

Escherichia coli – Staphylococcal aureus Shuttle Vector pCN54, Recombinant in Escherichia coli

Catalog No. NR-46154

Product Description:

NR-46154 is a culture of *Escherichia coli* (*E. coli*) DH5α (RN9619, NRS619) containing the *E. coli*-staphylococcal shuttle vector pCN54. Vector pCN54 contains the *E. coli* ColE1 replication origin and the *Staphylococcus aureus* (*S. aureus*) pT181 *cop-wt-repC* replicon, the cadmium-inducible promoter *P_{cad-cadC}*, the GFP reporter gene *gfpmut2* and the *blaZ* transcriptional terminator. Vector pCN54 was deposited as resistant to ampicillin and erythromycin in *E. coli* and resistant to erythromycin in *S. aureus*. NR-46154 was produced by inoculation of BEI Resources seed lot 63381373 in Luria-Bertani (LB) broth containing 100µg/mL ampicillin grown for 1 day at 37°C in an aerobic atmosphere with shaking at ~250 rpm. Broth inoculum was added to Luria-Bertani (LB) agar containing 100µg/mL ampicillin and grown for 1 day at 37°C in an aerobic atmosphere to produce this lot.

Lot: 70079246

Manufacturing Date: 15OCT2025

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TEST	SPECIFICATIONS	RESULTS
Phenotypic Analysis Cellular morphology Colony morphology 1 day at 37°C in an aerobic atmosphere on LB agar containing 100 µg/mL ampicillin Motility (wet mount) VITEK® MS (MALDI-TOF)	Gram-negative rods Report results Report results <i>E. coli</i>	Gram-negative rods Circular, convex, entire, smooth and cream (Figure 1) Motile <i>E. coli</i> (99.9%)
Confirmation of pCN54 Sequence¹ Illumina® MiSeq® sequence	Report results	Consistent with pCN54 vector (GenBank: KR781470.1) ²
Antibiotic Resistance Erythromycin (encoded by the adenine methylase gene <i>ermC</i>) Ampicillin (encoded by the beta-lactamase gene <i>bla</i>)	<i>ermC</i> sequence present <i>bla</i> sequence present	<i>ermC</i> sequence confirmed <i>bla</i> sequence confirmed
Purity (post-freeze) 7 days at 37°C in an aerobic atmosphere with and without 5% CO ₂ on Tryptic Soy agar with 5% defibrinated sheep blood.	Growth consistent with expected colony morphology	Growth consistent with expected colony morphology
Viability (post-freeze) 1 day at 37°C in an aerobic atmosphere LB agar containing 100 µg/mL ampicillin	Growth	Growth

¹Illumina® MiSeq® sequence was analyzed with CLC Genomics Workbench Version 7.0.2.

²pCN54 was sequenced and annotated by BEI Resources and is consistent with the vector described in Charpentier, E., et al. "Novel Cassette-Based Shuttle Vector System for Gram-Positive Bacteria." *Appl. Environ. Microbiol.* 70 (2004): 6076-6085. PubMed: 15466553. The BEI Resources vector sequence was deposited into GenBank as NR-46154 (GenBank: KR781470).

Figure 1: Colony Morphology



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