abcam

ab313889

Anti-Influenza A Virus M2 Protein antibody [EPR28252-11]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28252-11
Purification technique	Affinity purification Protein A
Concentration	0.526 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

I-ELISA

Tested

Species	Synthetic peptide - Influenza A
Dilution info	1000 ng/mL
Notes	-

Predicted

Species	Influenza A
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Influenza A, Transfected cell line - Influenza A
Dilution info	-
Notes	-

IP

Not recommended

Species	Influenza A, Synthetic peptide - Influenza A, Transfected cell lysate - Influenza A, Transfected cell line - Influenza A
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate - Influenza A
Dilution info	1/1000
Notes	-

Predicted

Species	Influenza A
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Influenza A, Transfected cell line - Influenza A
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Influenza A
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Influenza A
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Influenza A, Transfected cell lysate - Influenza A
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Influenza A
Dilution info	1/100
Notes	-

Predicted

Species	Influenza A

Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Influenza A, Transfected cell lysate - Influenza A
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Influenza A
Dilution info	1/500
Notes	-

Predicted

Species	Influenza A
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Influenza A, Transfected cell lysate - Influenza A
Dilution info	-
Notes	-

Target data

See full target information M

Function Forms a proton-selective ion channel that is necessary for the efficient release of the viral genome during virus entry. After attaching to the cell surface, the virion enters the cell by endocytosis. Acidification of the endosome triggers M2 ion channel activity. The influx of protons into virion interior is believed to disrupt interactions between the viral ribonucleoprotein (RNP), matrix protein 1 (M1), and

lipid bilayers, thereby freeing the viral genome from interaction with viral proteins and enabling RNA segments to migrate to the host cell nucleus, where influenza virus RNA transcription and replication occur. Also plays a role in viral proteins secretory pathway. Elevates the intravesicular pH of normally acidic compartments, such as trans-Golgi network, preventing newly formed hemagglutinin from premature switching to the fusion-active conformation.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Influenza A Virus M2 Protein also known as M2 ion channel or matrix protein 2 plays an essential role in the viral life cycle. This protein has a mass of approximately 97 amino acids and is expressed on the envelope of the Influenza A virus. It functions as a proton-selective channel facilitating the acidification of the

	viral interior after the virus enters the host cell. This acidification process is important for the uncoating of the viral genome allowing subsequent replication of the virus in host cells.
Biological function summary	The M2 protein from Influenza A virus participates in virus assembly budding and release. The protein operates as a tetramer creating a channel across the viral membrane. This channel is essential for the correct function and structure of the virus playing an important role in membrane fusion and release of the viral particles. It often works in conjunction with another matrix protein M1 which assists in stabilizing the integrity of the viral structure.
Pathways	The M2 Influenza protein is integral to the viral replication and assembly pathway. It aligns with the function of the viral ribonucleoprotein complex and is significant in the viral entry and exit pathways. Additionally the connection to the M1 matrix protein highlights its coordinated role in facilitating the assembly and release of new virions from the infected cells emphasizing its necessity in productive viral replication.
Associated diseases and disorders	The Influenza A virus M2 protein is directly related to the pathogenesis of seasonal influenza. Antiviral drugs like amantadine and rimantadine target this ion channel to disrupt viral replication. Resistance mutations in the M2 protein can influence the efficacy of these drugs impacting treatment outcomes. There is also a link with immune system responses where M2 interactions with other viral proteins can modulate host immune evasion mechanisms.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

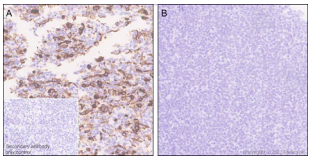
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

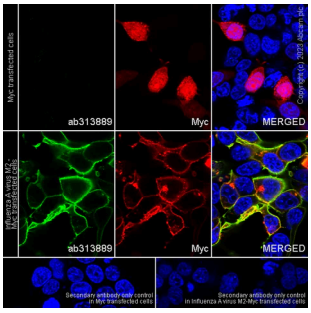
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Influenza A Virus M2 Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Influenza A Virus M2 Protein antibody

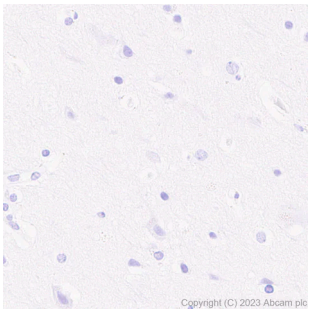
Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human tissue labeling Influenza A Virus M2 Protein with ab313889 at 1/4000 (0.132 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Positive on (A) HEK-293T transfected with an Influenza A virus M2 expression vector containing a myc tag; no staining on (B) HEK-293T transfected with an empty vector. The section was incubated with ab313889 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Influenza A Virus M2 Protein Immunocytochemistry/ Immunofluorescence staining of 293T cells transfected with an Influenza A virus M2 expression vector containing a myc tag using rabbit Anti-Influenza A Virus M2 Protein antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling Influenza A Virus M2 Protein with ab313889 at 1/100 (5.26 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 µg/ml) dilution (Green). Confocal image showing membranous and cytoplasmic staining in 293T cells transfected with an Influenza A virus M2 expression vector containing a myc tag. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8) ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) was used to counterstain at 1/100 (5 µg/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 µg/ml) dilution.

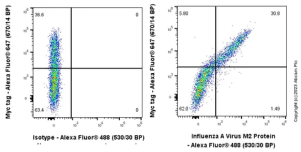


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Influenza A Virus M2 Protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rabbit Anti-Influenza A Virus M2 Protein antibody

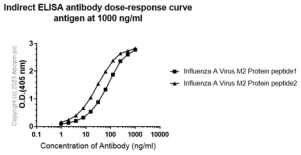
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling Influenza A Virus M2 Protein with ab313889 at 1/4000 (0.132 µg/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: No staining on human cerebrum. The section was incubated with ab313889 for 30 mins at room temperature. The immunostaining was

performed on a Leica Biosystems BOND® RX instrument. Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



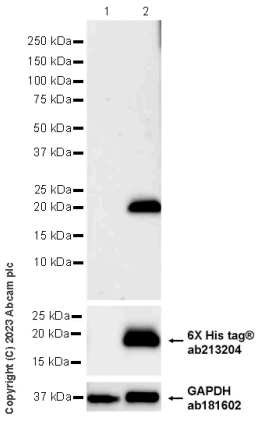
Flow Cytometry (Intracellular) - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized 293T (human embryonic kidney epithelial cell) transfected with an Influenza A virus M2 expression vector containing a myc tag cells labelling Influenza A Virus M2 Protein with ab313889 at 1/500 dilution (0.1 ug)/Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) . A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Cells are co-stained with Myc tag conjugated to Alexa Fluor®647.



Indirect ELISA - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Indirect ELISA analysis of ab313889 at 1000-0 ng/ml. The Secondary antibody used was Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1:2500 dilution. Antigen: Influenza A Virus M2 Protein peptide1, Influenza A Virus M2 Protein peptide2. Antigen concentration: 1000 ng/ml



Western blot - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889)

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution. In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution Exposure time: 59 seconds
All lanes:
Western blot - Anti-Influenza A Virus M2 Protein antibody [EPR28252-11] (ab313889) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with an empty vector containing a His-tag, whole cell lysate at 20 µg

Lane 2:
293T cells transfected with an Influenza A virus M2 expression vector containing a His-tag, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 20 kDa

Exposure time: 59s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.