

***Neisseria meningitidis*, Strain NM3144**

Catalog No. NR-32217

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Contributor:

Lee H. Harrison, M.D., Professor, Departments of Medicine and Infectious Diseases, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, USA; David S. Stephens, M.D., Vice President of Research Robert W. Woodruff Health Sciences Center, Director, Division of Infectious Diseases, Emory University School of Medicine, Atlanta, Georgia, USA; David S. B. Blythe, M.D., Assistant Director and State Epidemiologist, Maryland Department of Health and Mental Hygiene, Baltimore, Maryland, USA; David Barroso, Fundação Oswaldo Cruz, Rio de Janeiro, Brazil; Samir Saha, Department of Microbiology, Bangladesh Institute of Child Health, Dhaka Shishu Hospital, Dhaka, Bangladesh; and Leonard Mayer, Chief, Meningitis Laboratory, Centers for Disease Control and Prevention, Atlanta, Georgia, USA.

Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Neisseriaceae*, *Neisseria*

Species: *Neisseria meningitidis*

Strain: NM3144

Serogroup: Y¹

Original Source: *Neisseria meningitidis* (*N. meningitidis*), strain NM3144 was isolated from a human disease case in the United States, 2009.¹

Comment: The complete genome for *N. meningitidis*, strain NM3144 was sequenced at the Genomic Sequencing Center for Infectious Diseases at University of Maryland School of Medicine (GenBank: [APUW000000000](https://www.ncbi.nlm.nih.gov/nuccore/APUW000000000)).

N. meningitidis is an aerobic, Gram-negative diplococcus and is the leading causative agent of human bacterial meningitis.² This organism commonly exists asymptotically as a commensal bacterium in the nasopharynx and is transmitted by aerosol or secretion.³ Humans are the only natural reservoir of *N. meningitidis* and distribution of the 13 serogroups is highly dependent on region. Occasional epidemics have been associated with encapsulated strains in serogroups A, B, C, W-135 and Y.^{3,4} *N. meningitidis* is able to escape host immunity by transformative and recombinant genetic variability, including capsule switching, which is believed to have contributed to global outbreaks of certain serogroups, raising efforts for vaccine development and disease surveillance.⁴⁻⁶ Polysaccharide vaccines are available for serogroups A, C, W-135 and Y but limited for serogroup B.^{3,4}

Material Provided:

Each vial contains approximately 0.5 mL of bacterial culture in *Haemophilus* Test Media supplemented with 10% glycerol.

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

Packaging/Storage:

NR-32217 was packaged aseptically in screw-capped plastic 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:

Haemophilus Test Medium (ATCC® medium 2167) or equivalent

Chocolate Agar (GC Medium; ATCC® medium 814) 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 24 to 48 hours.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Neisseria meningitidis*, Strain NM3144, NR-32217."

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/bmbl5/index.htm.

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References:

1. L. H. Harrison, Personal Communication.
2. Knapp, J. S. "Historical Perspectives and Identification of *Neisseria* and Related Species." Clin. Microbiol. Rev. 1 (1988): 415-431. PubMed: 3069201.
3. Rosenstein, N. E., et al. "Meningococcal Disease." N. Engl. J. Med. 344 (2001): 1378-1388. PubMed: 11333996.
4. Harrison, L. H., C. L. Trotter and M. E. Ramsay. "Global Epidemiology of Meningococcal Disease." Vaccine 27 (2009): B51-B63. PubMed: 19477562.
5. Bratcher, H. B., J. S. Bennett and M. C. J. Maiden. "Evolutionary and Genomic Insights into Meningococcal Biology." Future Microbiol. 7 (2012): 873-885. PubMed: 22827308.
6. Swartley, J. S., et al. "Capsule Switching of *Neisseria meningitidis*." Proc. Natl. Acad. Sci. USA 94 (1997): 271-276. PubMed: 8990198.

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