Product Information Sheet for NR-50351

Escherichia coli, Strain GM2163λpir

Catalog No. NR-50351

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Escherichia coli (E. coli), strain GM2163λpir contains the *pir* genes which allow genetic manipulations of vectors prior to transfer into *Staphylococcus* species. This strain is also a Dam and Dcm methylase mutant for transfer of plasmids into *Staphylococcus* isolates that do not accept *E. coli* DNA easily. Strain GM2163λpir has genotype F⁻*ara-14 leuB6 fhuA31 lacY1 tsx78 glnV44 galK2 galT22 mcrA dcm-6 hisG4 rfbD1 rpsL136 dam13*::Tn*9 xylA5 mtl-1 thi-1 mcrB1 hsdR2* λ*pir*.[1,2]

E. coli strains GM2163λpir and DH5αλpir were deposited in conjunction with vectors pKK22 with pKK30 and the complete set is available as BEI Resources NR-50352 (Table 1). pKK22 and pKK30 were created to maintain stability in *E. coli* and *Staphylococcus* species without antibiotic selection during *in vitro* and *in vivo* experiments. The *E. coli* R6Kγ origin of replication of both vectors requires *pir*+ for replication which is provided in either GM2163λpir or DH5αλpir *E. coli* strains.[3]

Table 1: *E. coli* – *Staphylococcus* Vectors and Hosts

Catalog Number	Vector or Host	Comments
NR-50348	pKK22	For use in *E. coli*, strains DH5αλpir or GM2163λpir or *S. aureus* USA300 strains containing LAC-p01[2]
NR-50349	pKK30	pKK30 is a variant of pKK22, for use in *E. coli*, strains DH5αλpir or GM2163λpir or *Staphylococcus* species not containing LAC-p01[2]
NR-50350	*E. coli*, Strain DH5αλpir	Host strain containing the *pir* genes for performing genetic manipulations prior to transfer into *Staphylococcus*[3]
NR-50351	*E. coli*, Strain GM2163λpir	Host strain containing the *pir* genes for performing genetic manipulations. This strain is also a Dam and Dcm methylase mutant for transfer of plasmids into *Staphylococcus* isolates that do not accept *E. coli* DNA easily.[3]

Material Provided:

Each vial of NR-50351 contains approximately 0.5 mL of E. coli, strain GM2163λpir in Tryptic Soy broth supplemented with 10% glycerol.

Packaging/Storage:

NR-50351 was packaged aseptically in screw-capped plastic 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 Nutrient agar or Tryptic Soy agar with 5% defibrinated sheep blood 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 contributed by Dr. J. L. Bose for distribution by BEI Resources, NIAID, NIH: *Escherichia coli*, Strain GM2163λpir, NR-50351."

Biosafety Level: 1

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). Current Edition. Washington, DC: U.S. Government Printing Office.

Disclaimers:

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References:

1. Bose, J. L., Personal Communication.
2. Krute, C. N., et al. "Generation of a Stable Plasmid for *in vitro and in vivo* Studies of *Staphylococcus* Species." Appl. Environ. Microbiol. 82 (2016): 6859-6869. PubMed: 27637878.
3. Dunn, A. K., M. O. Martin and E. V. Stabb. "Characterization of pES213, A Small Mobilizable Plasmid from *Vibrio fischeri*." Plasmid 54 (2005): 114-134. PubMed: 16122560.

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