

# Armored RNA Quant<sup>®</sup>

## EPA-1615 Controls

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 2010, Asuragen partnered with the US EPA to create an Armored enteric control in an effort to standardize the measurement of Enterovirus and Norovirus in water by RT-qPCR. Method 1615 was published later that year and updated in 2014 as a joint publication between the US EPA National Exposure Research Laboratory and the Office of Ground Water and Drinking Water. It reduces equipment costs and time associated with labor in collection and detection of biologics from ground, reagent-grade, and surface water samples and includes the use of Armored RNA Quant<sup>®</sup> EPA-1615 as a positive reference and our Armored RNA<sup>®</sup> HGV product as an inhibition control.

This control was designed as a single, concatenated construct of Enterovirus, Norovirus Genotype I, and Norovirus Genotype II to allow for the maximum testing of a single control.

"As there is no established cell line for detecting infectious human noroviruses. . . Armored RNA was chosen for standard curves and calibrators because it is difficult to obtain standard material to use as standards, and especially difficult to obtain high-titered norovirus stocks."<sup>1</sup>

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

### REDUCED COMPLEXITY

- Available as a standalone catalog item or bundled with Armored RNA HGV
- Simple, spike-in solution to monitor extraction and process efficiency
- Non-infectious, synthetic constructs simplify shipping and storage

### OPTIMIZED WORKFLOW

- Degradation resistant in majority of biological matrices
- Multiple volume and manufacturing options available
- A single, concatenated control against three common enteric viruses
- 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® EPA-1615 Product Details

- Encapsulated as non-infectious, nuclease-resistant, pseudo-viral particle
- NIST traceability enables usage in standardization and reproducibility assessments
- Concentration:  $1 \times 10^{12}$  copies/mL
- 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
- Total Volume: 0.5mL<sup>†</sup>

<sup>†</sup>Variable concentrations, volumes and vial quantities available upon request.

## Target Sequence (380 bp)



```
GCCATGTTCCGCTGGATGCGCTTCCATGACCTCGGATTGTGGACAGGAGATCGCGATCTTCTGCCGAATTCGTAAATGATGATGGCG
TCTAAGGAATGTTTCCAGATGGATGAGATTCTCAGATCTGAGCACGTGGGAGGGCGATCGCAATCTGGCTCCCAGCTTTGTGAATGAAG
ATGGCGTCGACCTCCGGCCCCCTGAATGCGGCTAATCCCAACCTCGGGGCGAGGTGGTCACAAACCAGTGATTGGCCTGTCGTAACG
CGCAAGTCCGTGGCGGAACCGACTACTTTGGGTGTCGGTGTTCCTTTATTTATTTGTTGGCTGCTTATGGTGACAATCACAGATTGTTATC
ATAAAGCGAATTGGATTGGCCATCCGGT
```

## Armored RNA® HGV Product Details

- Qualitative Molecular control
- Sufficient volume for 50 reactions

## Target Sequence (370 bp)

```
CCGGCACTGGGTGCAAGCCCCAGAAACCGACGCCTATTTTAAACAGACGTTATGAACCGGCGCTGACTCGGCGACCCGGCCAAAAGGT
GGTGGATGGGTGATGCCAGGGTTGGTAGGTTCGTAATCCCGGTCATCTTGGTAGCCACTATAGGTGGGTCTTAAGGGTTAGTCAAGG
TCCCTCTGGCGCTTGTGGCGAGAAGCGCACGGTCCACAGGTGTTGCCCTACCGGTGTAATAAGGGCCCGACGTCAGGCTCGTCGT
TAAACCGAGCCATTACCCACCTGGGCAAACGACGCCACGTACGGTCCACGTCGCCCTTCAATGTCTCTTACCAATAGGCTTAGC
CGGCGAGTTGACAAGGACCA
```

## ORDERING INFORMATION

Part Number	Product Description	Volume
52000	Armored RNA Quant® EPA-1615*	0.5mL
42024	Armored RNA® HGV*	0.25mL

For more information about Armored RNA Quant® EPA-1615 or other custom armored solutions | [armored@asuragen.com](mailto:armored@asuragen.com)

<sup>†</sup>Method 1615: Measurement of Enterovirus and Norovirus Occurrence in Water by Culture and RT-qPCR, 2014.

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\*For Research Use Only. Not For Use in Diagnostic Procedures.