

Vector pET-11a Containing the SARS-Related Coronavirus 2, Wuhan-Hu-1 Papain-Like Protease Gene

Catalog No. NR-52436

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Product Description:

The papain-like protease gene (PLpro; amino acids 1564 to 1878; GenPept: [YP_009724389](#)) from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenBank: [MN908947](#)) was codon optimized, tagged with a thrombin cleavage site and a tobacco etch virus (TEV) cleavable N-terminal hexa-histidine tag, and cloned into the pET-11a plasmid. The beta-lactamase gene, *bla*, provides transformant selection through ampicillin 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 ampicillin (50 µg per mL) for 1 day at 37°C in an aerobic atmosphere, extracted using a Plasmid Plus Maxi Kit (QIAGEN® 12963) and viald in TE buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0).

Lot: 70036755

Manufacturing Date: 06MAY2020

TEST	SPECIFICATIONS	RESULTS
Next-Generation DNA Sequencing	Report results	6690 base pairs ¹
Genotypic Analysis Sequencing of PLpro insert (~ 1060 base pairs)	100% sequence identity to depositor's sequence His ₆ tag sequence confirmed TEV protease site sequence confirmed Thrombin protease site sequence confirmed	100% sequence identity to depositor's sequence ² His ₆ tag sequence confirmed TEV protease site sequence confirmed Thrombin protease site sequence confirmed
Antibiotic Resistance Ampicillin (encoded by beta-lactamase gene <i>bla</i>) ³	<i>bla</i> sequence present	<i>bla</i> sequence present
Concentration by PicoGreen® Measurement	≥ 2 µg per mL	0.2 µg in 25 µL per vial (6 µg per mL)
Amount per Vial	Report results	0.2 µg per vial
OD₂₆₀/OD₂₈₀ Ratio	1.7 to 2.1	2.0
Effective Bacterial Transformation Invitrogen™ One Shot™ TOP10 <i>E. coli</i>	≥ 50 colonies per ng	293 colonies per ng

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

²The NR-52436 insert was codon optimized, but otherwise is consistent with the SARS-CoV-2, Wuhan-Hu-1 PLpro protein (amino acids 1564 to 1878; GenPept: YP_009724389.1).

³The antibiotic ampicillin degrades quickly during growth. Bacterial stationary phase should be minimized during plasmid expansion to avoid plasmid loss and increased antibiotic concentrations may be necessary.

/Heather Couch/
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05 APR 2021

Program Manager or designee, ATCC Federal Solutions

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