

***Streptococcus pneumoniae*, Strain SPEC1**

**Catalog No. NR-13388**

**For research use only. Not for human use.**

**Contributor:**

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**Manufacturer:**

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**Product Description:**

Bacteria Classification: *Streptococcaceae*, *Streptococcus*

Species: *Streptococcus pneumoniae*

Strain: SPEC1

Original Source: The antibiotic-resistant variant *Streptococcus pneumoniae* (*S. pneumoniae*), strain SPEC1 was derived from human wild type *S. pneumoniae*, strain L82006 by natural selection using increasing concentrations of spectinomycin.

Comments: *S. pneumoniae*, strain SPEC1 is reported to be resistant to spectinomycin at a concentration of 150 µg per mL.<sup>1</sup>

*S. pneumoniae* is a Gram-positive, α-hemolytic diplococcal aerotolerant anaerobe that is a major cause of pneumonia, bacterial meningitis and otitis media. *S. pneumoniae* has a polysaccharide capsule that acts as a virulence factor for the organism. There are over ninety different capsular types of *S. pneumoniae* which differ in virulence, prevalence, and extent of drug resistance.<sup>2,3</sup>

**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-13388 was packaged aseptically in cryovials. The product is provided frozen and should be stored at -80°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 containing 0.5% (w/v) yeast extract broth 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% CO<sub>2</sub>

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 pneumoniae*, Strain SPEC1, NR-13388."

**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. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmbI5/index.htm](http://www.cdc.gov/biosafety/publications/bmbI5/index.htm).

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**References:**

1. Burton, R. L. and M. H. Nahm. "Development and Validation of a Fourfold Multiplexed Opsonization Assay (MOPA4) for Pneumococcal Antibodies." Clin. Vaccine Immunol. 13 (2006): 1004-1009. PubMed: 16960111.
2. Jedrzejewski, M. J. "Pneumococcal Virulence Factors: Structure and Function." Microbiol. Mol. Biol. Rev. 65 (2001): 187-207. PubMed: 11381099.
3. Habib, M., B. D. Porter and C. Satzke. "Capsular Serotyping of *Streptococcus pneumoniae* Using the Quellung Reaction." J. Vis. Exp. 24 (2014): e51208. PubMed: 24637727.
4. Cywes-Bentley, C., et al. "Antibody to a Conserved Antigenic Target is Protective Against Diverse Prokaryotic and Eukaryotic Pathogens." Proc. Natl. Acad. Sci. USA 110 (2013): E2209-E2218. PubMed: 23716675.
5. Balloch, A., et al. "Interlaboratory Comparison of the Pneumococcal Multiplex Opsonophagocytic Assays and their Level of Agreement for Determination of Antibody Function in Pediatric Sera." mSphere 3 (2018): e00070-18. PubMed: 29695620.

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