

Custom Controls Frequently Asked Questions

General Questions

- 1. Q: What is the recommended storage temperature for Armored RNA Controls?**
A: Shipped frozen, -15 to -30 °C is the recommended storage temperature. Single use aliquots are recommended with no more than 5 freeze-thaws
- 2. Q: What is the recommended storage solution for your custom reagents?**
A: TSMIII storage buffer (10 mM Tris pH 7.0, 100 mM NaCl, 1 mM MgCl₂, 0.3% Microcide III and 0.1% gelatin; pH7.0). This is available for purchase through Asuragen.
- 3. Q: Are your custom reagents assigned expiration dates?**
A: Expiration dates are assigned only on products that have undergone appropriate stability studies. Representative Armored RNA Quant controls at all concentrations have demonstrated stability up to 3 years.
- 4. Q: How is Armored RNA quantified?**
A: An analytical phosphate assay is utilized with NIST-traceable standards to determine the concentration of each control.
- 5. Q: How do you release the RNA from its Armored particles?**
A1: Due to the encapsulation, Armored RNA can serve as full-process extraction controls. They are compatible with most viral RNA extraction kits and then can be used in subsequent RT-PCR reactions.
A2: 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.
- 6. Q: How many reactions does one vial provide?**
A: The number of reactions depends on the limit of detection of the particular assay being used to detect the control. Typically, researchers use 1x10⁵ to 1x10⁶ copies per reverse transcription reaction. This would allow for thousands of reactions from a single vial.
- 7. Q: How can I order Armored RNA?**
A: Contact armored@asuragen.com or visit <https://asuragen.com/portfolio/custom-reagents/>

Coronavirus Control Questions

- 1. Q: What is the Armored RNA Quant® SARS-CoV-2 (P/N 52030)?**
A: It is an in vitro transcribed RNA encoding the SARS-CoV-2 viral nucleocapsid region that is encapsulated 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 NCBI's database.
- 2. Q: What is the Armored RNA Quant® SARS-CoV-2 Panel (P/N 52036)?**

A: 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 encapsulated in phage coat protein particles. These sequence regions align with the US and China CDC and WHO recommended regions to test.

3. Q: Which specific SARS-CoV-2 isolate was used to design Armored RNA Quant® SARS-CoV-2 (P/N 52030)?

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

4. Q: How are these SARS-CoV-2 controls being used?

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

5. Q: What is the Armored RNA Quant® RNase P (P/N 52031)?

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

6. Q: How is this RNase P control being used?

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

7. Q: What are advantages compared to a non-armored RNA control?

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