

***Staphylococcus aureus*, Strain HIP12899**

Catalog No. NR-46081

For research use only. Not for human use.

Contributor:

Jean Patel, PhD, Deputy Director, Office of Antimicrobial Resistance, Centers for Disease Control and Prevention, Atlanta, Georgia, USA

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Staphylococcaceae*, *Staphylococcus*

Species: *Staphylococcus aureus*

Strain: HIP12899

NARSA Catalog Number: NRS484

Original Source: *Staphylococcus aureus* (*S. aureus*), strain HIP12899 was isolated in 1996 from a wound in Alaska, USA.¹⁻³

Comments: *S. aureus*, strain HIP12899 is a methicillin-resistant *S. aureus* (MRSA) strain.¹⁻³ Strain HIP12899 was deposited as positive for *mec* (subtype IV) and PVL; negative for enterotoxins and *tsst*; pulsed-field type USA1100; MLST sequence type (ST) 30; *agr* group III.¹ *S. aureus*, strain HIP12899 is a USA1100 isolate. USA1100 isolates have the same MLST profile (ST 30), *SCCmec* (subtype IV), *agr* group (III), are typically positive for *sem*, *seo*, *hlg*, *cna*, and PVL, have variety of *spa* types (t019, t021, t318, t273) and most are resistant to only β -lactams. USA1100 is associated with community-acquired infections.⁴⁻⁶ USA1100 is also known as the South West Pacific clone.⁶ 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.^{7,8}

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-46081 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 18 to 24 hours.

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 HIP12899, NR-46081."

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/bmb15/index.htm.

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References:

1. NARSA, NRS484.
2. Landen, M. G., et al. "Outbreak of Boils in an Alaskan Village: a Case-Control Study." West J. Med. 172 (2000): 235-239. PubMed: 10778372.
3. Baggett, H. C., et al. "Community-Onset Methicillin-Resistant *Staphylococcus aureus* Associated with Antibiotic Use and the Cytotoxin Panton-Valentine Leukocidin During a Furunculosis Outbreak in Rural Alaska." J. Infect. Dis. 189 (2004): 1565-1573. PubMed: 15116291.
4. David, M. Z., et al. "Molecular Epidemiology of Methicillin-Resistant *Staphylococcus aureus*, Rural Southwestern Alaska." Emerg. Infect. Dis. 14 (2008): 1693-1699. PubMed: 18976551.
5. Pardo, L., et al. "Community-Associated Methicillin-Resistant *Staphylococcus aureus* in Children Treated in Uruguay." J. Infect. Dev. Ctries. 7 (2013): 10-16. PubMed: 23324815.
6. Tristan, A., et al. "Global distribution of Panton-Valentine Leukocidin-Positive Methicillin-Resistant *Staphylococcus aureus*, 2006." Emerg. Infect. Dis. 13 (2007): 594-600. PubMed: 17553275.
7. Deurenberg, R. H. and E. E. Stobberingh. "The Evolution of *Staphylococcus aureus*." Infect. Genet. Evol. 8 (2008): 747-763. PubMed: 18718557.
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