

INSTRUCTION FOR USE

Multiplex Respiratory Antigen Test Kit

Lateral Flow Immunoassay For Professional use

Covid-19 | Influenza A | Influenza B | Adenovirus | Respiratory Syncytial Virus
Mycoplasma pneumoniae | Parainfluenza Virus 1/3 | Parainfluenza Virus 2 | Human Metapneumo

Reagents and Materials Provided

- Test cassette x1
Extraction tube with buffer x1
Specimen collection swab x1
Instruction of use x1
Collection bag x1

TEST PROCEDURE

1. Unpack the swab. DO NOT touch the swab tip!
Gently insert the soft end of the swab about 1.5 to 2 cm into one nostril, slowly rotate it against the nasal wall 5 times for approximately 15 seconds, repeat in the other nostril using the same swab.

2. Withdraw the swab from your nostril, and insert the swab tip into the bottom of the tube. Slowly rotate the swab against the inside wall of the tube for 15 seconds.

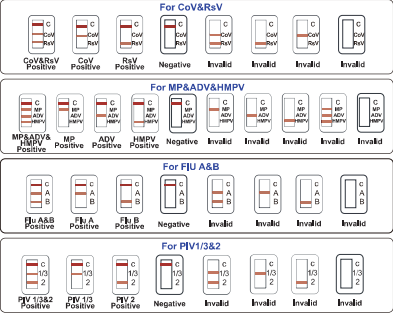
3. Gently squeeze the swab tip against the inner wall of the extraction tube. Withdraw the swab, dispose it in the waste bag.

4. Close the cap firmly. Gently shake the extraction tube 10 times.

5. Drop 2 drops of the sample vertically into each the sample well on the cassette and start timing.

6. Read the results between 15 to 30 minutes. The result becomes INVALID after 30 minutes.

Reading Result



Intended Use

This test is specifically designed for the qualitative detection of antigens associated with SARS-CoV-2, Mycoplasma pneumoniae (MP), Respiratory Syncytial Virus (RSV), Adenovirus (ADV), Parainfluenza Virus types 1 and 3 (PIV 1/3), Parainfluenza Virus type 2 (PIV 2), human Metapneumovirus (hMPV), Influenza A, and Influenza B. This test detects both viable and non-viable pathogens. The performance of the test is contingent upon the quantity of antigen present in the sample and may not necessarily correlate with the results of pathogen culture or molecular assays performed on the same sample.

Test Principle

This test is a cassette antigen test for SARS-CoV-2, Mycoplasma pneumoniae (MP), respiratory syncytial virus (RSV), adenovirus (ADV), parainfluenza virus (PIV) types 1 and 3, parainfluenza virus type 2 (PIV 2), human metapneumovirus (hMPV), and influenza A&B. In this assay, antigens present in the sample bind to colloidal gold-labeled antibodies on the cassette acid, forming immunocomplexes. These complexes then migrate to the test line, where they are captured by the test line antibodies. The appearance of a colored line at the test line indicates a positive result, while a colored line at the control line confirms adequate specimen volume and proper membrane wicking.

Storage and Stability

Store at temperature of 2-30°C (36-86°F). In a dry, airtight place. Avoid direct sunlight. Do not freeze the kit or its components. 24 months of shelf life (Production date to the expiration date). After the package is unsealed, the device should be used as soon as possible within 30 minutes.

Test Limitations

- 1) This test is specifically designed for the qualitative detection of antigens associated with SARS-CoV-2, Mycoplasma pneumoniae (MP), Respiratory Syncytial Virus (RSV), Adenovirus (ADV), Parainfluenza Virus types 1 and 3 (PIV 1/3), Parainfluenza Virus type 2 (PIV 2), human Metapneumovirus (hMPV), Influenza A, and Influenza B. This test detects both viable and non-viable strains of the aforementioned pathogens. The performance of the test is influenced by the quantity of antigen present in the sample and may not necessarily correlate with the results of pathogen culture or molecular assays performed on the same sample.
- 2) Failure to adhere to the instructions for the test procedure and the interpretation of test results may adversely affect test performance and/or yield invalid results.
- 3) False-negative test results may occur if the concentration of antigen in a sample falls below the detection limit of the test. Conversely, false-positive results may arise due to contamination.
- 4) Negative test results do not exclude the possibility of infection with SARS-CoV-2, Mycoplasma pneumoniae (MP), Respiratory Syncytial Virus (RSV), Adenovirus (ADV), Parainfluenza Virus types 1 and 3, PIV type 2, human Metapneumovirus (hMPV), Influenza A, or Influenza B.
- 5) Negative results should not be the sole basis for treatment or patient management decisions, including those related to infection control. It is crucial to integrate negative results with clinical observations, patient history, and epidemiological data, and to confirm findings with a molecular assay if necessary for effective patient management.

Warnings and Precautions

- 1) Use a separate test kit for each person.
- 2) Do not use the kit for at least 30 minutes before the test to reduce the risk of spilling the test.
- 3) Do not use the kit if opened, damaged, or expired, keep test card sealed in its test pouch until use.
- 4) Do not use kit or interchange different specimens.
- 5) Dispose or responsibly sample collection, storage, and transport may yield false test results.
- 6) Samples with invalid results must be retested.

Diagnostic Sensitivity/Specificity

Clinical study: A side-by-side comparison was conducted using the research reagent and a reference reagent. The comparative PCR assays were obtained from nasopharyngeal swabs, and the sample collection for the antigen test was carried out according to the instruction. Comparison with RT-PCR:

SARS-CoV-2 Antigen Test Kit	HDPCR SARS-CoV-2 Assay		
	Positive	Negative	Total
Positive	104	0	104
Negative	8	450	458
Total	112	450	560
PPA	104/110, 94.55% (95% CI, 92.81% to 97.48%)		
NPA	450/450, 100% (95% CI, 99.15% to 100%)		
TPA	549/560, 98.03% (95% CI, 97.66% to 98.34%)		

Influenza A Antigen	Positive	Negative	Total
Positive	57	0	57
Negative	5	104	109
Total	63	104	167
PPA	57/63, 90.48% (95% CI, 84.74% to 95.96%)		
NPA	104/104, 100% (95% CI, 98.44% to 100%)		
TPA	161/167, 96.41% (95% CI, 95.28% to 98.34%)		

Influenza B Antigen	Positive	Negative	Total
Positive	55	0	55
Negative	3	106	109
Total	60	106	166
PPA	55/60, 91.67% (95% CI, 84.93% to 96.30%)		
NPA	106/106, 100% (95% CI, 98.50% to 100%)		
TPA	161/166, 96.89% (95% CI, 95.14% to 98.71%)		

RSV Antigen	Positive	Negative	Total
Positive	44	3	47
Negative	3	168	171
Total	47	171	218
PPA	44/47, 93.62% (95% CI, 86.81% to 97.49%)		
NPA	168/169, 99.41% (95% CI, 97.26% to 99.81%)		
TPA	212/216, 97.24% (95% CI, 97.65% to 96.51%)		

Mycoplasma pneumoniae Antigen	Positive	Negative	Total
Positive	89	1	90
Negative	9	185	194
Total	98	186	284
PPA	89/98, 90.82% (95% CI, 83.46% to 95.60%)		
NPA	185/185, 100% (95% CI, 97.26% to 99.9%)		
TPA	274/284, 96.48% (95% CI, 93.64% to 98.20%)		

Adenovirus (ADV) Antigen	Positive	Negative	Total
Positive	93	10	103
Negative	9	189	197
Total	102	199	299
PPA	93/102, 91.18% (95% CI, 84.08% to 95.29%)		
NPA	189/189, 99.47% (95% CI, 97.26% to 99.81%)		
TPA	291/291, 96.56% (95% CI, 93.79% to 98.32%)		

PIV1/3 Antigen	Positive	Negative	Total
Positive	95	1	96
Negative	8	188	196
Total	103	189	292
PPA	95/103, 92.23% (95% CI, 85.42% to 96.01%)		
NPA	188/189, 99.47% (95% CI, 97.06% to 99.91%)		
TPA	283/292, 96.92% (95% CI, 94.25% to 98.57%)		

hMPV Antigen	Positive	Negative	Total
Positive	95	1	96
Negative	8	188	196
Total	103	189	292
PPA	92/102, 90.20% (95% CI, 82.89% to 94.59%)		
NPA	189/200, 94.50% (95% CI, 92.23% to 96.77%)		
TPA	291/302, 96.36% (95% CI, 93.80% to 97.95%)		

iMPV Antigen	Positive	Negative	Total
Positive	55	1	56
Negative	3	95	98
Total	58	96	154
PPA	55/58, 94.83% (95% CI, 85.26% to 98.2%)		
NPA	95/98, 96.94% (95% CI, 94.33% to 98.52%)		
TPA	150/154, 97.41% (95% CI, 93.51% to 98.99%)		

Cross-reactivity and Microbial Interference

In both the cross-reactivity study and the microbial interference study, no cross-reactivity or microbial interference was observed for any of the microorganisms examined at the specified concentrations.

Cross-Reactant	Concentration	Cross-Reactant	Concentration
MERS	1.0 x 10 ⁷ TCID ₅₀ /ml	Bordetella pertussis	1.0 x 10 ⁷ CFU /ml
Rhinovirus	1.0 x 10 ⁷ TCID ₅₀ /ml	Staphylococcus aureus	1.0x 10 ⁷ CFU /ml
Enterovirus	1.0 x 10 ⁷ TCID ₅₀ /ml	Haemophilus influenzae	1.0x 10 ⁷ CFU /ml
Human coronavirus OC43	1.0 x 10 ⁷ TCID ₅₀ /ml	Chlamydia pneumoniae	1.0x 10 ⁷ CFU /ml
Human coronavirus 229E	1.0 x 10 ⁷ TCID ₅₀ /ml	Legionella pneumophila	1.0 x 10 ⁷ CFU /ml
Mycoplasma hominis	1.0 x 10 ⁷ TCID ₅₀ /ml	Streptococcus pyogenes	1.0 x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Streptococcus pneumoniae	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Mycobacterium tuberculosis	1.0x 10 ⁷ CFU /ml
Human parainfluenza virus	1.0 x 10 ⁷ TCID ₅₀ /ml	Staphylococcus aureus	1.0x 10 ⁷ CFU /ml
Human metapneumovirus	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HKU1	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus NL63	1.0 x 10 ⁷ TCID ₅₀ /ml	Poliovirus	1.0x 10 ⁷ CFU /ml
Human coronavirus HK			