abcam

ab313341

Anti-Influenza A virus NS1 protein antibody [EPR28247-51]

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	EPR28247-51
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Influenza A
Dilution info	1/1000
Notes	-

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

Not recommended

Species	Transfected cell line - Influenza A, Recombinant fragment - Influenza A
Dilution info	-
Notes	-

IHC-P

Tested

Species	Influenza A
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Transfected cell line - Influenza A
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Transfected cell lysate - Influenza A, Recombinant fragment - Influenza A
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Influenza A
Dilution info	1/50

Notes	-

Species	Transfected cell line - Influenza A
Dilution info	1/50
Notes	-

Not recommended

Species	Transfected cell lysate - Influenza A, Recombinant fragment - Influenza A
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Influenza A
Dilution info	1/500
Notes	-

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

Not recommended

Species	Transfected cell lysate - Influenza A, Recombinant fragment - Influenza A
Dilution info	-
Notes	-

I-ELISA

Tested

Species	Recombinant fragment - Influenza A
Dilution info	1000 ng/mL

Notes	Use at 62.5 ng/ml

Expected

Species	Influenza A
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

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

Target data

See full target information NS

Function

Inhibits post-transcriptional processing of cellular pre-mRNA, by binding and inhibiting two cellular proteins that are required for the 3'-end processing of cellular pre-mRNAs: the 30 kDa cleavage and polyadenylation specificity factor/CPSF4 and the poly(A)-binding protein 2/PABPN1. In turn, unprocessed 3' end pre-mRNAs accumulate in the host nucleus and are no longer exported to the cytoplasm. Cellular protein synthesis is thereby shut off very early after virus infection. Viral protein synthesis is not affected by the inhibition of the cellular 3' end processing machinery because the poly(A) tails of viral mRNAs are produced by the viral polymerase through a stuttering mechanism. Prevents the establishment of the cellular antiviral state by inhibiting TRIM25-mediated RIGI ubiquitination, which normally triggers the antiviral transduction signal that leads to the activation of type I IFN genes by transcription factors IRF3 and IRF7. Also binds poly(A) and U6 snRNA. Inhibits the integrated stress response (ISR) in the infected cell by blocking dsRNA binding by EIF2AK2/PKR and further phosphorylation of EIF2S1/EIF-2ALPHA (PubMed:33766561). Stress granule formation is thus inhibited, which allows protein synthesis and viral replication (PubMed:33766561).

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	Influenza A Nonstructural Protein 1 often referred to as NS1 is an important component of the influenza virus. This protein has an approximate molecular mass of 26 kDa. NS1 is expressed within infected host cells and functions predominantly in the cytoplasm and nucleus. Mechanically NS1 is known for its ability to bind double-stranded RNA effectively modulating host immune responses by interfering with the host's antiviral mechanisms.
Biological function summary	NS1 impacts several critical processes by inhibiting the host cell's immune response. It is not part of a larger protein complex yet it interacts with other cellular factors to suppress the production of interferon an important molecule in antiviral defense. Through its multifunctional activities including binding to cellular proteins and RNA NS1 alters normal host cell processes to benefit viral replication and persistence.
Pathways	NS1 strategically manipulates the host's cellular pathways to thwart the immune response. Two major pathways affected include the interferon signaling pathway where NS1 prevents the activation and transcription of interferon and the apoptosis pathway where it limits cell death aiding in viral replication. NS1 also interacts with proteins like RIG-I which are important in sensing viral RNA and initiating immune responses.

Associated diseases and disorders	NS1 plays a significant role in the pathogenesis of influenza infections such as seasonal flu and pandemic influenza. Its ability to suppress the host's immune response can exacerbate these conditions leading to increased disease severity. Additionally NS1's interactions with other viral proteins like HA and NA contribute to the virus's overall pathogenicity and adaptation to host defenses. Understanding NS1's functionalities can aid in developing therapeutic strategies and vaccines against influenza-related illnesses.

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

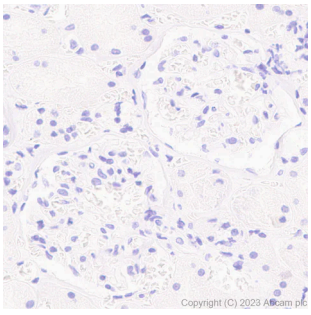
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

8 product images

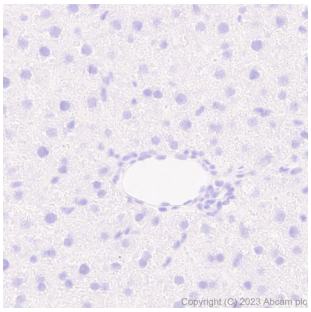


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Influenza A virus NS1 protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-Influenza A virus NS1 protein antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Influenza A virus NS1 protein with ab313341 at 1/2000 (0.25 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: No staining on human kidney. The section was incubated with ab313341 for 30 mins at room temperature. The immunostaining was

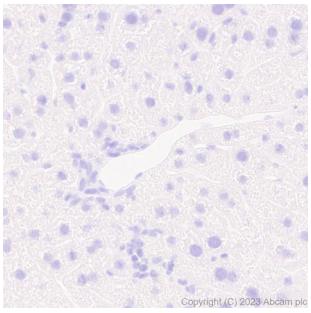
performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Influenza A virus NS1 protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat liver using rabbit Anti-Influenza A virus NS1 protein antibody

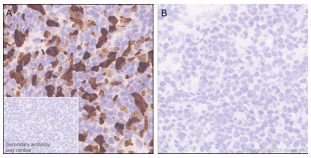
Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling Influenza A virus NS1 protein with ab313341 at 1/2000 (0.25 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: No staining on rat liver. The section was incubated with ab313341 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

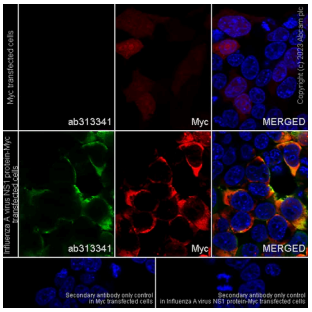
Influenza A virus NS1 protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-Influenza A virus NS1 protein antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling Influenza A virus NS1 protein with ab313341 at 1/2000 (0.25 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection). Negative control: No staining on mouse liver. The section was incubated with ab313341 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. 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.



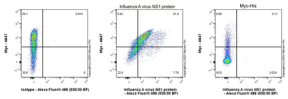
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Immunohistochemical analysis of paraffin-embedded Panel A HEK-293T c tissue labeling Influenza A virus NS1 protein with ab313341 at 1/2000 (0.25 ug/ml) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Cytoplasmic staining on (A) HEK-293T transfected with a Influenza A virus NS1 protein expression vector and no staining on (B) HEK-293T transfected with empty vector. The section was incubated with ab313341 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



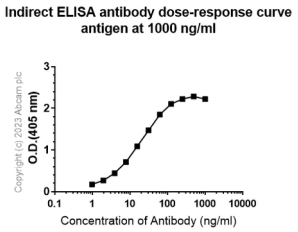
Immunocytochemistry/ Immunofluorescence - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (human embryonic kidney epithelial cell) cells labelling Influenza A virus NS1 protein with ab313341 at 1/50 (10.0 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing positive staining in 293T cells transfected with an Influenza A virus NS1 protein expression vector containing a myc tag.Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). Myc-Tag Mouse mAb (Alexa Fluor® 647) was used to counterstain tubulin at 1/100 0.38ug/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 ug/ml dilution.



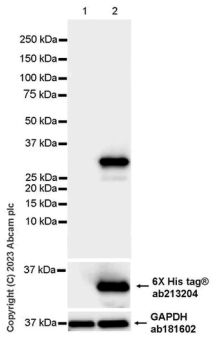
Flow Cytometry (Intracellular) - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype (Left) / 293T cells transfected with a Influenza A virus NS1 protein expression vector containing a myc tag (Middle) / 293T cells transfected with a empty expression vector containing a myc tag (Right) cells labelling Influenza A virus NS1 protein with ab313341 at 1/500 dilution (0.1 ug)/ Middle and Right (Red) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Indirect ELISA - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Indirect ELISA analysis of ab313341 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 NS1 protein. Antigen concentration: 1000 ng/ml



Western blot - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341)

Blocking and diluting buffer and concentration: 5% NFDM/TBST In Western blot, anti-His antibody (ab213204) staining at 1/5000 dilution. Anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 3 seconds
All lanes:
Western blot - Anti-Influenza A virus NS1 protein antibody [EPR28247-51] (ab313341) at 1/1000 dilution

Lane 1:
HEK-293 (human embryonic kidney) transfected with an empty vector (vector control) containi a myc-His-tag® whole cell lysate at 4 µg

Lane 2:
HEK-293 transfected with a Influenza A virus NS1 protein expression vector containi a myc-His-tag® whole cell lysate at 4 µg

Secondary

All lanes:

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

Observed band size: 26 kDa

Exposure time: 3s

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