**Staphylococcus aureus**, Strain RN4220

**Catalog No. NR-45946**

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**Contributor:**
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**Manufacturer:**
BEI Resources

**Product Description:**
Bacteria Classification: *Staphylococcaceae, Staphylococcus*
Species: *Staphylococcus aureus*
Strain: RN4220
NARSA Catalog Number: NRS144

Original Source: *Staphylococcus aureus* (S. aureus), strain RN4220 was generated through UV and chemical mutagenesis of *S. aureus*, strain NCTC 8325-4.¹

Comments: *S. aureus*, strain RN4220 was selected for transformability with DNA from *Escherichia coli*.² It has a mutation in *sau1* hsdR which makes it restriction deficient and a good intermediate cloning host.¹ *S. aureus*, strain RN4220 was deposited as negative for mec, rsbU and agr; MLST sequence type (ST) 8; eGenomic spa type 59, eGenomic spa repeats YHGFBMBQBO; Ridom spa type t211.³ The complete genome sequence of *S. aureus*, strain RN4220 is available (GenBank: AFGU00000000.1). Note: Methicillin is no longer clinically used; however, the terms methicillin-resistant *Staphylococcus aureus* (MRSA) and methicillin-sensitive *Staphylococcus aureus* (MSSA) continue to be used to describe the susceptibility of *S. aureus* strains to the 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. Subsequently, MRSA infections have become widespread in both hospital and community settings.³ As compared to MSSA infections, MRSA infections tend to have more complications such as a higher recurrence rate and higher mortality.⁴ ⁵

**Material Provided:**
Each vial contains approximately 0.5 mL of bacterial culture in 0.5X 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-45946 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 RN4220, NR-45946.”

**Biosafety Level:**
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References:
2. NARSA, NRS144.

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