Axygen® AxyPrep MAG Viral Nucleic Acid Purification Kit

High throughput extraction of viral nucleic acid (RNA and DNA) from biofluids

Viruses, such as SARS-CoV-2 (COVID-19), can cause serious health issues and play an important role in molecular biology and biomedical research. Having the right tools is critical for scientific discovery for COVID-19, including the efficient isolation of viral DNA/RNA with high purity and integrity, which is often a challenge.

The Axygen AxyPrep MAG Viral Nucleic Acid Purification Kit utilizes a unique paramagnetic beads-based system for the purification of viral nucleic acid from samples such as plasma, serum, ascites, cell culture supernatant, cerebrospinal fluid, and urine.

It is suitable for the following downstream applications:

- PCR including RT-PCR and RT-qPCR
- Sanger and next generation sequencing
- Genotyping and SNP detection
- Gene expression

Product Features

- Simple extraction process
- Compatible with genomics downstream applications
- High quality, high yield nucleic acid purification
- Can be automated or used manually

Performance of Axygen AxyPrep MAG Viral Nucleic Acid Purification Kit

The below experimental data compare viral RNA extraction using the Axygen AxyPrep MAG Viral Nucleic Acid Purification Kit and an industry-leading column-based, commercially available kit. Viral RNA was extracted from swab samples containing lentivirus engineered to express part of the coding sequence from SARS-CoV-2 (COVID-19). RNA was extracted from as few as 100 copies of the virus using the Axygen kit and the other commercially available kit, as demonstrated by real-time PCR results. Average C_t (cycle threshold) values increased at the expected rate as nucleic acid concentration decreased, indicating linear recovery of RNA from the Axygen kit and the other commercially available kit. Overall sensitivity in real-time PCR assays was comparable following RNA extraction using the Axygen kit and the other commercially available kit.

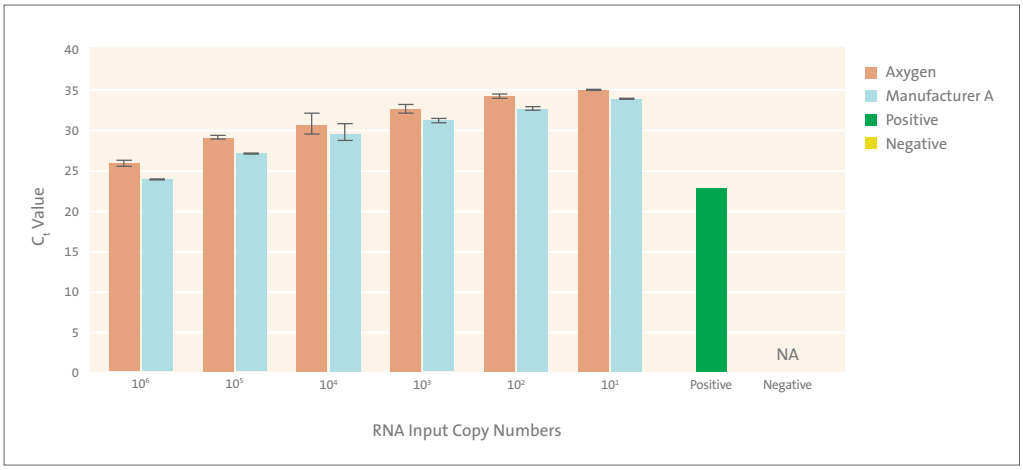

Figure 1. Average C_t values for a range of input copy numbers of lentivirus containing part of the coding sequence from SARS-CoV-2 in real-time PCR TaqMan® assays.

RNA was extracted from spike-in controls in swab samples. Each reaction was performed in duplicate and repeated 2 times.

The C_t value of a reaction is defined as the cycle number when the fluorescence of a PCR product can be detected above the background signal. The C_t value is associated with the amount of PCR product in the reaction; the lower the C_t value, the more PCR product that is present.

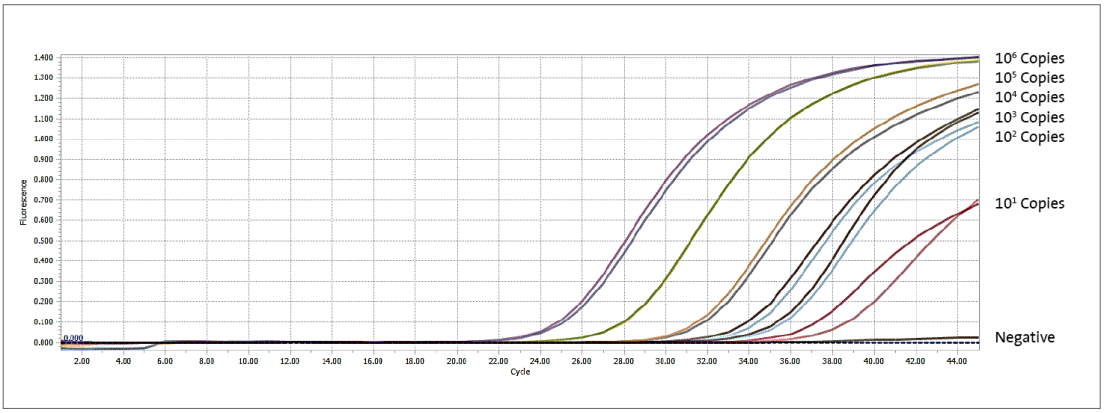

Figure 2. Sensitivity of viral detection in real-time PCR TaqMan® assays.

Lentivirus containing part of the coding sequence from SARS-CoV-2 was isolated from swab samples using the Axygen® AxyPrep MAG Viral Nucleic Acid Purification Kit. The recovered RNA was tested using a commercially available real-time PCR TaqMan assay. A dilution series was tested in duplicate and each reaction was performed twice.

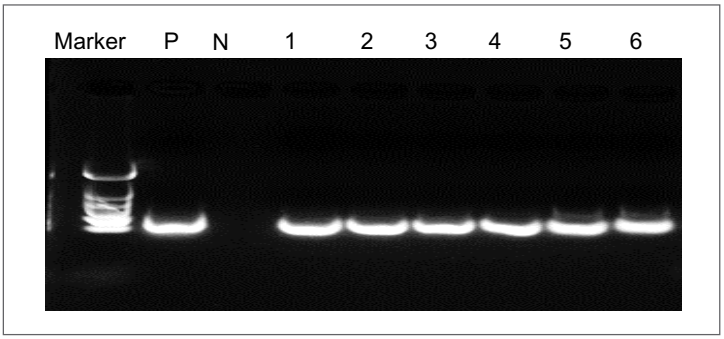

Figure 3. Detection of PCR product following RNA extraction and real-time PCR TaqMan assay.

Lentivirus containing part of the coding sequence from SARS-CoV-2 RNA was purified from 200 µL swab collection sample with the Axygen AxyPrep MAG Viral Nucleic Acid Purification Kit. Purified RNA was eluted in 60 µL nuclease-free water. 5 µL template was added into a 25 µL RT-PCR reaction mix. Each lane was loaded with 5 µL RT-PCR product. Marker: DL2000; P: Positive control; N: Negative control; 1 to 6: serial diluted viruses from 10^6 to 10^1 copies.

Ordering Information

Cat. No.	Description	Qty
MAG-VNA-S	Axygen® AxyPrep MAG Viral Nucleic Acid Purification Kit, small	96
MAG-VNA-M	Axygen AxyPrep MAG Viral Nucleic Acid Purification Kit, medium	384

For more specific information on claims, visit the Certificates page at **www.corning.com/lifesciences**.

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Corning's products are not specifically designed and tested for COVID-19 testing. Many Corning products, though not specific to the COVID-19 test, can be used in the workflow and preparation of the test at the customer's discretion. Customers may use these products to support their claims. We cannot make any claims or statements that our products are approved for COVID-19 test either directly or indirectly. The customer is responsible for any testing, validation, and/or regulatory submissions that may be required to support the safety and efficacy of their intended application.

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