

# Armored RNA Quant<sup>®</sup>

## SARS-CoV-2\*

Coronavirus 2019

Armored Controls have been utilized in IVD-approved assays for more than 20 years and continue to serve as an important tool in the rapidly evolving space of molecular diagnostics.

In response to the worldwide outbreak of COVID-19, Asuragen has developed a novel Armored RNA control that targets the SARS-CoV-2 viral nucleocapsid (N) region. Our new RNase P construct aligns with the CDC and WHO recommended Diagnostic Panel (CDC-006-00019) providing a stable, reliable, and safe way to rapidly test for the presence of the novel Coronavirus.

Each control encodes an in vitro transcribed RNA encapsulated in a protective protein coat to create a virus-like particle resistant to nuclease degradation. This allows the products to be used as RNA extraction controls, process quality controls, or positive diagnostic reference controls. From feasibility to clinical use, these robust and versatile controls are beneficial across all sectors of the research and diagnostic spectrum.

Armored RNA Quant<sup>®</sup>  
**THE GOLD STANDARD  
FOR MOLECULAR  
QUALITY CONTROL**

### REDUCED COMPLEXITY

- Available as standalone catalog items
- High-quality solution to monitor extraction and process efficiency
- Compatible with a wide range of RNA-based clinical assays
- Non-infectious, synthetic constructs simplify shipping and storage

### OPTIMIZED WORKFLOW

- Deployable as extractable, exogenous internal positive control
- Tailored sequences specific to SARS-CoV-2 and RNase P
- Degradation resistant in majority of biological matrices
- Multiple volume and manufacturing options available
- Available as cGMP or development lot in a range of fill volumes

### QUALITY PERFORMANCE

- Concentration determined using National Institute of Standards (NIST) traceable standard
- Highly standardized, quality controlled manufacturing ensures reliability and consistency between lots
- Manufactured in a cell-free system

## Armored RNA Quant® SARS-CoV-2\* Coronavirus 2019

- Concentration: 1 x 10<sup>11</sup> copies/mL and can be customized
- Buffer Composition: TSM III (10 mM Tris, 100 nM NaCl, 1 mM MgCl<sub>2</sub>, 0.1% Gelatin, 0.3% Microcide III, pH 7.0)
- Storage at -15 to -30 °C

## Packaged SARS-CoV-2 Sequence

Amplification primer/probe binding regions for SARS-CoV-2 sequences are detailed below. Orange boxes represent the N1 and N2 primer/probe sequences from “CDC 2019-Novel Coronavirus (2019-nCoV) Real-Time RT-PCR Diagnostic Panel.” The purple and red boxes indicate primers used for QC of the entire target.

```

GAGCTCGAACAACTAAAATGTCTGATAATGGACCCAAAATCAGCGAAATGCACCCCGCATTACGTTTGGTGGACCCTCAGATTCAACTGGCAGTAACAGAATGGAGA
      2019-nCoV_N1-f          2019-nCoV_N1-P          2019-nCoV_N1-R
5AACAACTAAAATGTCTGATAA
ACGCAGTGGGGCGCGATCAAAACACGTCGGCCCCAAGGTTTACCAATAATACTGGGTCTTGGTTCACCGCTCTCACTCAACATGGCAAGGAAGACCTTAAATTCCTC
GAGGACAAGGCGTTCCAATTAACCAATAGCAGTCCAGATGACCAAAATGGCTACTACCGAAGAGCTACCAGACGAATTCGTGGTGGTACGGTAAAATGAAAGATCTC
AGTCCAAGATGGTATTCTACTACTAGGAAGCTGGGCCAGAAGCTGGACTTCCCTATGGTGCTAACAAAGACGGCATCATATGGGTTGCAACTGAGGGAGCCTTGAATAC
ACCAAAAGATCACATTGGCACCCGAATCTGCTAACATGCTGCAATCGTCTACAACCTTCTCAAGGAACAACATTGCCAAAAGGCTTCTACCGAGAAGGGAGCAGAG
      AATCGTGCTACAACCTCCTCAA
GCGGCAGTCAAGCCTCTTCTCGTTCTCATCAGTAGTCGCAACAGTTCAAGAAATTCACCTCCAGGCAGCAGTAGGGGAACCTTCTCTGCTAGAATGGCTGGCAATGGC
      CGGAGAAGAGCAAGGAG
GGTGATGCTGCTCTTGTCTTGGCTGCTGCTTGACAGATTGAACAGCTTGAGAGCAAAATGCTCGTAAAGGCCAACAAACAAGGCCAAACTGTACTAAGAATCTGC
TGCTGAGGCTTCTAAGAAGCCTCGGCAAAAACGTACTGCCACTAAGCATAAATGTAACACAAGCTTTCCGCGAGACGTGGTCCAGAACAAACCAAGGAAATTTGGGG
ACCAGGAACTAATCAGACAAGGAAGTATTACAACATTGGCCGCAAATTCACAATTTGCCCCAGCGCTTCAGCGTTCTTCGGAATGTCGCGCATTGGCATGGAAGTC
      2019-nCoV_N2-f          2019-nCoV_N2-P          2019-nCoV_N2-R
ACACCTTCGGGAACGTG
TCAGTGTGG... CCCTTGCA
T...A
    
```

## Primer/Probe Table

Name	Description	Sequence (5'>3')
2019-nCoV_N1-F	2019-nCoV_N1 Forward Primer	GAC CCC AAA ATC AGC GAA AT
2019-nCoV_N1-R	2019-nCoV_N1 Reverse Primer	TCT GGT TAC TGC CAG TTG AAT CTG
2019-nCoV_N1-P	2019-nCoV_N1 Probe	ACC CCG CAT TAC GTT TGG TGG ACC
2019-nCoV_N2-F	2019-nCoV_N2 Forward Primer	TTA CAA ACA TTG GCC GCA AA
2019-nCoV_N2-R	2019-nCoV_N2 Reverse Primer	GCG CGA CAT TCC GAA GAA
2019-nCoV_N1-P	2019-nCoV_N2 Probe	ACA ATT TGC CCC CAG CGC TTC AG
RP-F	RNase P Forward Primer	AGA TTT GGA CCT GCG AGC G
RP-R	RNase P Reverse Primer	GAG CGG CTG TCT CCA CAA GT
RP-P	RNase P Probe	TTC TGA CCT GAA GGC TCT GCG CG

## ORDERING INFORMATION

Part Number	Product Description	Volume	Concentration
52030	Armored RNA Quant SARS-CoV-2	0.25mL	1x10 <sup>11</sup> cp/mL
52031	Armored RNA Quant RNase P	0.25mL	1x10 <sup>11</sup> cp/mL

To request a quote or for more information about Armored RNA Quant® SARS-CoV-2\*, contact | [armored@asuragen.com](mailto:armored@asuragen.com)

Armored RNA Quant® is a technology developed jointly by Ambion, Inc. and Cenetron Diagnostics, LLC (US patents #5,677,124, #5,919,625, #5,939,262, #6,214,982, and #6,399,307). Armored RNA Quant® is a registered trademark of Ambion and Cenetron Diagnostics. \*For Research Use Only. Not For Use in Diagnostic Procedures.