

Monoclonal Anti-*Yersinia pestis* Outer Protein M (YopM), Clone 3A1.4A6.1D6 (produced *in vitro*)

Catalog No. NR-797

For research use only. Not for human use.

Contributor:

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Manufacturer:

BEI Resources

Product Description:

Antibody Class: IgG2ak

Monoclonal antibody prepared against the *Yersinia pestis* (*Y. pestis*) outer protein M (YopM) was purified from clone 3A1.4A6.1D6 hybridoma supernatant by protein G affinity chromatography. The B cell hybridoma was generated by the fusion of NS-1 myeloma cells with immunized mouse splenocytes. The antibody is specific for the leucine-rich repeat (LRR) 11-13 region of YopM. The antibody may cross-react with YopM from *Y. enterocolitica* and *Y. pseudotuberculosis*.¹

Y. pestis, the causative agent of plague, is a Gram-negative pathogen that infects many animal species, including humans, and is transmitted by arthropod vectors or aerosol droplets.² YopM is a protein expressed during infection by *Y. pestis* and is shown to be necessary for full virulence of *Y. pestis* in a mouse model of plague.³ YopM is a very acidic 46 kDa protein that belongs to the LRR structural family of proteins and contains a 71 residue amino terminal leader, 15 LRRs of 20–22 residues each, and a 32 residue carboxy terminal tail. The target of YopM and its exact role in pathogenesis are not established.⁴⁻⁶

Material Provided:

Each vial of NR-797 contains approximately 0.1 mL of purified monoclonal antibody in PBS. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-797 was packaged aseptically in screw-capped plastic cryovials and is provided frozen. NR-797 should be stored at -20°C or colder immediately upon arrival.

Functional Activity:

NR-797 is being released without confirmation of functional activity. The monoclonal antibody produced by hybridoma clone 3A1.4A6.1D6 has been reported to be specific for the epitope LRR 11-13 of YopM by immunoblot analysis.¹

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Monoclonal Anti-*Yersinia pestis* Outer Protein M (YopM), Clone 3A1.4A6.1D6 (produced *in vitro*), NR-797."

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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References:

- Straley, S.C., Personal Communication.
- Perry, R.D. and J.D. Fetherston. "*Yersinia pestis* – Etiologic Agent of Plague." *Clin Microbiol Rev*. 10 (1997): 35-66. Pubmed: 8993858.

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4. Nemeth, J. and S.C. Straley. "Effect of *Yersinia pestis* YopM on Experimental Plague." Infect. Immun. 58 (1997): 924-930. Pubmed: 9038298
5. Skrzypek, E., et al. "Application of a *Saccharomyces cerevisiae* Model to Study Requirements for Trafficking of *Yersinia pestis* YopM in Eucaryotic Cells." Infect. Immun. 71 (2003): 937-947. Pubmed: 12540576
6. Hines, J., et al. "Structure-Function Analysis of *Yersinia pestis* YopM's Interaction with Alpha-Thrombin to Rule on its Significance in Systemic Plague and to Model YopM's Mechanism of Binding Host Proteins." Microb Pathog. 30 (2001):193-209. Pubmed: 11312613

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