**Staphylococcus aureus**, Strain CA-224

**Catalog No. NR-46174**

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:** CA-224

**NARSA Catalog Number:** NRS645

**Original Source:** Staphylococcus aureus (S. aureus), strain CA-224 was isolated in 2005 from the blood of an 82-year-old male with a surgical incision infection and/or a bloodstream infection (BSI) in California, USA.

**Comments:** S. aureus, strain CA-224 is a clinically-associated methicillin-resistant S. aureus (MRSA) strain. Strain CA-224 was deposited as positive for meca (subtype IV); negative for PVL and tst. S. aureus, strain CA-224 is an isolate of the Iberian clonal lineage. Iberian isolates typically have the same MLST profile (ST247), SCCmec (subtype I) and spa repeats (YHFGMBOBLO), negative for the PVL and arginine catabolic mobile element (ACME) genes, and are resistant to β-lactams and other commonly used antimicrobials. The Iberian clone (also referred to as PFGE A and EMRSA5) is a contemporary successor of the Archaic MRSA clone (ST 250). Both cluster closely with USA300 and USA500 which all originated from the clonal complex (CC) 8 lineage. 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.

**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-46174 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 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 CA-224, NR-46174.”

**Biosafety Level:** 2


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References:
1. NARSA, NRS645

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