Monoclonal Anti–Shiga–Like Toxin 2 Subunit A, Clone 11E10 (produced *in vitro*)

Catalog No. NR-45117

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For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Antibody Class: IgG1κ

Mouse monoclonal antibody prepared against the A subunit of Shiga-like toxin 2 from *Escherichia coli (E. coli)* was purified from clone 11E10 (ATCC® CRL-1907™) hybridoma supernatant by protein G affinity chromatography. The hybridoma cell line was generated by the fusion of SP2/0 myeloma cells with immunized mouse splenocytes.[1]

The term Shiga toxin (Stx) refers to two families of related toxins: Shiga toxin/Shiga-like toxin 1 and Shiga-like toxin 2. Shiga toxin is produced by *Shigella dysenteriae*, while Shiga-like toxin 1 and Shiga-like toxin 2 are both produced by enterohemorrhagic strains of *E. coli*.[1,2] Both Shiga and Shiga-like toxins are multimeric molecules that are comprised of two polypeptide subunits, A and B. The B subunit is a pentamer that binds to glycolipids on host cell membranes and the entire Stx molecule can then enter the cell via endocytosis.[3] Once inside the cell, the Stx A subunit undergoes proteolytic cleavage and the reduction of an internal disulfide bond to generate Stx A_1 and Stx A_2. Stx A_1 is an *N*-glycosidase that catalytically inactivates the 28S ribosomal RNA subunit to inhibit protein synthesis.[3-5] The nucleotide sequence of the gene for the Shiga-like toxin 2 A subunit from *E. coli* has been reported (GenBank: AB035143).[6]

Material Provided:

Each vial of NR-45117 contains approximately 100 µL of purified monoclonal antibody in PBS, pH 7.4. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-45117 was packaged aseptically in screw-capped plastic cryovials and is provided frozen on dry ice. The item should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-45117 is being released without confirmation of functional activity. The monoclonal antibody produced by hybridoma clone 11E10 has been reported to react with recombinant *E. coli* Shiga-like toxin 2 subunit A by ELISA and western blot.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-Shiga-Like Toxin 2 Subunit A, Clone 11E10 (produced *in vitro*), NR-45117."

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, 2009; see www.cdc.gov/biosafety/publications/bmbl5/index.htm.

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2. Downes, F. P., et al. "Affinity Purification and Characterization of Shiga-Like Toxin II and Production of Toxin-Specific Monoclonal Antibodies." Infect. Immun. 56 (1988): 1926–1933. PubMed: 3294179.
3. Sandvig, K. "Shiga Toxins." Toxicon 39 (2001): 1629–1635. PubMed: 11595626.
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6. Yokoyama, S., et al. "Nucleotide Sequence Analysis of Shiga (-Like) Toxins from an Enterohemorrhagic *Escherichia coli* Isolated from Gifu Outbreak." Unpublished. GenBank: AB035143.

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