

***Streptococcus agalactiae*, Strain MNZ933**

Catalog No. NR-43896

For research use only. Not for use in humans.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Streptococcaceae*, *Streptococcus*

Species: *Streptococcus agalactiae*

Serogroup: Group B

Strain: MNZ933

Original Source: *Streptococcus agalactiae* (*S. agalactiae*), strain MNZ933 (serotype II) was isolated from human blood.¹

Comments: A protocol to detect opsonic antibodies to Group B *Streptococcus* (GBS) capsular polysaccharide in rabbit antisera using a singleplex assay format has been developed and is available. An opsonophagocytic killing assay that was developed for GBS is also available in this document.²

Streptococcus agalactiae is a Gram-positive cocci characterized by the presence of Group B Lancefield antigen, and is known as Group B *Streptococcus* (GBS). GBS causes illness in people of all ages. In newborns, GBS most commonly causes sepsis, pneumonia, and sometimes meningitis.³ The most common problems caused by GBS in adults are bloodstream infections, pneumonia, skin and soft-tissue infections, and bone and joint infections.⁴ In addition to the presence of the Group B Lancefield antigen, GBS is also characterized by its ability to hydrolyze sodium hippurate and sensitivity to bile. *S. agalactiae*'s polysaccharide antiphagocytic capsule is its main virulence factor.⁵ Genomes from multiple serotypes have been sequenced for comparative analyses.^{6,7}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in Todd-Hewitt broth containing 0.5% (w/v) yeast extract supplemented with 15% glycerol.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

Packaging/Storage:

NR-43896 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 or Todd-Hewitt broth containing 0.5% (w/v) yeast extract or equivalent

Tryptic Soy agar or Tryptic Soy agar with 5% defibrinated sheep blood or Todd-Hewitt agar or equivalent

Incubation:

Temperature: 37°C

Atmosphere: Aerobic with 5% CO₂

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: *Streptococcus agalactiae*, Strain MNZ933, NR-43896."

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/bmbl5/index.htm.

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References:

1. Nahm, M. H., Personal Communication.
2. Nahm, M. H. and R. L. Burton. "[Pneumococcal Antibody Opsonization Assay \(UAB-MOPA\)](#)."
3. Raabe, V. N. and A. L. Shane. "Group B *Streptococcus* (*Streptococcus agalactiae*)." *Microbiol. Spectr.* 7 (2019). PubMed: 30900541.
4. Tsang, R. S. W. "A Narrative Review of the Molecular Epidemiology and Laboratory Surveillance of Vaccine Preventable Bacterial Meningitis Agents: *Streptococcus pneumoniae*, *Neisseria meningitidis*, *Haemophilus influenzae* and *Streptococcus agalactiae*." *Microorganisms* 9 (2021): 449. PubMed: 33671611.
5. Smith, J. P., K. K. Durfee and J. H. Marymount Jr. "A Review of Laboratory Methods for Identification of Group B Streptococci (*Streptococcus agalactiae*)." *Am. J. Med. Technol.* 45 (1979): 199-204. PubMed: 371403.
6. Tettelin, H., et al. "Genome Analysis of Multiple Pathogenic Isolates of *Streptococcus agalactiae*: Implications for Microbial "Pan-Genome"." *Proc. Natl. Acad. Sci. USA.* 102 (2005): 13950-13955. PubMed: 16172379.
7. Lannes-Costa P. S., et al. "Comparative Genomic Analysis and Identification of Pathogenicity Islands of Hypervirulent ST-17 *Streptococcus agalactiae* Brazilian Strain." *Infect. Genet. Evol.* 80 (2020): 104195. PubMed: 31954181.

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