

**Vector pET-28a(+)** Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Nucleocapsid Gene

**Catalog No. NR-53507**

This reagent is the tangible property of the U.S. Government.

**Product Description:**

The nucleocapsid (N) 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 vialled in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0).

**Lot: 70036472**

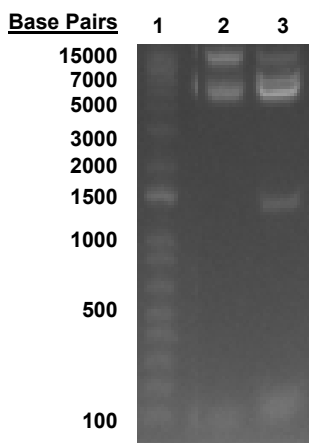
**Manufacturing Date: 04JUN2020**

TEST	SPECIFICATIONS	RESULTS
<b>Next-Generation DNA Sequencing</b>	~ 6570 base pairs	6561 base pairs <sup>1</sup>
<b>Genotypic Analysis</b> Sequencing of N insert (~ 1260 base pairs)	100% sequence identity to depositor's sequence His <sub>6</sub> tag sequence confirmed TEV protease site sequence confirmed	100% sequence identity to depositor's sequence <sup>2</sup> His <sub>6</sub> tag sequence confirmed TEV protease site sequence confirmed
<b>Antibiotic Resistance</b> Kanamycin (encoded by <i>aph</i> )	<i>aph</i> sequence present	<i>aph</i> sequence present
<b>Agarose Gel Electrophoresis</b> Digestion with <i>Xho</i> I and <i>Xba</i> I (pre-vial)	~ 5 kb and ~ 1.4 kb	~ 5 kb and ~ 1.4 kb (Figure 1)
<b>Concentration by Qubit™ Measurement</b>	≥ 2 µg/mL	0.3 µg in 20 µL per vial (14 µg/mL)
<b>Amount per Vial</b>	Report results	0.3 µg per vial
<b>OD<sub>260</sub>/OD<sub>280</sub> Ratio</b>	1.7 to 2.1	1.9
<b>Effective Bacterial Transformation</b> Invitrogen™ One Shot™ TOP10 <i>Escherichia coli</i>	≥ 50 colonies per ng	182 colonies per ng

<sup>1</sup>The 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.

<sup>2</sup>The NR-53507 insert was codon optimized but otherwise is 100% identical with the SARS-CoV-2, Wuhan-Hu-1 N protein (GenPept: QHD43423).

**Figure 1: Agarose Gel of Undigested and Restriction Enzyme Digested NR-53507**



Lane 1: Invitrogen™ TrackIt™ 1 Kb Plus DNA Ladder  
 Lane 2: NR-53507 undigested  
 Lane 3: NR-53507 digested

/Heather Couch/  
 Heather Couch

26 AUG 2020

Program Manager or designee, ATCC Federal Solutions

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