abcam

ab24011

Anti-Respiratory Syncytial Virus Fusion (F) Glycoprotein antibody [RSV3216 (B016)]

Anti-Respiratory Syncytial Virus fusion protein antibody [RSV3216 (B016)] (ab24011) is a mouse monoclonal antibody detecting Respiratory Syncytial Virus fusion protein in **Western Blot, Flow Cytometry, IP, ICC/IF, ELISA, EM**.

- Trusted since 2005

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Bovine RSV strains: 127, SNK and 9007. Human RSV strains: Long, Randall, 8/60, and A/2. Database link P03420
Clone number	RSV3216 (B016)
Purification technique	Affinity purification Protein A
Specificity	Recognises a Respiratory Syncytial Virus fusion protein (46kD and 22kD s-s linked glycoprotein).
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Expected

Species	Respiratory syncytial virus
Dilution info	Use at an assay dependent concentration.
Notes	-

EM

Expected

Species	Respiratory syncytial virus
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt

Expected

Species	Respiratory syncytial virus
Dilution info	-
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

WB

Expected

Species	Respiratory syncytial virus
Dilution info	Use at an assay dependent concentration.
Notes	-

sELISA

Expected

Species	Respiratory syncytial virus
Dilution info	-
Notes	Use ab34992 as capture antibody

ICC/IF

Expected

Species	Respiratory syncytial virus
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information F

Function

Fusion glycoprotein F0. Inactive precursor that is cleaved at two sites by a furin-like protease to give rise to the mature F1 and F2 fusion glycoproteins. Fusion glycoprotein F1. Class I viral fusion protein (PubMed:23618766). Under the current model, the protein has at least 3 conformational states: pre-fusion native state, pre-hairpin intermediate state, and post-fusion hairpin state (PubMed:23618766). During viral and plasma cell membrane fusion, the coiled coil regions assume a trimer-of-hairpins structure, positioning the fusion peptide in close proximity to the C-terminal region of the ectodomain (PubMed:19966279, PubMed:23618766). The formation of this structure appears to drive apposition and subsequent fusion of viral and cellular membranes leading to delivery of the nucleocapsid into the cytoplasm (PubMed:23593008, PubMed:23618766). This fusion is pH independent and occurs at the plasma or endosomal membrane (Probable). The trimer of F1-F2 (F protein) also facilitates the attachment to host cell by binding to host heparan sulfate (PubMed:10864656). F protein is involved in the entry into the host cell through the interaction with host IGF1R (PubMed:32494007). This interaction activates PRKCZ/PKCzeta that recruits host NCL/nucleolin to the apical cell surface where it can bind fusion glycoprotein F1 (PubMed:21841784, PubMed:32494007). Later in infection, F protein expressed at the plasma membrane of infected cells can mediate fusion with adjacent cells to form syncytia, a cytopathic effect that could lead to tissue necrosis (PubMed:10438814). F protein may trigger p53-dependent apoptosis (PubMed:18216092). Fusion glycoprotein F2. Major determinant of the species specificity of RSV infection (PubMed:12663767). The trimer of F1-F2 (F protein) also facilitates the attachment to host cell by binding to host heparan sulfate (PubMed:10864656). F protein is involved in the entry into the host cell through the interaction with host IGF1R (PubMed:32494007). This interaction activates PRKCZ/PKCzeta that recruits host NCL/nucleolin to the apical cell surface where it can bind fusion glycoprotein F1 (PubMed:32494007). Later in infection, F protein expressed at the plasma membrane of infected cells can mediate fusion with adjacent cells to form syncytia, a cytopathic effect that could lead to tissue necrosis (PubMed:10438814). F protein seems to trigger p53-dependent apoptosis (PubMed:18216092).

Storage

Shipped at conditions	Blue Ice

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

Notes

What is this antibody validated in?
Anti-Respiratory Syncytial Virus fusion protein antibody [RSV3216 (B016)] (ab24011) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF), ELISA, Electron microscopy (EM) in Respiratory syncytial virus samples.

Supplementary info

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

Activity summary	The Respiratory Syncytial Virus (RSV) fusion protein also called F protein is critical in the viral entry process. It facilitates the fusion of the viral envelope with the host cell membrane permitting the viral RNA to enter the host cell. The fusion protein is a trimeric glycoprotein expressed on the surface of the RSV virion and has a molecular mass of approximately 64 kDa. The protein undergoes maturation through proteolytic processing which is important for its function. RSV fusion protein is primarily expressed in the respiratory tract during infections.
Biological function summary	The RSV fusion protein plays a pivotal role in initiating infection by mediating the fusion of the virus with the host cell membrane. It forms part of a complex that includes other viral envelope glycoproteins such as the attachment (G) protein facilitating viral binding and fusion. The conformational change in the fusion protein triggers the merging of the viral envelope with the host cell membrane an essential step for viral replication and spread within the host.
Pathways	Fusion protein contributes significantly to the viral infection pathway of RSV. During virus-host cell interaction the fusion protein engages with cell surface receptors like nucleolin part of the viral entry pathway. Additionally the fusion protein's activity is related to the broader class I viral fusion proteins which includes influenza hemagglutinin detailing its fundamental role in viral pathogenesis and immune evasion strategies.
Associated diseases and disorders	The RSV fusion protein is a major factor in illnesses such as bronchiolitis and pneumonia particularly in young children and immunocompromised patients. The fusion protein's activity is associated with the exacerbation of these respiratory

conditions. It also interacts with proteins like the G protein during infection which can influence RSV pathogenicity and the host's immune response. Understanding these interactions helps in the development of therapeutic and preventative strategies against RSV-related diseases.

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.

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