

***Staphylococcus epidermidis*, Strain VCU014**

Catalog No. NR-46377

For research use only. Not for use in humans.

Contributor:

Network on Antimicrobial Resistance in *Staphylococcus aureus* (NARSA), National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH)

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Staphylococcaceae*, *Staphylococcus*

Species: *Staphylococcus epidermidis*

Strain: VCU014

NARSA Catalog Number: NRS849

Original Source: *Staphylococcus epidermidis* (*S. epidermidis*), strain VCU014 is of unknown origin.¹

Comments: The complete genome sequence of *S. epidermidis*, strain VCU014 is available (GenBank: [JHQB000000000](https://www.ncbi.nlm.nih.gov/nuccore/JHQB000000000)).

S. epidermidis is a Gram-positive, cluster-forming, coagulase-negative coccus which is part of the normal flora of the skin and nostrils. Recently, it has become a common cause of hospital-acquired infections, particularly infections on implanted medical devices.² A number of factors, such as biofilm formation, small colony variants and a reduced susceptibility to a number of antibiotics, contribute to its success as a cause of nosocomial infections.^{3,4,5,6,7} Approximately 75 to 90% of hospital isolates are methicillin-resistant *S. epidermidis* (MRSE) and an increasing number of isolates have reduced susceptibility to vancomycin.² Similar to *S. aureus*, methicillin resistance in *S. epidermidis* is conferred by the *mecA* gene, whereas the reduced susceptibility to vancomycin is due to cell wall alterations including altered cross-linking and thickening of the wall.^{2,8,9,10} It is believed that *S. epidermidis* can serve as a reservoir for antibiotic resistance genes and other genomic islands for *S. aureus* which can acquire the genes through uni-directional horizontal gene transfer.²

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-46377 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 through BEI Resources, NIAID, NIH: *Staphylococcus epidermidis*, Strain VCU014, NR-46377."

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. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmbI5/index.htm.

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References:

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