**Staphylococcus aureus, Strain MN8**

**Catalog No. NR-45918**

For research use only. Not for human use.

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

**Product Description:**
Bacteria Classification: *Staphylococcaceae, Staphylococcus*
Species: *Staphylococcus aureus*
Strain: MN8
NARSA Catalog Number: NRS112

Original Source: *Staphylococcus aureus* (S. aureus), strain MN8 was isolated in 1980 from a patient with toxic shock syndrome-1 in Minnesota, USA.1,2

Comments: S. aureus, strain MN8 is a methicillin-sensitive *S. aureus* (MSSA) strain. Strain MN8 was deposited as positive for tsst, ica and hla; negative for mec and PVL; MLST sequence type (ST) 30; pulsed-field type USA200; eGenomic spa type 33, eGenomic spa repeats WKGAKAOMQQ; Ridom spa type t012.1,4, S. aureus, strain MN8 has a mutation in agr that results in the attenuation of RNA III, reducing its virulence.1 It also has a mutation in the α-toxin gene, *hla*, leading to a large reduction in α-toxin produced.2,5 The absence of the wild-type α-toxin inhibits biofilm production, however, this strain is still able to grow to a high density and remains proinflammatory. Therefore, this strain has been termed a high density pathogenic variant (HDPV).3 The complete genome sequence of S. aureus, strain MN8 is available (GenBank: ACJ0A2000001). 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.6 As compared to MSSA infections, MRSA infections tend to have more complications such as a higher recurrence rate and higher mortality.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-45918 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 MN8, NR-45918.”

**Biosafety Level: 2**

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Product Information Sheet for NR-45918

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References:
4. NARSA, NRS105

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