Antimicrobial Resistance Panel 9: *Escherichia coli* Raetz Pathway Mutants

Catalog No. NR-55648

For research use only. Not for use in humans.

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Manufacturer:
BEI Resources

Product Description:
NR-55648 consists of an 8-member panel of *Escherichia coli (E. coli)* controlled expression mutant strains generated by disrupting the native copy of the indicated Lipid IVa biosynthesis pathway genes (Table 1). The disrupted gene is expressed *in trans* in a plasmid under the control of *lac* promoter.

Table 1: *E. coli* Mutant Strains

Item No.	Strain	Genotype
NR-51863	NB27082-CDU0019	*lpxD*::Kan^R / pTU433 (pMMB, *PtaclacUV5::Ec_lpxD)*
NR-51864	NB27177-JRW0021	*ΔtolC*::FRT, *ΔlpxK:: FRT, FL66-84MA (IPTG inducible lpxKPa,* Kan^R*)*
NR-51865	NB27177-JWM0002	*ΔtolC lpxK*::Kan^R / pMM14 *(Plac::lpxK)*
NR-51884	NB27082-TUP0006	*ΔlpxA*::Kan^R / pTU406 (pMMB, *CmR ,PlacUV5::EclpxA)*
NR-51941	NB27082-TUP0001	*ΔlpxD*:: FRT / pTU433 (*Plac::lpxD*)
NR-51942	NB27082-TUP0005	*ΔlpxA*::Kan^R / pTU406 (*Plac::lpxA*)
NR-51943	NB27354-TUT0035	*Δcdh*::FRT *ΔtolC*::FRT
NR-51944	NB27176-JWM0004	*ΔlpxK*::Kan^R / pMM14 (*Plac::lpxK*)

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 *E. coli* strain listed in Table 1 for a total of 8 vials. Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth supplemented with 10% glycerol. NR-51863, NR-51864, NR-51884, NR-51942 and NR-51944 also contain 50 µg/mL kanamycin.

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 equivalent
Tryptic Soy 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.

Note: The media for NR-51863, NR-51864, NR-51884, NR-51942 and NR-51944 should contain 50 µg/mL kanamycin.

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Antimicrobial Resistance Panel 9: *Escherichia coli* Raetz Pathway Mutants, NR-55648."

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 (BMBL). 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

Disclaimers:
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References:

1. Sawyer, W. S., et al. "Targeted Lipopolysaccharide Biosynthetic Intermediate Analysis with Normal-Phase Liquid Chromatography Mass Spectrometry." PloS One 14 (2019): e0211803. PubMed: 30735516.

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