Datasheet: MCA401

BATCH NUMBER 172098

Description:	MOUSE ANTI INFLUENZA A MATRIX PROTEIN
Specificity:	INFLUENZA A MATRIX PROTEIN
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	GA2B
Isotype:	IgG1
Quantity:	1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen			▪	
Immunohistology - Paraffin	▪			
ELISA			▪	
Immunoprecipitation			▪	
Western Blotting	▪			
Immunofluorescence	▪			1/100

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species	Viral
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant.
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	<0.1% Sodium Azide (NaN_3)

Approx. Protein Concentrations	IgG concentration 1.0 mg/ml
Immunogen	Influenza A / Puerto Rico / 8 / 34 (H1N1) and A/Bangkok / 1 / 79 (H3N2) viruses.
External Database Links	**UniProt:** P03485 Related reagents P03487 Related reagents **Entrez Gene:** 956527 M1 Related reagents
RRID	AB_322157
Fusion Partners	Spleen cells from immunised BALB/c mice were fused with cells of the P3 Ag8.653 mouse myeloma cell line.
Specificity	**Mouse anti Influenza A matrix protein 1 antibody, clone GA2B** recognizes an epitope within the influenza A matrix protein 1. In both strains of virus used as immunogen to isolate clone GA2B, the matrix protein 1 is a 252 amino acid, highly conserved viral protein playing a crucial role in replication. Mouse anti Influenza A matrix protein 1 antibody, clone GA2B can be used in influenza A IFA typing in conjunction with Mouse anti Influenza A matrix protein, clone AA5H.
Purity	>90% IgG content as established by SDS PAGE
References	1. Latham, T. & Galarza, J.M. (2001) Formation of wild-type and chimeric influenza virus-like particles following simultaneous expression of only four structural proteins. J Virol. 75 (13): 6154-65. 2. Viemann, D. *et al.* (2011) H5N1 virus activates signaling pathways in human endothelial cells resulting in a specific imbalanced inflammatory response. J Immunol. 186 (1): 164-73. 3. Yamamoto, Y. *et al.* (2008) Avian influenza virus (H5N1) replication in feathers of domestic waterfowl. Emerg Infect Dis. 14: 149-51. 4. Doucet, J.D. *et al.* (2011) Endogenously expressed matrix protein M1 and nucleoprotein of influenza A are efficiently presented by class I and class II major histocompatibility complexes. J Gen Virol. 92 (Pt 5): 1162-71. 5. Tanimura N *et al.* (2006) Pathology of fatal highly pathogenic H5N1 avian influenza virus infection in large-billed crows (*Corvus macrorhynchos*) during the 2004 outbreak in Japan. Vet Pathol. 43 (4): 500-9. 6. Kirkeby, S. *et al.* (2009) Infection with human H1N1 influenza virus affects the expression of sialic acids of metaplastic mucous cells in the ferret airways. Virus Res. 144: 225-32. 7. Pauli, E.K. *et al.* (2008) Influenza A virus inhibits type I IFN signaling via NF-kappaB-dependent induction of SOCS-3 expression. PLoS Pathog. 4(11): e1000196. 8. Eierhoff, T. *et al.* (2010) The epidermal growth factor receptor (EGFR) promotes uptake

of influenza A viruses (IAV) into host cells. PLoS Pathog. 6. pii: e1001099.
9. Wang, D. *et al.* (2010) The lack of an inherent membrane targeting signal is responsible for the failure of the matrix (M1) protein of influenza A virus to bud into virus-like particles. J Virol. 84: 4673-81.
10. Kang, S.M. *et al.* (2009) Induction of long-term protective immune responses by influenza H5N1 virus-like particles. PLoS One. 4: e4667.
11. Luig, C. *et al.* (2010) MAP kinase-activated protein kinases 2 and 3 are required for influenza A virus propagation and act via inhibition of PKR. FASEB J. 24: 4068-77.
12. Schmolke, M. *et al.* (2009) Essential impact of NF-kappaB signaling on the H5N1 influenza A virus-induced transcriptome. J Immunol. 183: 5180-9.
13. Reinhardt, J. and Wolff, T. (2000) The influenza A virus M1 protein interacts with the cellular receptor of activated C kinase (RACK) 1 and can be phosphorylated by protein kinase C. Vet Microbiol. 74: 87-100.
14. Das, S.C. *et al.* (2012) The Highly Conserved Arginine Residues at Positions 76 through 78 of Influenza A Virus Matrix Protein M1 Play an Important Role in Viral Replication by Affecting the Intracellular Localization of M1. J Virol. 86: 1522-30.
15. Liu, Y.V. *et al.* (2011) Chimeric severe acute respiratory syndrome coronavirus (SARS-CoV) S glycoprotein and influenza matrix 1 efficiently form virus-like particles (VLPs) that protect mice against challenge with SARS-CoV. Vaccine. 29: 6606-13.
16. Moncorgé, O. *et al.* (2013) Investigation of influenza virus polymerase activity in pig cells. J Virol. 87 (1): 384-94.
17. Khaperskyy, D.A. *et al.* (2012) Influenza A virus inhibits cytoplasmic stress granule formation. FASEB J. 26: 1629-39.
18. Friesenhagen, J. *et al.* (2012) Highly pathogenic avian influenza viruses inhibit effective immune responses of human blood-derived macrophages. J Leukoc Biol. 92: 11-20.
19. Londrigan, S.L. *et al.* (2015) Infection of Mouse Macrophages by Seasonal Influenza Viruses Can Be Restricted at the Level of Virus Entry and at a Late Stage in the Virus Life Cycle. J Virol. 89 (24): 12319-29.
20. Sadewasser, A. *et al.* (2017) Quantitative Proteomic Approach Identifies Vpr Binding Protein as Novel Host Factor Supporting Influenza A Virus Infections in Human Cells. Mol Cell Proteomics. 16 (5): 728-42.
21. Liu, Y.V. *et al.* (2015) Recombinant virus-like particles elicit protective immunity against avian influenza A(H7N9) virus infection in ferrets. Vaccine. 33 (18): 2152-8.
22. Huang, M.T. *et al.* (2015) DcR3 suppresses influenza virus-induced macrophage activation and attenuates pulmonary inflammation and lethality. J Mol Med (Berl). 93 (10): 1131-43.
23. Al-Mubarak, F. *et al.* (2015) Identification of morphological differences between avian influenza A viruses grown in chicken and duck cells. Virus Res. 199: 9-19.
24. Yang, C.H. *et al.* (2017) Influenza A virus upregulates PRPF8 gene expression to increase virus production. Arch Virol. 162 (5): 1223-35.
25. Smith, G.E. *et al.* (2017) Neuraminidase-based recombinant virus-like particles protect against lethal avian influenza A(H5N1) virus infection in ferrets. Virology. 509: 90-97.
26. Usui, T. *et al.* (2020) Outbreaks of highly pathogenic avian influenza in zoo birds caused by HA clade 2.3.4.4 H5N6 subtype viruses in Japan in winter 2016. Transbound Emerg Dis. 67 (2): 686-697.
27. Frensing, T. *et al.* (2016) Influenza virus intracellular replication dynamics, release

kinetics, and particle morphology during propagation in MDCK cells. Appl Microbiol Biotechnol. 100 (16): 7181-92.
28. Melano, I. *et al.* (2021) Effects of Basic Amino Acids and Their Derivatives on SARS-CoV-2 and Influenza-A Virus Infection. Viruses. 13 (7):1301.
29. Soda, K. *et al.* (2022) Susceptibility of herons (family: *Ardeidae*) to clade 2.3.2.1 H5N1 subtype high pathogenicity avian influenza virus. Avian Pathol. 51 (2): 146-53.
30. Soda, K. *et al.* (2022) Susceptibility of common family Anatidae bird species to clade 2.3.4.4e H5N6 high pathogenicity avian influenza virus: an experimental infection study. BMC Vet Res. 18 (1): 127.
31. Kwasnik, M. *et al.* (2023) Protein-Coding Region Derived Small RNA in Exosomes from Influenza A Virus-Infected Cells. Int J Mol Sci. 24(1):867.
32. Yang, M.L. *et al.* (2023) Upregulation of galectin-3 in influenza A virus infection promotes viral RNA synthesis through its association with viral PA protein. J Biomed Sci. 30 (1): 14.
33. Soda, K. *et al.* (2023) Susceptibility of common dabbling and diving duck species to clade 2.3.2.1 H5N1 high pathogenicity avian influenza virus: an experimental infection study. J Vet Med Sci. 85 (9): 942-9.
34. Kühnl, A. *et al.* (2018) Late Endosomal/Lysosomal Cholesterol Accumulation Is a Host Cell-Protective Mechanism Inhibiting Endosomal Escape of Influenza A Virus. mBio. 9 (4): e01345-18.
35. Uno, Y. *et al.* (2020) Pathogenicity of clade 2.3.2.1 H5N1 highly pathogenic avian influenza virus in American kestrel (*Falco sparverius*). Avian Pathol. 49 (5): 515-525.

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: https://www.bio-rad-antibodies.com/SDS/MCA401
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR70...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (STAR77...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP

Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®550, DyLight®650, DyLight®680, DyLight®800, FITC, HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets

'M418836:230427'

Printed on 18 Sep 2025