

**Monoclonal Anti-Botulinum Neurotoxin Subtype A1 Light Chain, Clone L4E11.1E (produced *in vitro*)**

**Catalog No. NR-20810**

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

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Antibody Class: IgG2bk

Mouse monoclonal antibody prepared against the light chain of subtype A1 neurotoxin of *Clostridium botulinum* (*C. botulinum*) was purified from clone L4E11.1E hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of NSO mouse myeloma cells with splenocytes from mice immunized by intraperitoneal and intravenous injection with recombinant *C. botulinum* neurotoxin subtype A1 (BoNT/A1) light chain.<sup>1</sup>

*C. botulinum* are anaerobic Gram positive spore-forming bacteria which produce neurotoxins categorized serologically into seven types, A through G.<sup>2</sup> Four of the seven serotypes cause human botulism with the vast majority of cases due to serotypes A and B.<sup>3</sup> BoNT/A1 is a zinc-binding metalloprotease (holotoxin) that is endogenously cleaved into a heavy (~ 100 kDa) and a light chain (~ 50 kDa) that are held together by a reducible disulfide bond.<sup>4</sup>

**Material Provided:**

Each vial of NR-20810 contains approximately 100 µL of purified monoclonal antibody in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

**Packaging/Storage:**

NR-20810 was packaged aseptically in screw-capped plastic vials and is provided frozen on dry ice. The product should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

**Functional Activity:**

NR-20810 reacts with the light chain of botulinum neurotoxin type A in western blot assays. The antibody is also reported to be useful for ELISA, RIA, flow cytometry, immunocytochemistry, immunohistochemistry, and immunoprecipitation.<sup>1</sup>

**Citation:**

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-Botulinum Neurotoxin Subtype A1 Light Chain, Clone L4E11.1E (produced *in vitro*), NR-20810."

**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](http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm).

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**References:**

1. Mukherjee, J. M., personal communication.
2. Lindström, M. and H. Korkeala. "Laboratory Diagnostics of Botulism." Clin. Microbiol. Rev. 19 (2006): 298-314. PubMed: 16614251.

3. Centers for Disease Control and Prevention. "Botulism in the United States, 1899-1996. Handbook for Epidemiologists, Clinicians, and Laboratory Workers." Atlanta, Georgia (1998). Downloadable at <http://www.bt.cdc.gov/agent/botulism/index.asp>.
4. Sathyamoorthy, V. and B. R. DasGupta. "Separation, Purification, Partial Characterization and Comparison of the Heavy and Light Chains of Botulinum Neurotoxin Types A, B, and E." *J. Biol. Chem.* 260 (1985): 10461-10466. PubMed: 4030755.

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