

***Staphylococcus aureus* Fluorescent Reporter Plasmid pSGFPS1, Recombinant in *Staphylococcus aureus***

**Catalog No. NR-51163**

**For research use only. Not for use in humans.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

NR-51163 is a glycerol stock of *Staphylococcus aureus* (*S. aureus*), strain RN4220 containing the green fluorescent protein (GFP) reporter plasmid pSGFPS1, a derivative of the *Escherichia coli* (*E. coli*) - staphylococcal shuttle vector pKK30.<sup>1,2</sup>

Plasmid pKK30 is a member of a set of shuttle vectors that retain stability over a number of generations *in vitro* and *in vivo* in *Staphylococcus* species without antibiotic selection, making them a powerful genetic tool. pKK30 contains the  $P_{sarAP1}::dfrA$  trimethoprim resistance cassette, a *blaZ* transcriptional terminator (*blaZTT*), a plasmid single-stranded origin (*sso*) required for plasmid replication, a double-stranded origin (*dso*) required for plasmid maintenance in the absence of antibiotic selection, a *repF* gene encoding for the *S. aureus* Rep protein and the *E. coli* R6Kγ replication origin. pKK30 lacks the four predicted USA300-specific open reading frames allowing for use of pKK30 in non-USA300 isolates.<sup>3</sup>

The complete sequence and vector map of pSGFPS1 are available on the Certificate of Analysis and the vector sequence of pSGFPS1 is also available from GenBank: ([MF769790](https://www.ncbi.nlm.nih.gov/nuccore/MF769790)).

**Material Provided:**

Each vial contains approximately 0.5 mL of bacterial culture in Tryptic Soy broth containing 10 µg/mL trimethoprim supplemented with 10% glycerol.

**Packaging/Storage:**

NR-51163 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:

Tryptic Soy broth containing 10 µg/mL trimethoprim

Tryptic Soy agar containing 10 µg/mL trimethoprim

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 obtained through BEI Resources, NIAID, NIH: *Staphylococcus aureus* Fluorescent Reporter Plasmid pSGFPS1, Recombinant in *Staphylococcus aureus*, NR-51163."

**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 \(BMBL\)](#), 6th ed. Washington, DC: U.S. Government Printing Office, 2020.

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**References:**

1. Triplett, E. W., Personal Communication.
2. Rodriguez, M. D., et al. "Construction of Stable Fluorescent Reporter Plasmids for Use in *Staphylococcus aureus*." Front. Microbiol. 8 (2017): 2491. PubMed: 29312199.
3. Krute, C. N., et al. "Generation of a Stable Plasmid for *In Vitro* and *In Vivo* Studies of *Staphylococcus* Species." Appl. Environ. Microbiol. 82 (2016): 6859-6869. PubMed: 27637878.

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