Product Information Sheet for NR-45884

Staphylococcus aureus, Strain NRS49

Catalog No. NR-45884

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: NRS49
NARSA Catalog Number: NRS49
Original Source: *Staphylococcus aureus (S. aureus)*, strain NRS49 was isolated in August 1997 from the blood of a 45-year-old male cancer patient with septicemia in South Korea.[1,2]
Comments: *S. aureus*, strain NRS49 is a glycopeptide-intermediate *S. aureus* (GISA) strain.[1,2] Strain NRS49 was deposited as positive for SCC*mec* (subtype II); negative for *vanA*, *vanB*, *vanC1*, *vanC2*, *vanD* and *vanE;* MLST sequence type (ST) 5; eGenomic *spa* type 232, eGenomic *spa* repeats TJMBBMDMGMK*;* Ridom *spa* type t601.[1] Strain NRS49 is reported to be resistant to ciprofloxiacin, clindamycin, erythromycin, gentamicin, imipenem, oxacillin and tetracyline, intermediately susceptible to vancomycin and teicoplanin, susceptible to rifampin and cotrimoxazole and to have a VraR A113V mutation.[2-4]

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. Subsequently, MRSA infections have become widespread in both hospital and community settings.[5] Vancomycin has been the preferred antibiotic of choice for the treatment of MRSA infections.[6] However, there have now been MRSA strains isolated that also have reduced susceptibility or resistance to vancomycin.[7,8] It is believed that this decreased sensitivity primarily arises through mutations affecting the production of peptidoglycans, resulting in a thickened cell wall and a reduction of vancomycin at its site of action.[7] While much rarer, resistance can also occur through the acquisition of the vancomycin resistance gene, *vanA,* from *Enterococcus faecalis*.[7,9,10]

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-45884 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 NRS49, NR-45884."

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.

Disclaimers:
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