Escherichia coli – Staphylococcus aureus Shuttle Vector pCN38, Recombinant in *Staphylococcus aureus*

Catalog No. NR-46128

For research use only. Not for human use.

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Manufacturer:
BEI Resources

Product Description:
NR-46128 is a culture of *Staphylococcus aureus* (*S. aureus*), strain 4220 (RN9591, NRS591) containing the *Escherichia coli (E. coli)*-staphylococcal shuttle vector pCN38. Vector pCN38 contains the *E. coli* ColE1 replication origin and the *S. aureus* pT181 *cop-wt-repC* replicon. Vector pCN38 was deposited as resistant to ampicillin and chloramphenicol in *E. coli* and resistant to chloramphenicol in *S. aureus*.[1]

The complete sequence and vector map of pCN38 have been determined and are available on the Certificate of Analysis for lot 63341060. The BEI Resources vector sequence was deposited into GenBank as NR-46128 (GenBank: KR781477).

Vector pCN38 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 pI258-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 ϕ11 phage fragment, staphylococcal pathogenicity island SaPI1 fragment, an inducible or constitutive promoter, and reporter genes.[1]

Material Provided:
Each vial of NR-46128 contains approximately 0.5 mL of bacterial culture in Casitone-Yeast (CY) broth containing 0.1 M glycerol phosphate and 10 µg/mL chloramphenicol supplemented with 10% glycerol.

Packaging/Storage:
NR-46128 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 chloramphenicol
Tryptic Soy agar containing 10 µg/mL chloramphenicol
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 pCN38, Recombinant in *Staphylococcus aureus*, NR-46128."

Biosafety Level: 2
Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Charpentier E., et al. "Novel Cassette-Based Shuttle Vector System for Gram-Positive Bacteria." Appl. Environ. Microbiol. 70 (2004): 6076-6085. PubMed: 15466553.

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