

HighPrep™ Viral DNA/RNA Kit

Optimized for COVID19 RNA Isolation





Characteristics of HighPrep™ Viral RNA/DNA Kit

- Reliable and efficient isolation of RNA/DNA from whole blood, serum, plasma, swabs, saliva and other bodily fluids.
- Processing time for express protocol is 32-45 mins and for standard protocol is 60-80 mins. Express protocol is suitable for swabs/saliva samples especially COVID-19 RNA extraction and standard protocol is for difficult samples like sputum, whole blood etc.
- High sensitivity even in samples with low viral titer.
- Process versatile sample input volumes with consistent RNA/DNA yields from small to large amounts of starting material (50uL, 200 uL and 500 uL).
- Ready to use RNA/DNA: Isolate inhibitor-free viral RNA/DNA
- RNA/DNA extracted is suitable for many downstream applications which require high quality RNA/DNA.
- Can be used manually and is also adaptable to most major liquid handling workstations in the market.

Sample Workflow



HighPrep™ Viral RNA/DNA Kit Catalogue Nos.

HighPrep™ Viral DNA/RNA Kit Catalog No.	HPV-DR96X4	HPV-DR3840
Number of Preps	384	3840
Viral Lysis Buffer	120 ml	1,200 ml
RDW Buffer	120 ml	1,200 ml
Nuclease-Free Water	140 ml	1,400 ml
Pro K Solution₂	4.4 ml	44 ml
NBE	8 ml	80 ml
MAG-S1 Particles	4.4 ml	44 ml



Stability of HighPrep™ Viral RNA/DNA Kit

- All components are stable for 14 months when stored accordingly.
- Proteinase K Solution comes in a ready to use solution. Proteinase K is stable for 12 months when stored at 15-25°C. For storage longer than 1 year, store at 2-8°C.
- NBE comes in a ready to use solution that can be stored at 2-8°C . For longer storage, keep at -20°C.
- RDW Buffer, Viral Lysis buffer and Nuclease free water are stored at 15-25°C for 14 months.

Kit Validation Data

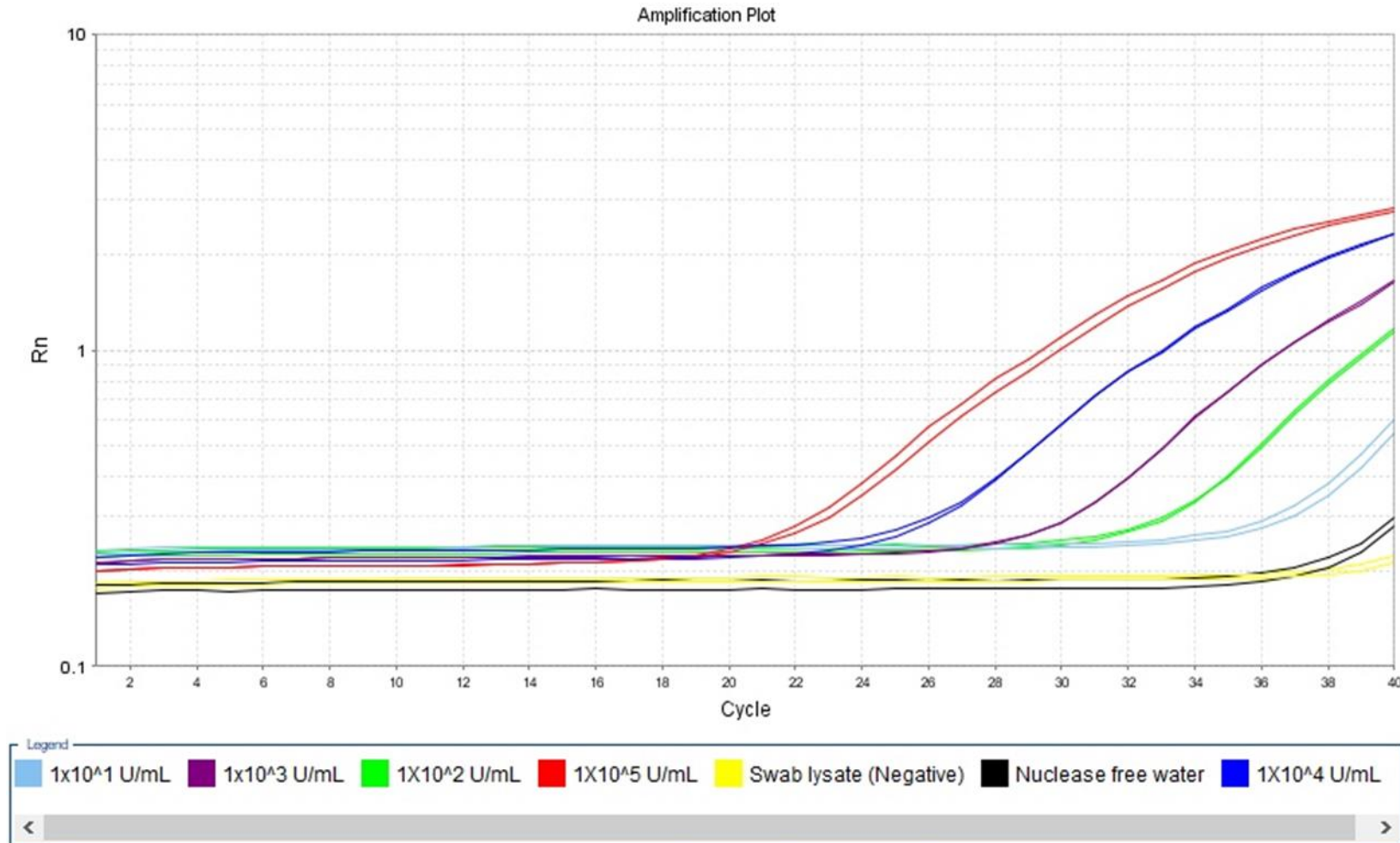
Nasal Swab Protocol-Used for Validation of the Kit

- ❖ Human Coronavirus 229E culture was diluted to 10^5 , 10^4 , 10^3 , 10^2 , and 10^1 U/mL with swab media containing background microflora (nasal swabs and media from Mawi DNA Technologies).

Note: Volunteers were swabbed with the Mawi collection Device ([and](#)) the swabs were immersed in the swab media to remove the background microbiota

- ❖ 200 uL of each spiked dilution was extracted using MagBio's Viral RNA/DNA extraction kit protocol version 6.
- ❖ Power SYBR Green RNA-to-CT 1 Step Kit (Applied Biosystems)- a one-step RT PCR Kit together with PanCov primers.
- ❖ One-step RT PCR was performed on 7500 Real Time PCR system.

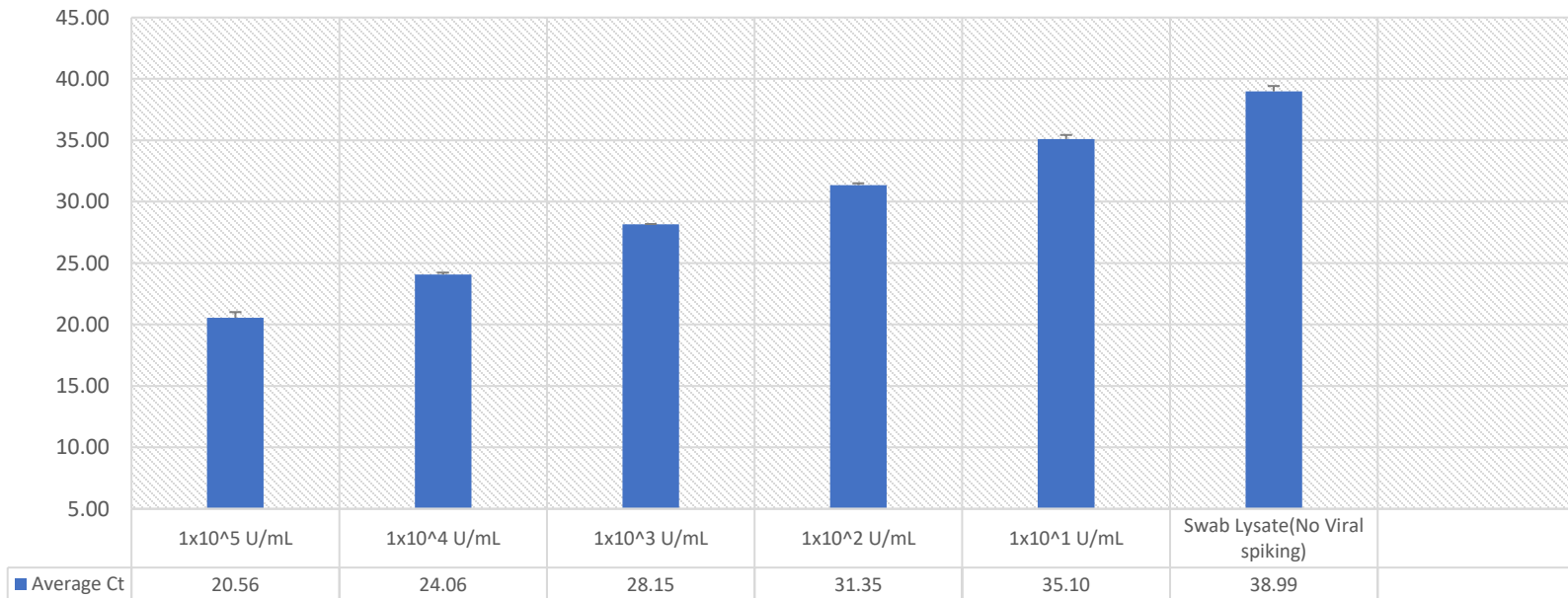
Sensitivity of HighPrep™ Viral RNA/DNA Kit



Human Coronavirus RNA was detectable at viral dilution of 1×10^1 U/mL. HighPrep™ Viral DNA/RNA kit has high sensitivity at very low viral load.

Limit of Detection of HighPrep™ Viral RNA/DNA Kit

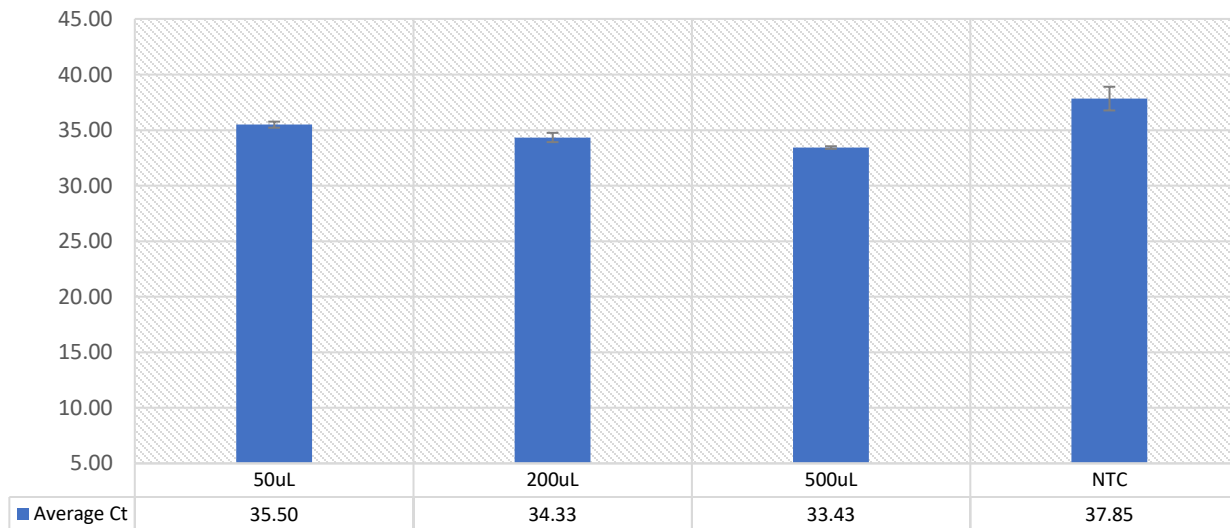
Limit of Detection of Human Coronavirus 229E RNA extracted
with HighPrep™ Viral DNA/RNA Kit



The limit of detection of
Human Coronavirus 229E
was 1x10¹ U/mL.

Consistency of HighPrep™ Viral RNA/DNA Kit

Kit Consistency in RNA Extraction from Samples of Different Input Volume



- Human Coronavirus 229E culture was diluted to 1×10^1 U/mL. From this dilution, triplicate samples of 50, 200 and 500 uL were extracted with HighPrep™ Viral DNA/RNA kit and 3 uL of the RNA was used for detection of Coronavirus 229E. Recovery of RNA was consistent for each sample input as shown by very low standard deviation in Ct values.

Summary

- The Viral RNA from Human Coronavirus 229E was efficiently purified from swab media using MagBio's HighPrep™ Viral RNA/DNA Kit. The RNA isolated was readily amplified as shown in the amplification plot.
- Limit of detection for Human Coronavirus 229E RNA was 1×10^1 U/mL. This shows that the kit has high sensitivity even with samples of low viral titer.
- HighPrep™ Viral RNA/DNA Kit can extract RNA from sample volumes as low as 50 uL, 200 uL and 500 uL with high consistency.