abcam

ab128193

Anti-Influenza A Virus Nucleoprotein antibody [C43]

Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) is a mouse monoclonal antibody detecting Influenza A Virus Nucleoprotein in **Western Blot, Flow Cytometry, ICC/IF, ELISA**. Suitable for **Influenza A**.

- Over 40 publications

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 6 - 8.5 Constituents: PBS, 50% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Monoclonal
Immunogen	Virus preparation containing NP protein. The exact immunogen used to generate this antibody is proprietary information. Database link P69291
Clone number	C43
Purification technique	Proprietary technique
Specificity	Reacts with NP of all influenza A viruses so far tested, including seasonal H2N2, H3N2(A/Sydney/5/1997), and H5N1(A/crow/Kyoto53/2004), H5N1 (A/duck/Egypt/D2br10/07), H5N1(A/duck/HK/342/78), H5N2(A/crow/Kyoto/53/04), H9N1, H9N2 (A/Turkey/Wisconsin/1/66) and H1N1 (seasonal: A/New Caledonia/20/99. Pandemic: A/Suita/01/2009 and swine: A/PuertoRico/8/34). No cross reactivity with influenza B viruses.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Produced in serum-free medium and purified by proprietary chromatography procedure under mild conditions. 90~95% pure by SDS-PAGE

Reactivity data

Flow Cyt

Expected

Species	Influenza A
Dilution info	-
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

ELISA

Expected

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

WB

Tested

Species	Influenza A
Dilution info	1/300 - 1/1000
Notes	-

ICC/IF

Tested

Species	Influenza A
Dilution info	1/200
Notes	-

Target data

See full target information NP

Function	Encapsidates the negative strand viral RNA, protecting it from nucleases. The encapsidated genomic RNA is termed the ribonucleoprotein (RNP) and serves as template for transcription and replication. The RNP needs to be localized in the host nucleus to start an infectious cycle, but is too large to diffuse through the nuclear pore complex. NP comprises at least 2 nuclear localization signals that are responsible for the active RNP import into the nucleus through cellular importin alpha/beta pathway. Later in the infection, nclear export of RNPs are mediated through viral proteins NEP interacting with M1 which binds nucleoproteins. It is possible that nucleoprotein binds directly host exportin-1/XPO1 and plays an active role in RNPs nuclear export. M1 interaction with RNP seems to hide nucleoprotein's nuclear localization signals. Soon after a virion infects a new cell, M1 dissociates from the RNP under acidification of the virion driven by M2 protein. Dissociation of M1 from RNP unmasks nucleoprotein's nuclear localization signals, targeting the RNP to the nucleus.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Notes

Product Specifications

Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) is a mouse monoclonal antibody and is validated for use in ELISA, Flow Cyt, ICC/IF, WB in influenza a samples.
Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) specifically detects Influenza A Virus Nucleoprotein (UniProt ID: P69291; Molecular weight: 56kDa) and is sold in 100 µg selling sizes.

Quality and Validation

Abcam's high quality validation processes ensure Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) has high sensitivity and specificity.
Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) has been cited over 42 times in peer reviewed journals and is trusted by the scientific community.

Related Products

Antibody clone C43 is also available pre-conjugated to a variety of labels for your convenience - HRP (ab176837).

Supplementary info

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

Activity summary	The Influenza A Virus Nucleoprotein also known as NP or nucleoprotein influenza A plays a significant mechanical role in the virus life cycle. It is an essential structural component that encapsidates viral RNA forming ribonucleoprotein complexes important for replication and transcription. Influenza A nucleoprotein has a molecular weight of approximately 56 kDa and is expressed in infected host cells. Within the influenza virion the nucleoprotein interacts with the viral RNA and polymerase complex ensuring the integrity and functionality of the viral genome.
Biological function summary	The influenza A nucleoprotein is involved in regulating viral RNA synthesis and acts as a platform for the assembly of viral components. It does not directly form stable complexes with host proteins but it is central to the ribonucleoprotein complexes that are vital for the virus life cycle. This nucleoprotein assists in the virus's ability to hijack the host cellular machinery favoring its replication and infection processes. While the nucleoprotein itself does not form direct complexes with host proteins its interactions are significant for facilitating various stages of the viral life cycle.
Pathways	The influenza A nucleoprotein operates within the viral replication and transcription pathways. It associates with proteins such as PB1 PB2 and PA of the polymerase complex which is important for viral RNA synthesis. The nucleoprotein ensures the proper packaging of the viral genome to be recognized by the polymerase complex playing a pivotal role in the viral replication process. Through these pathways it indirectly impacts the host immune response as the virus must evade host defenses to ensure replication success.
Associated diseases and disorders	The nucleoprotein influenza A is primarily linked to influenza infections a major respiratory illness. Influenza can manifest in a mild to severe form occasionally leading to pandemics. The nucleoprotein is an attractive target for antiviral drug development given its essential role in the viral life cycle. Moreover studies have shown that variations and mutations in the nucleoprotein can affect viral virulence and the outcome of infection. By understanding its mechanisms and interactions with other viral proteins like HA and NA researchers can better develop strategies to combat influenza outbreaks.

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.

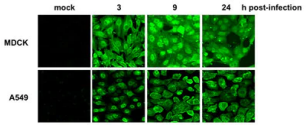
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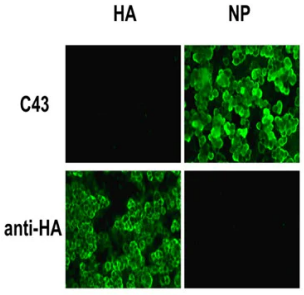
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193)

Influenza A Virus Nucleoprotein Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Influenza A Virus Nucleoprotein antibody

Immunofluorescence assay of MDCK cells derived from canine kidney cells, and A549 cells derived from human lung carcinoma cells, that were infected with H1N1 influenza virus (A/PuertoRico/8/34). Samples were taken at 3, 9, and 24 hours post-infection. Influenza A Virus Nucleoprotein antibody (ab128193) efficiently detected virus-infected MDCK and A549 cells as early as 3 h after infection. The cells were fixed with 4% paraformaldehyde in phosphate-buffered saline (PBS) and permeabilized with 0.1% 0.1% Triton X-100 in PBS. The bound antibody was visualized by a further reaction with an green flurescent secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193)

Influenza A Virus Nucleoprotein Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Influenza A Virus Nucleoprotein antibody

Immunofluorescence assay of 293T cells expressing HA or NP of pandemic (H1N1) 2009 influenza A virus (A/Suita/1/2009). Influenza A Virus Nucleoprotein antibody (ab128193) specifically recognized NP-expressing cells while a proprietary mouse anti-HA monoclonal antibody specifically recognized HA.



Western blot - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193)

Tubulin was used as loading control.
All lanes:
Western blot - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) at 1/300 dilution

Lanes 1, 6 and 11:
MDCK cells mock infected

Lane 2:
MDCK cells infected with H1N1 (A/PuertoRico/8/34) collected 3 hrs post-infection

Lane 3:
MDCK cells infected with H1N1 (A/PuertoRico/8/34) collected 9 hrs post-infection

Lane 4:
MDCK cells infected with H1N1 (A/PuertoRico/8/34) collected 24 hrs post-infection

Lane 5:
MDCK cells infected with H1N1 (A/PuertoRico/8/34) collected 48 hrs post-infection

Lane 7:
MDCK cells infected with H5N2 (A/crow/Kyoto/53/04) collected 3 hrs post-infection

Lane 8:
MDCK cells infected with H5N2 (A/crow/Kyoto/53/04) collected 9 hrs post-infection

Lane 9:
MDCK cells infected with H5N2 (A/crow/Kyoto/53/04) collected 24 hrs post-infection

Lane 10:
MDCK cells infected with H5N2 (A/crow/Kyoto/53/04) collected 48 hrs post-infection

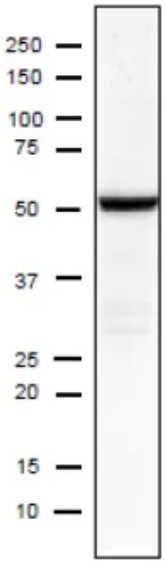
Lane 12:
MDCK cells infected H5N1 (A/duck/HK/342/78)collected 3 hrs post-infection

Lane 13:
MDCK cells infected with H5N1 (A/duck/HK/342/78) collected 9 hrs post-infection

Lane 14:
MDCK cells infected with H5N1 (A/duck/HK/342/78) collected 24 hrs post-infection

Lane 15:
MDCK cells infected with H5N1 (A/duck/HK/342/78) collected 48 hrs post-infection

Predicted band size: 56 kDa



Western blot - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193)

All lanes:
Western blot - Anti-Influenza A Virus Nucleoprotein antibody [C43] (ab128193) at 1/1000 dilution

All lanes:
MDCK cells infected with Influenza A virus (H1N1) PuertoRico/8/34

Secondary

All lanes:
Western blot - Rabbit Anti-Mouse IgG H&L (HRP) (ab97046) at 1/10000 dilution

Predicted band size: 56 kDa

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