Monoclonal Anti-*Yersinia pestis* Outer Protein M (YopM), Clone 2A3.3A8.1A2 (produced *in vitro*)

Catalog No. NR-799

For research use only. Not for human use.

Contributor:
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Manufacturer:
BEI Resources

Product Description:
Antibody Class: IgMκ
Note: The hybridoma cell line used to produce NR-799 was reported by the depositor to secrete a mixture of IgG and IgM antibodies. Testing at BEI Resources indicated that the predominant isotype produced was IgM, and upon further passage of the cell line, the minor IgG population was lost.

Monoclonal antibody prepared against the *Yersinia pestis* (*Y. pestis*) strain KIM5 outer protein M (YopM) was purified from clone 2A3.3A8.1A2 hybridoma supernatant using a protein-free thiophilic adsorbent column. The B cell hybridoma was generated by the fusion of NS-1 myeloma cells with immunized mouse splenocytes. 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 leucine-rich repeat (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-799 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-799 was packaged aseptically in screw-capped plastic cryovials and is provided frozen. NR-799 should be stored at -20°C or colder immediately upon arrival.

Functional Activity:
NR-799 is being released without confirmation of functional activity. The monoclonal antibody produced by hybridoma clone 2A3.3A8.1A2 has been reported to be specific for the N-terminal 71 amino acid leader 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 2A3.3A8.1A2 (produced *in vitro*), NR-799."

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:

1. Straley, S.C., Personal Communication.
2. Perry, R.D. and J.D. Fetherston. "*Yersinia pestis*–Etiologic Agent of Plague." Clin. Microbiol. Rev. 10 (1997): 35-66. Pubmed: 8993858.
3. Leung, K.Y.B., B.S. Reisner, and S.C. Straley. "YopM Inhibits Platelet Aggregation and is Necessary for Virulence of *Yersinia pestis* in Mice." Infect. Immun. 58 (1990): 3262-3271. Pubmed: 2401564.
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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