Escherichia coli – Staphylococcus aureus Shuttle Vector pCN57, Recombinant in Staphylococcus aureus

Catalog No. NR-46158

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
NR-46158 is a culture of Staphylococcus aureus (S. aureus), strain 4221 (RN9623, NRS623) containing the Escherichia coli (E. coli)-staphylococcal shuttle vector pCN57 (pNR-46158). Vector pCN57 contains the E. coli ColE1 replication origin, the S. aureus pT181 cop-wt-repC replicon, the P_{bla} promoter and a promoterless β-lactamase reporter gene, gfpmut2. Vector pCN57 was deposited as resistant to ampicillin and erythromycin in E. coli and resistant to erythromycin in S. aureus.

The complete sequence and vector map of pCN57 have been determined and are available on the Certificate of Analysis for NR-46158 lot 62782862. The complete BEI Resources vector sequence (pNR-46158) is available (GenBank: KP255997).

Vector pCN57 is a member of a series of novel shuttle vectors that were developed using PCR-designed cassettes to allow for easy exchange of vector components. The base shuttle vectors are comprised of (i) a staphylococcal replicon (pT181-based low-copy number, high-copy-number or thermosensitive replicons or pl258-based low-copy-number theta replicon), (ii) a staphylococcal selectable marker (erythromycin, tetracycline, chloramphenicol, kanamycin or spectinomycin resistance), (iii) an E. coli ColE1-based replicon (iv) an E. coli selectable marker (ampicillin resistance) and (v) a pUC19-derived expanded multiple cloning site (MCS). Additionally, some of the vectors may contain a staphylococcal phi11 phage fragment, staphylococcal pathogenicity island SaPI1 fragment, an inducible or constitutive promoter, and reporter genes.

Material Provided:
Each vial of NR-46158 contains approximately 0.5 mL of bacterial culture in Casitone-Yeast (CY) broth containing 0.1 M glycerol phosphate and 10 µg/mL erythromycin supplemented with 10% glycerol.

Packaging/Storage:
NR-46158 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -60°C or colder immediately upon arrival. For long-term storage, the vapor phase of a liquid nitrogen freezer is recommended. Freeze-thaw cycles should be avoided.

Growth Conditions:

Media:
- Casitone-Yeast broth containing 10 µg/mL erythromycin
- Tryptic Soy agar containing 10 µg/mL erythromycin

Incubation:
- Temperature: 37°C
- Atmosphere: Aerobic

Propagation:
1. Keep vial frozen until ready for use, then thaw.
2. Transfer the entire thawed aliquot into a single tube of broth.
3. Use several drops of the suspension to inoculate an agar slant and/or plate.
4. Incubate the tube, slant and/or plate at 37°C for 18 to 24 hours.

Citation:
Acknowledgment for publications should read “The following reagent was provided by the Network on Antimicrobial Resistance in Staphylococcus aureus (NARSA) for distribution by BEI Resources, NIAID, NIH: Escherichia coli – Staphylococcus aureus Shuttle Vector pCN57, Recombinant in Staphylococcus aureus, NR-46158.”

Biosafety Level: 2


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References:

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