**Staphylococcus aureus, Strain CO-23**

**Catalog No. NR-46190**

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:** CO-23  
**NARSA Catalog Number:** NRS661

**Original Source:** *Staphylococcus aureus* (S. aureus), strain CO-23 was isolated in 2005 from the blood of an 80-year-old female with cellulitis and/or a bloodstream infection (BSI) in Colorado, USA.¹

**Comments:** *S. aureus*, strain CO-23 is a clinically-associated methicillin-resistant *S. aureus* (MRSA) strain. Strain CO-23 was deposited as positive for mec (subtype II); negative for *tst* and PV; and pulsed-field type 100.¹ *S. aureus*, strain CO-23 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 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.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-46190 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 CO-23, NR-46190.”

**Biosafety Level:**
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References:
1. NARSA, NRS661

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