**Staphylococcus aureus**, Strain CT-178

**Catalog No. NR-46203**

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-178
- **NARSA Catalog Number:** NRS674
- **Original Source:** Staphylococcus aureus (S. aureus), strain CT-178 was isolated in 2005 from the blood of an 87-year-old female emergency room patient with pneumonia and/or a bloodstream infection in Connecticut, USA.¹
- **Comments:** S. aureus, strain CT-178 is a clinically-associated meticillin-resistant S. aureus (MRSA) strain. Strain CT-178 was deposited as positive for mec (subtype II), negative for PVL and tst; and pulsed-field type 100.¹ S. aureus, strain CT-178 is a USA100 isolate. USA100 isolates have the same MLST profile (ST 5) and SCCmec (subtype II) and are usually resistant to β-lactams, erythromycin and spectinomycin as well as being multiresistant to other commonly used therapeutic agents. USA100 is the most prevalent U.S. health care-associated pulsed-field type and is endemic in many U.S. hospitals.²
- Note: Methicillin is no longer clinically used; however, the term meticillin-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 meticillin, a penicillinase-resistant penicillin, S. aureus developed meticillin-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.³,⁴

**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-46203 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-178, NR-46203.”

**Biosafety Level:**
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References:
1. NARSA, NRS674

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