**Staphylococcus aureus, Strain RN4850**

**Catalog No. NR-45955**

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**Manufacturer:** BEI Resources

**Product Description:**
- **Bacteria Classification:** Staphylococcaceae, Staphylococcus
- **Species:** Staphylococcus aureus
- **Strain:** RN4850 (also referred to as MN-KG)\(^1\)
- **NARS Catalog Number:** NRS153
- **Original Source:** Staphylococcus aureus (S. aureus), strain RN4850 was isolated from a patient with staphylococcal scalded-skin syndrome (SSSS)\(^1\).
- **Comments:** S. aureus, strain RN4850 is a methicillin-sensitive Staphylococcus aureus (MSSA) strain. Strain RN4850 was deposited as negative for mec; MLST sequence type (ST) 121; eGenomic spa type 312, eGenomic spa repeats I2Z2EGMMJH2M; Ridom spa type t159; agr group IV\(^2\). It produces exfoliatin A (ETA), a toxin responsible for staphylococcal scalded-skin syndrome.\(^1\) Strain RN4850 is an agr group IV prototype strain. Strains belonging to this agr group have an earlier onset of RNAIII expression as compared to other agr groups.\(^1\) 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.\(^4,6\)

**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-45955 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 RN4850, NR-45955.”

**Biosafety Level:** 2


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References:
2. NARSA, NRS153

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