Quantitative Synthetic Human immunodeficiency virus 1 (HIV-1) RNA

VR-3245SD™

Description

Quantitative synthetic Human immunodeficiency virus 1 (HIV-1) RNA can be used for assay development, verification, and validation as well as monitoring of day-to-day test variation and lot-to-lot performance of molecular-based assays. The quantitative format allows for the generation of a standard curve for quantitative PCR (qPCR) to determine viral load and for other molecular biology applications. This preparation includes fragments from the 5' LTR, *gag* gene, *pol* gene (including protease, reverse transcriptase, and integrase regions), *tat* gene, *rev* gene, and *nef* gene. This construct also includes clinically significant mutation profiles to allow compatibility with the CDC genotyping assay patent, including 41L, 67N, 70R, 103N, 181C, 215Y, and 90M.

Organism: Human immunodeficiency virus 1, HIV-1

Genetic target: Preparation includes fragments from the 5' LTR, *gag* gene, *pol* gene (including protease, reverse transcriptase, and integrase regions), *tat* gene, *rev* gene, and *nef* gene.
This construct also includes clinically significant mutation profiles to allow compatibility with the CDC genotyping assay patent, including 41L, 67N, 70R, 103N, 181C, 215Y, and 90M. (Centers for Disease Control and Prevention. Real-time PCR point mutation assays for detecting HIV-1 resistance to antiviral drugs. US Patent 8,592,146 dated Nov. 26, 2013)

Specification range: ≥ 1 x 10^5 to 1 x 10^6 copies/µL

Volume: 100 µL

Patent number: 8,592,146

Shipping information:

Shipped in a proprietary stabilization matrix

Storage Conditions

Product format: Frozen

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Storage conditions: -70°C or colder

Intended Use

This product is intended for laboratory research use only. It is not intended for any animal or human therapeutic use, any human or animal consumption, or any diagnostic use.

The synthetically engineered sequence of the product constitutes intellectual property belonging to ATCC. Unauthorized use, including sequencing, modification, or reverse-engineering, of the product is expressly prohibited without prior ATCC consent.

BSL 1

ATCC determines the biosafety level of a material based on our risk assessment as guided by the current edition of *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, U.S. Department of Health and Human Services. It is your responsibility to understand the hazards associated with the material per your organization's policies and procedures as well as any other applicable regulations as enforced by your local or national agencies.

Certificate of Analysis

For batch-specific test results, refer to the applicable certificate of analysis that can be found at www.atcc.org.

Handling Procedures

1. Thaw the vial at room temperature and immediately place on ice. Avoid exposing the synthetic RNA to repeated freeze-thaw cycles as it may result in degradation of the RNA and variation in copy number.
2. Gently mix the sample to ensure an even distribution of material.

3. Briefly centrifuge the tube before opening to ensure all liquid is at the bottom.

Notes

RNA is easily degraded. Take extra precautions against contamination by using new gloves and clean lab coats when working with RNA. Use only RNase-free lab materials when handling this product. Vortexing can damage the synthetic RNA. Gentle pipetting is highly recommended. Aliquoting is highly recommended to avoid multiple freeze-thaws, which can damage the synthetic RNA.

The following primers and probe can be used with this nucleic acid preparation RefHenrich TJ, et al. Low-level detection and quantitation of cellular HIV-1 DNA and 2-LTR circles using droplet digital PCR. J. Virol. Methods 186(1-2): 68-72, 2012. :

Forward: TACTGACGCTCTCGCACC

Reverse: TCTCGACGCAGGACTCG

Probe: CTCTCTCCTTCTAGCCTC

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: Quantitative Synthetic Human immunodeficiency virus 1 (HIV-1) RNA (ATCC VR-3245SD)

References

References and other information relating to this material are available at www.atcc.org.

Warranty

The product is provided 'AS IS' and the viability of ATCC® products is warranted for 30 days from the date of shipment, provided that the customer has stored and handled the product according to the information included on the product information sheet, website, and Certificate of Analysis. For living cultures, ATCC

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lists the media formulation and reagents that have been found to be effective for the product. Wh unspecified media and reagents may also produce satisfactory results, a change in the ATCC and/or depositor-recommended protocols may affect the recovery, growth, and/or function of the product. I alternative medium formulation or reagent is used, the ATCC warranty for viability is no longer valid. Except as expressly set forth herein, no other warranties of any kind are provided, express or implied, including, but not limited to, any implied warranties of merchantability, fitness for a particular purpose, manufacture according to cGMP standards, typicality, safety, accuracy, and/or noninfringement.

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Revision

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