

## SARS-COV-2 AND RELATED MOLECULAR CONTROLS

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### SARS-CONTROLS

#### **What is the recommended storage temperature for Armored RNA<sup>®</sup> Controls?**

Controls are shipped frozen on dry ice with -15 to -30°C storage recommended after receipt. Single use aliquots are recommended with no more than 5 freeze-thaw cycles.

#### **What is the recommended storage solution for your custom reagents?**

TSMIII storage buffer is available for purchase through Asuragen Bio-Techne.

#### **Are your custom reagents assigned expiration dates?**

Expiration dates are assigned only to products that have undergone appropriate stability studies. Representative Armored RNA Quant control products have demonstrated stability up to 3 years when stored at -15 to -30°C or 6 months when stored at 2 to 8°C after opening.

#### **How is Armored RNA quantified?**

An analytical phosphate assay is utilized with NIST-traceable standards to determine the concentration of each control.

#### **How do you release the RNA from its Armored particles?**

- Due to the encapsidation, Armored RNA can serve as full-process extraction controls. They are compatible with most viral RNA extraction kits and can be used in subsequent RT-PCR reactions.
- Heat lysis incubation for 3-5 minutes at 75°C is sufficient to release the RNA from its protective capsid for direct addition to RT reactions.

# FREQUENTLY ASKED QUESTIONS

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## How many reactions does one vial provide?

The number of reactions depends on the application (e.g. multi-level calibration curve, external positive control, etc.). Typically, for use as an RNA external positive control, researchers use  $1 \times 10^5$  to  $1 \times 10^6$  copies per reverse transcription reaction depending on the limit of detection of the particular assay. This would allow for thousands of reactions from a single vial.

## How can I order Armored RNA?

Contact [aus.armored@bio-techne.com](mailto:aus.armored@bio-techne.com)

## What is the Armored RNA Quant® SARS-CoV-2 (P/N 52151)?

It is an *in vitro* transcribed RNA encoding the SARS-CoV-2 viral nucleocapsid region that is encapsidated in phage coat protein particles. This sequence aligns with the CDC Diagnostic Panel N1/N2 and shares identity with at least 83 known isolates in the NCBI database.

## Which specific SARS-CoV-2 isolate was used to design Armored RNA Quant® SARS-CoV-2 (P/N 52151)?

Armored RNA Quant® SARS-CoV-2 was originally designed against Wuhan isolate LR757998.1. The control sequence has 100% identity to 83 other isolates including Wuhan, Australia, USA, and Cruise.

## What is the Armored RNA Quant® SARS-CoV-2 Panel (P/N 52153)?

It is a panel of *in vitro* transcribed RNA encoding the SARS-CoV-2 viral nucleocapsid, envelope, RNA-dependent RNA Polymerase, ORF1, and human RNase P regions that are encapsidated in phage coat protein particles.

## What is the Armored RNA Quant® Respiratory Triplex Control (P/N 52108)?

This control contains multiplexed *in vitro* transcribed RNA encoding the SARS-CoV-2 viral nucleocapsid, Influenza, Respiratory Syncytial Virus, and RNase P regions encapsulated in phage coat protein particles. These sequence regions align with the US and China CDC and WHO recommended regions for SARS-CoV-2 testing.

## How are these SARS-CoV-2 controls being used?

Armored RNA SARS-CoV-2 controls are being used as positive reference controls for testing laboratories and inclusion in diagnostic kits.

## What is the Armored RNA Quant® RNase P (P/N 52152)?

It is an *in vitro* transcribed RNA encoding the RNase P gene that is encapsidated in phage coat protein particles. This sequence aligns with the CDC Diagnostic Panel recommendation.

## How is this RNase P control being used?

The RNase P control is being used as an assay positive control to ensure test systems are behaving optimally.

## What are advantages compared to a non-Armored RNA control?

The Armored process protects the RNA from degradation. This allows for its use as an extraction control as well as a process control. Additionally, the Armored capsid coat mimics viral coat proteins without being infectious, providing a safer alternative to live or inactivated virus controls.

For more information | [aus.armored@bio-techne.com](mailto:aus.armored@bio-techne.com)

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