typing H1/H3  
Influenza B  
Respiratory Syncytial Virus A  
Respiratory Syncytial Virus B

### SARS-CoV-2 Typing Panel 24-well (RUO) REF 80082



<b>SARS-CoV-2</b>	SARS E484Q
SARS-CoV-2 – 3 assays	SARS P681R
	SARS P681H
<b>Mutations</b>	SARS L452R
SARS N501Y	SARS P151S
SARS HV 69-70del	SARS D3N
SARS K417N	SARS V1887I
SARS K417T	
SARS E484K	

## Comprehensive Testing

The broadest panel for the detection of a wide range of pathogens that cause upper and lower respiratory tract infections.

### Respiratory Pathogens 24-well REF 80617



#### Viruses

SARS-CoV-2 – 2 assays  
Influenza A  
Influenza A typing H1/H3  
Influenza B  
Respiratory Syncytial Virus A  
Respiratory Syncytial Virus B  
Parainfluenza 1  
Parainfluenza 2  
Parainfluenza 3  
Parainfluenza 4  
Metapneumovirus A  
Metapneumovirus B  
Adenovirus groups B, C, E, partially A, D  
Rhinovirus and Enterovirus  
Enterovirus  
Parechovirus  
Seasonal Coronavirus

#### Bacteria

*Mycoplasma pneumoniae*  
*Chlamydomphila pneumoniae*  
*Chlamydomphila psittaci*  
*Bordetella* IS481 (*B. pertussis*, partially *B. homlesij*)  
*Bordetella pertussis*  
*Bordetella* IS1001 (*B. parapertussis*, partially *B. bronchiseptica*)  
*Legionella pneumophila*  
*Legionella longbeachae*

#### Fungi

*Pneumocystis jirovecii* (PJP)

## Prevalent Pathogens

Panels designed in collaboration with our healthcare partners to meet the need for efficient symptomatic coverage, including the most common bacterial and viral respiratory pathogens.

### Respiratory Viruses 16-well REF 20602



SARS-CoV-2 - 2 assays	Metapneumovirus A
Influenza A	Metapneumovirus B
Influenza A typing H1/H3	Adenovirus groups B, C, E, partially A, D
Influenza B	Rhinovirus and Enterovirus
Respiratory Syncytial Virus A	Enterovirus
Respiratory Syncytial Virus B	Parechovirus
Parainfluenza 1	Seasonal Coronavirus
Parainfluenza 2	Bocavirus
Parainfluenza 3	
Parainfluenza 4	

### Respiratory Pathogens 16-well REF 20620



<b>Viruses</b>	Adenovirus groups B, C, E, partially A, D
SARS-CoV-2 - 2 assays	Rhinovirus and Enterovirus
Influenza A	Enterovirus
Influenza B	Parechovirus
Respiratory Syncytial Virus A	
Respiratory Syncytial Virus B	<b>Bacteria</b>
Parainfluenza 1	<i>Mycoplasma pneumoniae</i>
Parainfluenza 2	<i>Bordetella</i> IS481 ( <i>B. pertussis</i> , partially <i>B. homlesii</i> )
Parainfluenza 3	
Parainfluenza 4	
Metapneumovirus A	
Metapneumovirus B	

### Respiratory Pathogens B 16-well REF 20612



<b>Viruses</b>	Adenovirus groups B, C, E, partially A, D
SARS-CoV-2 - 2 assays	Rhinovirus and Enterovirus
Influenza A	
Influenza B	
Respiratory Syncytial Virus A	
Respiratory Syncytial Virus B	<b>Bacteria</b>
Parainfluenza 1	<i>Mycoplasma pneumoniae</i>
Parainfluenza 2	<i>Chlamydomphila pneumoniae</i>
Parainfluenza 3	<i>Bordetella</i> IS481 ( <i>B. pertussis</i> , partially <i>B. homlesii</i> )
Parainfluenza 4	<i>Bordetella</i> IS1001 ( <i>B. parapertussis</i> , partially <i>B. bronchiseptica</i> )
Metapneumovirus A	<i>Legionella pneumophila</i>
Metapneumovirus B	<i>Legionella longbeachae</i>

### Respiratory Pathogens C 16-well REF 20613



<b>Viruses</b>	Metapneumovirus A
SARS-CoV-2 - 2 assays	Metapneumovirus B
Influenza A	Adenovirus groups B, C, E, partially A, D
Influenza A typing H1/H3	Rhinovirus and Enterovirus
Influenza B	
Respiratory Syncytial Virus A	<b>Bacteria</b>
Respiratory Syncytial Virus B	<i>Mycoplasma pneumoniae</i>
Parainfluenza 1	<i>Bordetella</i> IS481 ( <i>B. pertussis</i> , partially <i>B. homlesii</i> )
Parainfluenza 2	<i>Bordetella pertussis</i>
Parainfluenza 3	<i>Legionella pneumophila</i>
Parainfluenza 4	<i>Legionella longbeachae</i>

## Essential Targets

Tactical selection of respiratory targets for efficient screening of the 10 most common viruses and *Bordetella*.

### Respiratory Pathogens 12-well REF 80618



<b>Viruses</b>	Metapneumovirus A
SARS-CoV-2 - 2 assays	Metapneumovirus B
Influenza A	Adenovirus groups B, C, E, partially A, D
Influenza B	Rhinovirus and Enterovirus
Respiratory Syncytial Virus A	
Respiratory Syncytial Virus B	<b>Bacteria</b>
Parainfluenza 1	<i>Bordetella</i> IS481 ( <i>B. pertussis</i> , partially <i>B. homlesii</i> )
Parainfluenza 2	
Parainfluenza 3	
Parainfluenza 4	

## Pneumonia

Differential diagnosis of pathogens who are common candidates of pneumonia and atypical pneumonia clinical profiles, allowing expedited patient treatment.

### Pneumonia 16-well REF 20631



<b>Bacteria</b>	<i>Haemophilus influenzae</i>
<i>Mycoplasma pneumoniae</i>	<i>Mycobacterium tuberculosis</i> complex
<i>Chlamydomphila pneumoniae</i>	<i>Staphylococcus aureus</i>
<i>Chlamydomphila psittaci</i>	<i>Streptococcus pneumoniae</i>
<i>Bordetella</i> IS481 ( <i>B. pertussis</i> , partially <i>B. homlesii</i> )	
<i>Bordetella</i> IS1001 ( <i>B. parapertussis</i> , partially <i>B. bronchiseptica</i> )	<b>Fungi</b>
<i>Legionella pneumophila</i>	<i>Pneumocystis jirovecii</i> (PJP)
<i>Legionella longbeachae</i>	<i>Aspergillus fumigatus</i>
<i>Coxiella burnetti</i>	<i>Cryptococcus neoformans</i> and <i>C. gattii</i>

### Atypical Pneumonia 8-well REF 20632



<b>Bacteria</b>	<i>Pneumocystis jirovecii</i> (PJP)
<i>Mycoplasma pneumoniae</i>	<i>Cryptococcus neoformans</i> and <i>C. gattii</i>
<i>Chlamydomphila pneumoniae</i>	
<i>Chlamydomphila psittaci</i>	
<i>Legionella pneumophila</i>	
<i>Legionella longbeachae</i>	

# Sample TandemPlex® Results

Presence of a target gene is represented by the fluorescence detected during the MT-PCR process.

These results (Figure 1) are also presented as melt curves and gene targets detected in the sample are automatically called for clear diagnosis.

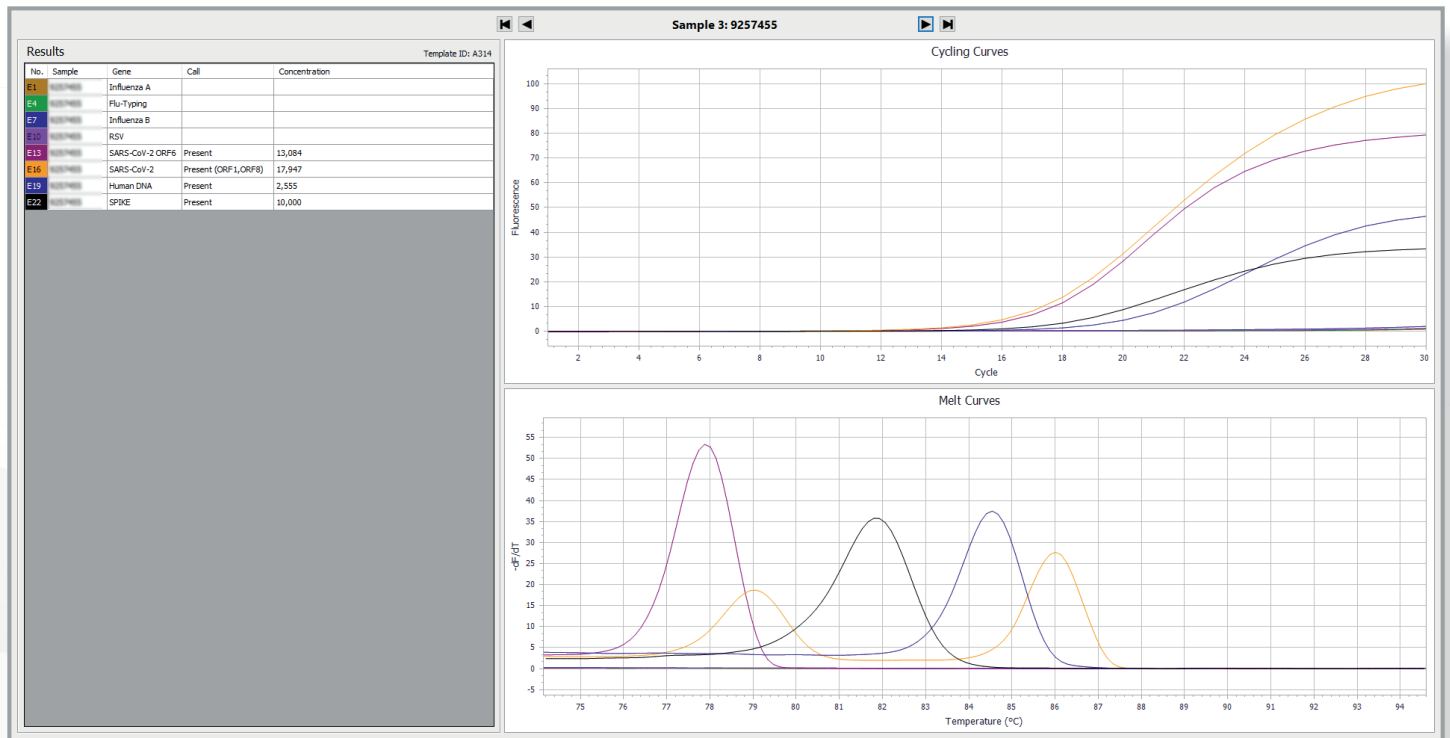


Figure 1: Sample results for SARS-CoV-2, Influenza & RSV 8-well panel (REF 80081)

## Product Portfolio



TandemPlex®



Genyx®



Prepyx®



Puryx®



Point of Care



Automation Systems



Gastrointestinal



Hospital Care & Drug Resistance



Respiratory Pathogens



Sexual Health & Dermatology



Urinary Tract Infections



Women's Health



Applied Testing



Genetic Disorders



Veterinary

# Automation

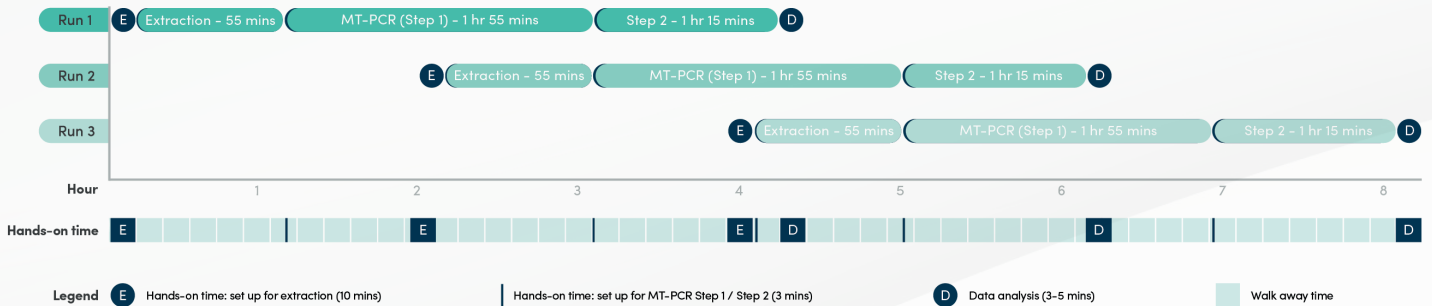
Diagnostic testing using TandemPlex® panels is effortless with automation solutions for any workflow, ranging from low and versatile throughput to high throughput and screening applications.

## HighPlex Alliance™

### Low-medium throughput

#### MT-Prep™ 24 sample purification with HighPlex MT-PCR processing

- Sample to results from up to 24 samples<sup>1</sup> in 4 hrs 30 mins  
Extraction: 35 – 55 mins<sup>2</sup> | MT-PCR: 3 hrs 30 mins
- Quick and easy setup in less than 2 mins
- Ready-to-use reagents and key plastic consumables
- Small footprint – requires less than 2m of bench space
- UV deck sterilisation to prevent cross contamination
- Automatic results calling
- LIMS compatible



<sup>1</sup> 8-well, 12-well and 16-well TandemPlex® panels can run up to 24 samples; 24-well panels up to 16 samples.

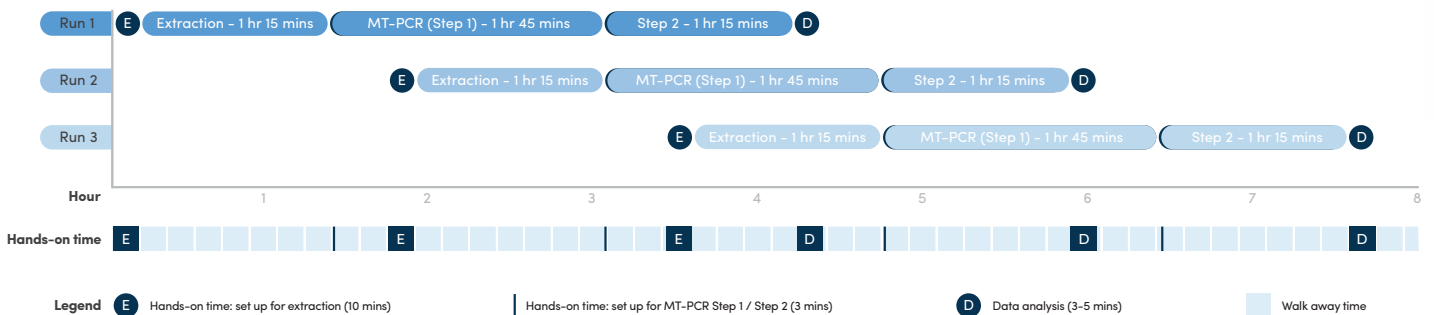
<sup>2</sup> using MT-Prep™ Viral/Pathogen Nucleic Acids Extraction Kit B. 35-minute rapid protocol, 55-minute standard protocol for up to 24 samples.

## UltraPlex Alliance™

### High throughput

#### MT-Prep™ XL sample purification with UltraPlex 3 MT-PCR processing

- Sample to results from up to 96 primary samples<sup>3</sup> in 4 hrs 15 mins  
Extraction: 1 hr 15 mins<sup>4</sup> | MT-PCR: 3 hrs 30 mins
- Set up in as little as 2 mins
- Ready-to-use reagents and key plastic consumables
- Multi-channel pipetting for efficient processing
- Use with universal TandemPlex® panels
- Automatic results calling
- LIMS compatible



<sup>3</sup> 8-well and 12-well TandemPlex® panels can run up to 96 samples; 24-well panels up to 48 samples.

<sup>4</sup> Sample purification using Puryx® Comprehensive DNA/RNA Extraction kit.

# Ordering information

Each TandemPlex® panel requires the following to run:

1. Step 1 Tubes (e.g. 80081S)
2. Step 2 Plates (e.g. 80081P)
3. Reagent Cassette for HighPlex or Reagent Reservoir for UltraPlex instruments
4. A synthetic positive control



## Key reagents

xxxxxS	Step 1 Tubes for the desired panel	HP <sub>24</sub>	UP <sub>96</sub>
xxxxxP	Step 2 Plates for the desired panel	HP <sub>24</sub>	UP <sub>96</sub>
40231	Low DNA Reagent Cassette <sup>1</sup>	HP <sub>24</sub>	
40241	Demi DNA Reagent Cassette <sup>1</sup>	HP <sub>24</sub>	
40331	Low RNA Reagent Cassette <sup>1</sup>	HP <sub>24</sub>	
40341	Demi RNA Reagent Cassette <sup>1</sup>	HP <sub>24</sub>	
40421	Medium DNA Reagent Reservoir <sup>2</sup>		UP <sub>96</sub>
40431	Low DNA Reagent Reservoir <sup>2</sup>		UP <sub>96</sub>
40521	Medium RNA Reagent Reservoir <sup>2</sup>		UP <sub>96</sub>
40531	Low RNA Reagent Reservoir <sup>2</sup>		UP <sub>96</sub>
91011	Synthetic Positive Controls for Respiratory Pathogens	HP <sub>24</sub>	UP <sub>96</sub>
91071	Synthetic Positive Controls for Atypical Pneumonia	HP <sub>24</sub>	UP <sub>96</sub>
91520	Synthetic Positive Controls for SARS-CoV-2 Typing	HP <sub>24</sub>	UP <sub>96</sub>
<b>HighPlex Alliance™</b>		HP <sub>24</sub>	
93100	MT-Prep™ 24		
90501	HighPlex		
<b>UltraPlex Alliance™</b>			UP <sub>96</sub>
93600	MT-Prep™ XL		
94601	UltraPlex 3		

<sup>1</sup> For HighPlex: Demi Reagent Cassettes are for 8-well panels; Low for 12-well, 16-well, and 24-well

<sup>2</sup> For UltraPlex 3: Low Reagent Reservoirs are for 8-well universal panels; medium for 12-well, 16-well, and 24-well

Ordering information on consumables for the HighPlex Alliance™ and UltraPlex Alliance™ is available from your local AusDiagnostics representative.

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