

# PRODUCT INFORMATION



## M13 Monoclonal Antibody (Clone MM05)

Item No. 38076

### Overview and Properties

**Contents:** This vial contains 50, 100, or 200 µl of protein A-affinity purified recombinant monoclonal antibody.

**Synonym:** M13 Phage

**Immunogen:** M13 Bacteriophage

**Cross Reactivity:** (+) Phage coat proteins

**Species Reactivity:** (+) M13 bacteriophage, fd bacteriophage; other species not tested

**Form:** Liquid

**Storage:** -80°C (as supplied)

**Stability:** ≥1 year

**Storage Buffer:** 0.2 µm filtered solution in PBS

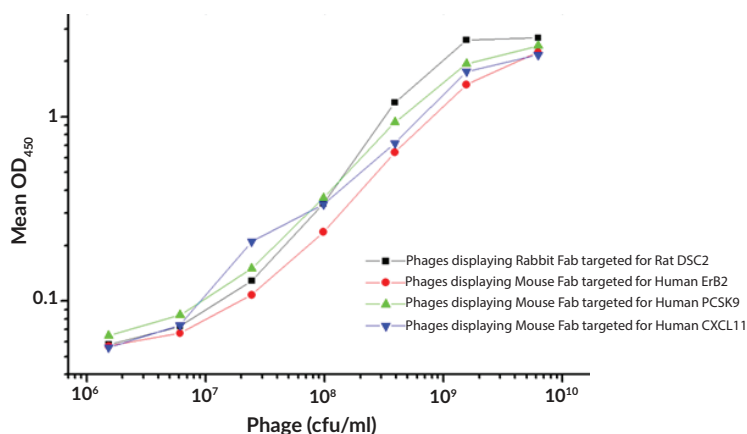
**Clone:** MM05

**Host:** Mouse

**Isotype:** IgG1

**Applications:** ELISA; the recommended starting dilution is 1:2,500-1:10,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Sensitivity analysis of M13 Monoclonal Antibody.

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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M13 Bacteriophage is a filamentous F-pilus-specific bacteriophage (Ff phage), which is a long, thin virus that infects bacterial host cells.<sup>1</sup> It is composed of circular single-stranded DNA (ssDNA) encapsulated by one major coat protein, p8, and four minor coat proteins, p3, p6, p7, and p9, and has approximately 98.5% sequence identity with other Ff phages such as f1 and fd.<sup>1,2</sup> The p8 protein accounts for approximately 85% of the total virion mass, whereas p3, p6, p7, and p9, collectively account for approximately 3% of the total virion mass.<sup>1</sup> Compared with f1 and fd phages, M13 bacteriophage coat proteins only differ by one amino acid at position 35 in the p8 protein. The M13 bacteriophage p8 protein is composed of an N-terminal segment that constitutes the external virion surface, a transmembrane segment, and a positively charged C-terminal segment that interacts with the ssDNA. M13 bacteriophage has commonly been used for molecular cloning, peptide phage display technology, microorganism detection, including *Salmonella*, cell imaging, and drug delivery.<sup>1-4</sup> Cayman's recombinant M13 Monoclonal Antibody can be used for ELISA.

## References

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1. Han, S.M., Lee, Y.J., Lee, M.H., *et al.* M13 bacteriophage-based bio-nano systems for bioapplication. *Biochip J.* **16**, 227-245 (2022).
2. Sidhu, S.S. Engineering M13 for phage display. *Biomol. Eng.* **18(2)**, 57-63 (2011).
3. Moon, J.-S., Choi, E.J., Jeong, N.-N., *et al.* Research progress of M13 bacteriophage-based biosensors. *Nanomaterials (Basel)* **9(10)**, 1448 (2019).
4. Sambrook, J. and Russell, D.W. Molecular cloning: A laboratory manual. **3**, 1-21 (2001).

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