Monoclonal Anti-Shiga Toxin 1 Subunit A (immunoglobulin G, Mouse)

Catalog No. NR-867

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For research use only. Not for human use.

Contributor:

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Manufacturer:

Lot No. 6176497 and Lot No. 61992687:
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Lot No. 60134316 and Lot No. 62203819:
BEI Resources

Product Description:

Antibody Class: IgG2aκ
Mouse monoclonal antibody to the A subunit of Shiga toxin 1 from *Escherichia coli (E. coli*) was purified from a mouse hybridoma clonal cell line that produces monoclonal antibody 1A1.

The term Shiga toxin (Stx) refers to two families of related toxins: Shiga toxin/Shiga toxin 1 and Shiga toxin 2.[1] Shiga toxin is produced by *Shigella dysenteriae*, while Shiga toxin 1 and Shiga toxin 2 are both produced by enterohemorrhagic strains of *E. coli.* Stx are multimeric molecules that are comprised of two polypeptide subunits, A and B. The Stx B subunit is a pentamer that binds the toxin to glycolipids on host cell membranes and the entire Stx molecule can then enter the cell via endocytosis.[2] 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]

Material Provided:

Each vial contains approximately 50 µg (lot # 6176497), 90 µg (lot # 60134316 and lot # 62203819) or 100 µg (lot # 61992687) of NR-867 in PBS. Sodium azide (0.1%) was added to the preparations of purified monoclonal antibody as a preservative for lot # 6176497, lot # 60134316 and lot # 62203819. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis for each lot.

Packaging/Storage:

NR-867 was packaged aseptically in vials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be avoided.

Functional Activity:

NR-867 reacts with recombinant Shiga toxin 1 by Western blot. Please see the Certificate of Analysis for additional lot-specific functional activity information. Applications: ELISA, Western blot, toxin neutralization assay.

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-Shiga Toxin 1 Subunit A (immunoglobulin G, Mouse), NR-867."

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

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References:

1. Sandvig, K. "Shiga Toxins." Toxicon. 39 (2001): 1629-1635. PubMed: 11595626.
2. Sandvig, K., et al. "Endocytosis from Coated Pits of Shiga Toxin: A Glycolipid-Binding Protein from *Shigella dysenteriae* 1." J. Cell Biol. 108 (1989): 1331-1343. PubMed: 2564398.
3. Skinner, L. M. and M. P. Jackson. "Investigation of Ribosome Binding by the Shiga Toxin A1 Subunit, Using Competition and Site-Directed Mutagenesis." J. Bacteriol. 179 (1997): 1368-1374. PubMed: 9023224.

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