

Vector pET-28a(+) Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Open Reading Frame 7a Gene

Catalog No. NR-53510

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Product Description:

The open reading frame 7a (orf7a) gene from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenBank: [MN908947](#)) was codon optimized, tagged with a tobacco etch virus (TEV) cleavable N-terminal hexa-histidine tag and cloned into the [pET-28a\(+\)](#) plasmid. The kanamycin resistance gene, *aph*, provides transformant selection through kanamycin resistance in *Escherichia coli* (*E. coli*). The deposited plasmid was transformed into One Shot™ TOP10 *E. coli* (Invitrogen™ C404003), grown in Luria-Bertani broth with kanamycin (50 µg per mL) for 1 day at 37°C in an aerobic atmosphere, extracted using a Plasmid Plus Maxi Kit (QIAGEN® 12963) and vialied in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0).

Lot: 70036475

Manufacturing Date: 04JUN2020

TEST	SPECIFICATIONS	RESULTS
Next-Generation DNA Sequencing	~ 5670 base pairs	5667 base pairs ¹
Genotypic Analysis Sequencing of orf7a insert (~ 360 base pairs)	100% sequence identity to depositor's sequence His ₆ tag sequence confirmed TEV protease site sequence confirmed	100% sequence identity to depositor's sequence ² His ₆ tag sequence confirmed TEV protease site sequence confirmed
Antibiotic Resistance Kanamycin (encoded by <i>aph</i>)	<i>aph</i> sequence present	<i>aph</i> sequence present
Concentration by Qubit™ Measurement	≥ 2 µg/mL	0.2 µg in 20 µL per vial (12 µg/mL)
Amount per Vial	Report results	0.2 µg per vial
OD₂₆₀/OD₂₈₀ Ratio	1.7 to 2.1	1.9
Effective Bacterial Transformation Invitrogen™ One Shot™ TOP10 <i>E. coli</i>	≥ 50 colonies per ng	167 colonies per ng

¹The sequence was assembled pre-vial using the depositor's predicted sequence as the reference sequence. The complete plasmid sequence and map are provided on the BEI Resources webpage.

²The NR-53510 insert was codon optimized but otherwise is 100% identical with the SARS-CoV-2, Wuhan-Hu-1 ORF7a protein (GenPept: QHD43421.1).

/Heather Couch/

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27 AUG 2020

Program Manager or designee, ATCC Federal Solutions

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