

Clostridium botulinum* Neurotoxin Type E Heavy Chain, Recombinant from *Pichia pastoris

It has been determined that the level of production documentation for Lot 0015040P/60-0404 of NR-4769 does not support its use in studies for product licensure. BEI Resources is releasing Lot 0015040P/60-0404 for research use only.

Catalog No. NR-4769

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Contributor:

National Institute of Allergy and Infectious Diseases, National Institutes of Health

Product Description:

A recombinant form of a portion of the *Clostridium botulinum* type E heavy chain was expressed in *Pichia pastoris*. NR-4769 is a non-toxic, non-infective protein antigen that has been tested in rodents with no ill effects.

Clostridium botulinum is a Gram-positive spore-forming anaerobe found in soil, dust and marine sediments throughout the world.¹ Most clostridia will not grow under aerobic conditions and vegetative cells are killed by exposure to oxygen. Their spores, however, are able to survive long periods of exposure to air. In their active form, these bacteria secrete powerful neurotoxins that result in the paralytic illness botulism. There are seven types of botulism toxin designated by the letters A through G; only types A, B, E and F cause illness in humans.²

Material Provided:

Each vial of NR-4769 contains approximately 1 mL of recombinant protein suspended in 15 mM sodium succinate buffer, pH 4.0. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-4769 was packaged aseptically in plastic cryovials. The product is provided frozen on dry ice and should be stored at -80°C (± 15°C) immediately upon arrival. Repeated freeze-thaw cycles should be avoided.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH: *Clostridium botulinum* Neurotoxin Type E Heavy Chain, Recombinant from *Pichia pastoris*, NR-4769."

Biosafety Level: 1

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, 2007; see www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm.

Disclaimers:

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References:

- Hill, K. K., et al. "Genetic Diversity among Botulinum Neurotoxin-Producing Clostridial Strains." *J. Bacteriol.* 189 (2007): 818–832. PubMed: 17114256.
- Shapiro, R. L., C. Hatheway, and D. L. Swerdlow. "Botulism in the United States: A Clinical and Epidemiologic Review." *Ann. Intern. Med.* 129 (1998): 221–228. PubMed: 9696731.

3. Franciosa, G., J. L. Ferreira, and C. L. Hatheway. "Detection of Type A, B and E Botulism Neurotoxin Genes in *Clostridium botulinum* and Other *Clostridium* Species by PCR: Evidence of Unexpressed Type B Toxin Genes in Type A Toxigenic Organisms." J. Clin. Microbiol. 32 (1994): 1911–1917. PubMed: 7989542.
4. Lindström, M. and H. Korkeala. "Laboratory Diagnostics of Botulism." Clin. Microbiol. Rev. 19 (2006): 298–314. PubMed: 16614251.

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