Product Information Sheet for NR-46204

Staphylococcus aureus, Strain CT-189

Catalog No. NR-46204

For research use only. Not for human use.

Contributor:
Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Manufacturer:
BEI Resources

Product Description:
Bacteria Classification: *Staphylococcaceae, Staphylococcus*
Species: *Staphylococcus aureus*
Strain: CT-189
NARSA Catalog Number: NRS675
Original Source: *Staphylococcus aureus* (*S. aureus*), strain CT-189 was isolated in 2006 from the blood of a 44-year-old female with cellulitis and/or a bloodstream infection in Connecticut, USA.[1]
Comments: *S. aureus*, strain CT-189 is a clinically-associated methicillin-resistant *S. aureus* (MRSA) strain. Strain CT-189 was deposited as positive for *mec* (subtype IV), negative for PVL and *tst*; and pulsed-field type 800.[1] *S. aureus,* strain CT-189 is a USA800 isolate. USA800 isolates have the same MLST profile (ST 5), *agr* group (II), SCC*mec* subtype (IV), *spa* motif (MDMGMK), and Ridom *spa* types (t002 and related) and are positive for *sem* and *seo* toxin genes. USA 800 isolates are resistant to β-lactams and fluoroquinolones with some isolates being resistant to additional antibiotics.[2-5] While first isolated in pediatric patients, USA800 strains recently have been isolated in adults.[6,7] Note: Methicillin is no longer clinically used; however, the term methicillin-resistant *Staphylococcus aureus* (MRSA) continues to be used to describe *S. aureus* strains resistant to all penicillins.

S. aureus is a Gram-positive, cluster-forming coccus that normally inhabits human nasal passages, skin and mucus membranes. It is also a human pathogen and causes a variety of pus-forming infections as well as food-poisoning and toxic shock syndrome. In 1961, two years after the introduction of methicillin, a penicillinase-resistant penicillin, *S. aureus* developed methicillin-resistance due to acquisition of the *mecA* gene. For the last forty-five years hospital-acquired (HA) MRSA strains have disseminated worldwide. More recently, MRSA strains have been isolated that are not hospital acquired and are referred to as community-associated (CA) MRSA. These CA-MRSA strains differ phenotypically and genotypically from HA-MRSA strains and they are more frequently recovered from skin and soft tissue sources rather than post-operative wounds.[8,9]

Material Provided:
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:
NR-46204 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:
Brain Heart Infusion broth or Tryptic Soy broth or equivalent
Brain Heart Infusion 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 provided by the Network on Antimicrobial Resistance in *Staphylococcus aureus* (NARSA) for distribution by BEI Resources, NIAID, NIH: *Staphylococcus aureus*, Strain CT-189, NR-46204."

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:

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6. Sousa-Junior, F. C., et al. "Genotyping of Methicillin-Resistant *Staphylococcus aureus* Isolates Obtained in the Northeast Region of Brazil." J. Clin. Microbiol. 42 (2009): 877-881. PubMed: 19787144.
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