Antimicrobial Resistance Panel 4: *Pseudomonas aeruginosa* Elongation Factor G

Catalog No. NR-55643

For research use only. Not for use in humans.

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Manufacturer:
BEI Resources

Product Description:
NR-55643 consists of a 5-member panel of *Pseudomonas aeruginosa (P. aeruginosa)* mutant strains generated by growing *P. aeruginosa,* strains K767 and Z61 (ATCC® 35151™) on agar containing 128 micrograms per milliliter of argyrin. Sequencing of the resultant strains identified point mutations in the *fus*A1 gene, leading to amino acid substitutions in Elongation Factor G (EF-G).[1] EF-G is involved in translocation of mRNA and tRNA through ribosomes and is essential for protein synthesis.[1,2] These mutant strains can be used to study protein elongation and ribosomal recycling.

Table 1: Mutant Strains

Item No.	Description	Point mutation
NR-51930	*P. aeruginosa,* NB52019-CDR0055	FusA1 S417L
NR-51931	*P. aeruginosa,* NB52019-CDR0054	FusA1 S459F
NR-51932	*P. aeruginosa,* NB52019-CDR0056	FusA1 Y683C
NR-51934	*P. aeruginosa,* NB52040-CDA0055	FusA1 S417L
NR-51935	*P. aeruginosa,* NB52040-CDA0056	FusA1 S459F

Detailed information for each mutant strain, including antibiotic susceptibility profile, is available on the Certificate of Analysis.

Material Provided:
Each panel contains one vial of each *P. aeruginosa* strain listed in table 1 for a total of 5 vials. Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:
Each isolate 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:
Tryptic Soy broth or Brain Heart Infusion broth or Nutrient broth or equivalent
Tryptic Soy agar or Tryptic Soy agar with 5% defibrinated sheep blood or Brain Heart Infusion agar or Nutrient agar or equivalent
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 1 day.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Antimicrobial Resistance Panel 4: *Pseudomonas aeruginosa* Elongation Factor G, NR-55643."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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References:

1. Nyfeler, B., et al. "Identification of Elongation Factor G as the Conserved Cellular Target of Argyrin B." PLoS One 7 (2012): e42657. PubMed: 22970117.
2. Bolard, A., P. Plésiat and K. Jeannot. "Mutations in Gene *fusA1* as a Novel Mechanism of Aminoglycoside Resistance in Clinical Strains of *Pseudomonas aeruginosa*." Antimicrob. Agents Chemother. 62 (2018): e01835-17. PubMed: 29133559.

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