

# Comprehensive Respiratory Virus Panel

Research and Diagnosis of Respiratory viruses

## DESCRIPTION

The CRV Panel is designed for the comprehensive analysis of clinically significant respiratory viruses that are widely assessed by medical institutions around the globe. The panel validation test with clinical samples showed superior whole genome sequencing (WGS) success rates compared to other competitor kits on the market. The panel tests for multiple infections by assessing all types of respiratory viruses including SARS-CoV-2. The panel includes all required kits including the RNA-to-cDNA Kit and cDNA-to-Captured Library Kit. The hybridization enhancer technology is used for rapid one-day workflow. Our customers can receive stand-alone bioinformatics software, 'Celemics Virus Verifier', which provides in-depth analysis information while ensuring the security of client sequence information.

## KEY FEATURES

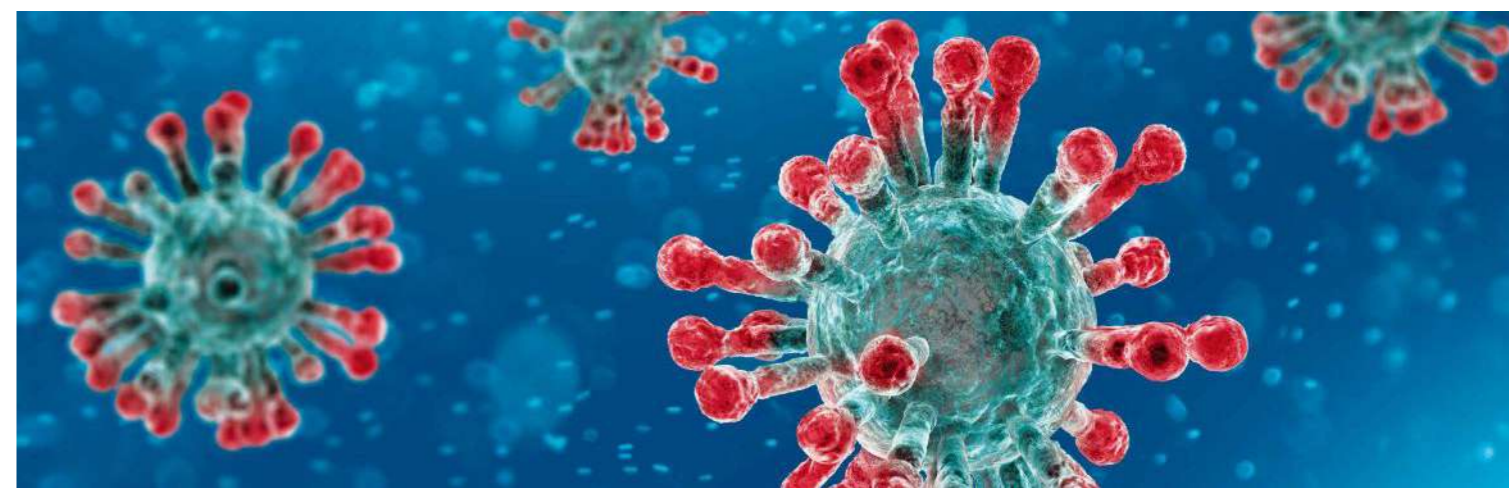
<b>1. Coverage of wide range of respiratory pathogens</b>	Assess WGS of 39 variants for 9 different virus types (SARS-CoV-2 solo analysis also available) Includes all types of respiratory viruses that are assessed by medical institutions around the globe
<b>2. Superior WGS success rate even with poor quality specimen</b>	Able to detect pathogens from patient specimens as well as poor quality environmental specimens Exceptional success rate of variant detection and WGS Significantly reduced gap formation
<b>3. Double pandemic / coinfection detection</b>	Detect all relevant viral strains in a single assay and test for multiple infections
<b>4. Inclusion of Celemics Virus Verifier or bioinformatics analysis</b>	Receive stand-alone bioinformatics SW Protect your easily-compromised data with our EU-GDPR compliant cloud system

## SPECIFICATION

<b>Target viruses*</b>	9 types / 39 virus strains, including SARS-CoV-2
<b>Target size</b>	706 kb
<b>Mutation type</b>	Viral variants detection, Viral mutation (SNV, Indel) from generated Whole Genome Sequence
<b>Sample type</b>	Upper respiratory tract, Nasopharyngeal, Oropharyngeal specimens, and others
<b>Platform</b>	All sequencers from Illumina and Thermo Fisher
<b>Kit composition</b>	Provides all required reagents, including RNA to cDNA kit, cDNA to captured library kit, and bioinformatics software
<b>Bioinformatics pipeline</b>	Provides stand-alone bioinformatics software 'Celemics Virus Verifier' (FASTQ to Report)
<b>Related publication</b>	Evidence of long-distance droplet transmission of SARS-CoV-2 by direct air flow in a restaurant in Korea, J Korean Med Sci. (2020)

## PATHOGEN LIST

Human Adenovirus	Coronavirus	Parainfluenza Virus	Respiratory Syncytial Virus
Human Adenovirus Type 1 (HAdV-C1)	Coronavirus HKU1	Parainfluenza 1 (PIV 1)	Respiratory Syncytial Virus A (RSV A)
Human Adenovirus Type 2 (HAdV-C2)	Coronavirus NL63	Parainfluenza 2 (PIV 2)	Respiratory Syncytial Virus B (RSV B)
Human Adenovirus Type 3 (HAdV-B3)	Coronavirus 229E	Parainfluenza 3 (PIV 3)	Human Metapneumovirus
Human Adenovirus Type 4 (HAdV-E4)	Coronavirus OC43	Parainfluenza 4 (PIV 4) A	
Human Adenovirus Type 5 (HAdV-C5)	SARS-CoV-2	Parainfluenza 4 (PIV 4) B	
Human Adenovirus 7 (HAdV-B7)			
Human Adenovirus 14 (HAdV-B14)			
Human Adenovirus 21 (HAdV-B21)			
	<b>Influenza A</b>		
	Influenza A Virus (Flu A)	EV-C104	Human Rhinovirus A
		EV-C105	Human Rhinovirus B
<b>Bocavirus 1/2/3/4 (HBoV)</b>	Influenza A-H1 Virus (Flu A-H1)	EV-C109	Human Rhinovirus C
Human Bocavirus 1	Influenza A-H3 Virus (Flu A-H3)	EV-C117	
Human Bocavirus 2		EV-C118	
Human Bocavirus 3	<b>Influenza B</b>	CV-A21	
Human Bocavirus 4	Influenza B Virus (Flu B)	EV-D68	
			<b>Human Enterovirus</b>
			<b>Human Rhinovirus (A/B/C)</b>



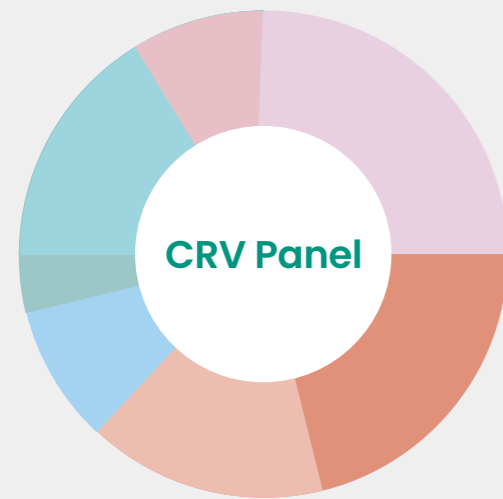


## PERFORMANCE

### High coverage of whole genome from reference samples using CRV Panel

Sample Type	Coverage [1X]	Coverage [10X]	Coverage [100X]
Reference sample (Illumina 2x75 bp)	99.95%	99.87%	98.95%

### Example of viral strain identification in reference sample



- Human\_Enterovirus\_EV-D68
- Influenza\_virus\_A-H1\_H1N1
- Influenza\_virus\_A-H3\_H3N2
- Low Coverage
- Influenza\_virus\_B
- SARS-CoV-2
- Parainfluenza\_virus\_4A

## CRV PANEL RESULTS GENERATED THROUGH CELEMICS VIRUS VERIFIER (STAND-ALONE SOFTWARE)

Celemics provides stand-alone software for bioinformatics analysis, allowing customers to access the detailed data analysis information and ensuring the security of client sequence information.

