abcam

ab327792

Anti-Dengue Virus 2 NS1 protein antibody [RM30747]

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	Multiclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM30747
Purification technique	Affinity purification Protein A
Specificity	This antibody does cross-react with overexpressed Dengue Virus 1 NS1 glycoprotein, Dengue Virus 3 NS1 glycoprotein and Dengue Virus 4 NS1 glycoprotein by WB, and with overexpressed Dengue Virus 1 NS1 glycoprotein and Dengue Virus 4 NS1 glycoprotein by IHC. It also only recognise overexpressed Dengue Virus 2 NS1 glycoprotein in ICC/IF and FC.
Concentration	0.465 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Transfected cell lysate - Dengue virus 2
Dilution info	1/1000
Notes	-

Predicted

Species	Dengue virus 2
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Dengue virus 2
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Dengue virus 2
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Dengue virus 2
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Dengue virus 2
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Transfected cell line - Dengue virus 2
Dilution info	1/500
Notes	-

Predicted

Species	Dengue virus 2
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Dengue virus 2
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Dengue virus 2
Dilution info	1/500
Notes	-

Predicted

Species	Dengue virus 2
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Dengue virus 2
Dilution info	-
Notes	-

Target data

See full target information Dengue virus 2 Genome polyprotein

Function

Capsid protein C. Capsid protein C self-assembles to form an icosahedral capsid about 30 nm in diameter. The capsid encapsulates the genomic RNA (Probable). Plays a role in virus budding by binding to the cell membrane and gathering the viral RNA into a nucleocapsid that forms the core of a mature virus particle. During virus entry, may induce genome penetration into the host cytoplasm after hemifusion induced by the surface proteins. Can migrate to the cell nucleus where it modulates host functions. Overcomes the anti-viral effects of host EXOC1 by sequestering and degrading the latter through the proteasome degradation pathway (PubMed:23522008). Peptide pr. Prevents premature fusion activity of envelope proteins in trans-Golgi by binding to envelope protein E at pH6.0. After virion release in extracellular space, gets dissociated from E dimers. Protein prM. Acts as a chaperone for envelope protein E during intracellular virion assembly by masking and inactivating envelope protein E fusion loop. prM is the only viral peptide matured by host furin in the trans-Golgi network probably to avoid catastrophic activation of the viral fusion activity in acidic Golgi compartment prior to virion release. prM-E cleavage is inefficient, and many virions are only partially matured. These uncleaved prM would play a role in immune evasion. Small envelope protein M. May play a role in virus budding. Exerts cytotoxic effects by activating a mitochondrial apoptotic pathway through M ectodomain. May display a viroporin activity. Envelope protein E. Type II fusion protein that binds to host cell surface receptor and mediates fusion between viral and cellular membranes (Probable). The envelope protein E shifts from dimeric state to trimeric state to perform fusion with the host membrane (By similarity). The fusion loops of the three subunits come together to form a membrane-insertable tip containing aromatic residues (By similarity). Envelope protein is synthesized in the endoplasmic reticulum in the form of heterodimer with protein prM. They play a role in virion budding in the ER, and the newly formed immature particle is covered with 60 spikes composed of heterodimers of precursor prM and envelope protein E (By similarity). Envelope protein exposes a positively-charged pr-binding pocket at the E dimer interface, inducing (prM/E)2 dimer formation to generate smooth particles in the Golgi (By similarity). The virion is transported to the Golgi apparatus where the low pH causes dissociation of PrM-E heterodimers and formation of E homodimers (By similarity). prM-E cleavage is inefficient, and many virions are only partially matured. These uncleaved prM would play a role in immune evasion (By similarity). Pr is shed from the particle upon subsequent secretion into the extracellular environment, leaving an activated particle, prone to mediate acidic pH-triggered membrane fusion upon entry into a target cell (By similarity). Non-structural protein 1. Involved in immune evasion, pathogenesis and viral replication. Once cleaved off the polyprotein, is targeted to three destinations: the viral replication cycle, the plasma membrane and the extracellular compartment. Essential for viral replication. Required for formation of

the replication complex and recruitment of other non-structural proteins to the ER-derived membrane structures. Excreted as a hexameric lipoparticle that plays a role against host immune response. Antagonizing the complement function. Binds to the host macrophages and dendritic cells. Inhibits signal transduction originating from Toll-like receptor 3 (TLR3). Non-structural protein 1. Involved in immune evasion, pathogenesis and viral replication. Once cleaved off the polyprotein, is targeted to three destinations: the viral replication cycle, the plasma membrane and the extracellular compartment. Essential for viral replication. Required for formation of the replication complex and recruitment of other non-structural proteins to the ER-derived membrane structures. Excreted as a hexameric lipoparticle that plays a role against host immune response. Antagonizing the complement function. Binds to the host macrophages and dendritic cells. Inhibits signal transduction originating from Toll-like receptor 3 (TLR3) (By similarity). Mediates complement activation, which may contribute to the pathogenesis of the vascular leakage that occurs in severe dengue disease (PubMed:16544248). Activates autophagy through the AMPK/ERK/mTOR signaling pathway. Mechanistically, acts as the assembly platform for STK11-AMPK interactions and promotes STK11-AMPK interactions. In turn, promotes phosphorylation of the AMPK kinase structural domain and activates AMPK, thereby positively regulating the AMPK/ERK/mTOR signaling pathway and inducing autophagy (PubMed:37821951). Non-structural protein 2A. Component of the viral RNA replication complex that functions in virion assembly and antagonizes the host immune response. Serine protease subunit NS2B. Required cofactor for the serine protease function of NS3. May have membrane-destabilizing activity and form viroporins (By similarity). Serine protease NS3. Displays three enzymatic activities: serine protease, NTPase and RNA helicase. NS3 serine protease, in association with NS2B, performs its autocleavage and cleaves the polyprotein at dibasic sites in the cytoplasm: C-prM, NS2A-NS2B, NS2B-NS3, NS3-NS4A, NS4A-2K and NS4B-NS5. NS3 RNA helicase binds RNA and unwinds dsRNA in the 3' to 5' direction. Non-structural protein 4A. Regulates the ATPase activity of the NS3 helicase activity. NS4A allows NS3 helicase to conserve energy during unwinding. Plays a role in the inhibition of the host innate immune response. Interacts with host MAVS and thereby prevents the interaction between RIGI and MAVS. In turn, IFN-beta production is impaired. Interacts with host AUP1 which mediates induction of lipophagy in host cells and facilitates production of virus progeny particles (By similarity). Peptide 2k. Functions as a signal peptide for NS4B and is required for the interferon antagonism activity of the latter. Non-structural protein 4B. Induces the formation of ER-derived membrane vesicles where the viral replication takes place. Inhibits interferon (IFN)-induced host STAT1 phosphorylation and nuclear translocation, thereby preventing the establishment of cellular antiviral state by blocking the IFN-alpha/beta pathway (PubMed:15956546). RNA-directed RNA polymerase/Methyltransferase NS5. Replicates the viral (+) and (-) RNA genome, and performs the capping of genomes in the cytoplasm (By similarity). NS5 methylates viral RNA cap at guanine N-7 and ribose 2'-O positions (PubMed:19850911). Besides its role in RNA genome replication, also prevents the establishment of cellular antiviral state by blocking the interferon-alpha/beta (IFN-alpha/beta) signaling pathway (PubMed:15944325). Inhibits host TYK2 and STAT2 phosphorylation, thereby preventing activation of JAK-STAT signaling pathway (PubMed:19754307). May reduce immune responses by preventing the recruitment of the host PAF1 complex to interferon-responsive genes (PubMed:30550790).

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
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.

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

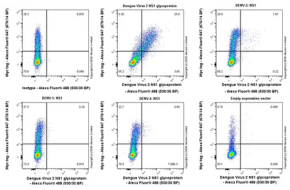
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images

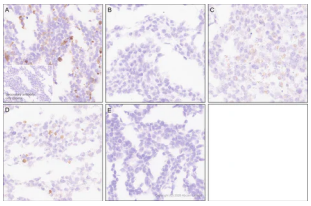


Flow Cytometry (Intracellular) - Anti-Dengue Virus 2 NS1 protein antibody [RM30747] (ab327792)

Dengue Virus 2 NS1 protein Flow Cytometry (Intracellular) staining using rabbit Anti-Dengue Virus 2 NS1 protein antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized
293T (human embryonic kidney epithelial cell) cells transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a HA-Myc-tag® (Upper middle)
293T cells transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a HA-Myc-tag® (Upper right)
293T cells transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a HA-Myc-tag® (Lower left)
293T cells transfected with a Dengue Virus 4 NS1 glycoprotein expression vector containing a HA-Myc-tag® (Lower middle)
293T cells transfected with an empty expression vector containing a myc-His-tag® (Lower right) labelling Dengue Virus 2 NS1 glycoprotein with ab327792 at 1/500 dilution (0.1ug) compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Dengue Virus 2 NS1 protein antibody [RM30747] (ab327792)

Dengue Virus 2 NS1 protein Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Dengue Virus 2 NS1 protein antibody

Immunohistochemical analysis of paraffin-embedded
(A) HEK-293T (human embryonic kidney epithelial cell) transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet
(B) HEK-293T transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet
(C) HEK-293T transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet
(D) HEK-293T transfected with a Dengue Virus 4 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet
(E) HEK-293T transfected with an empty vector containing a Myc-His tag cell pellet
labeling Dengue Virus 2 NS1 glycoprotein with ab327792 at 1/100 (4.65 µg/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) HEK-293T transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet, weak staining in (C) HEK-293T transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet and (D) HEK-293T transfected with a Dengue Virus 4 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet, while no signal in (B) HEK-293T transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a Myc-His tag cell pellet and (E) HEK-293T transfected with an empty vector containing a Myc-His tag cell pellet.

This antibody does cross-react with overexpressed Dengue Virus 1 NS1 glycoprotein and Dengue Virus 4 NS1 glycoprotein by IHC.

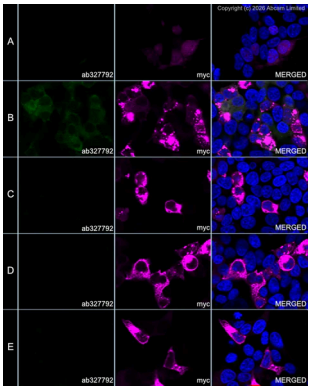
The primary antibody was incubated for 30 mins at room temperature.

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



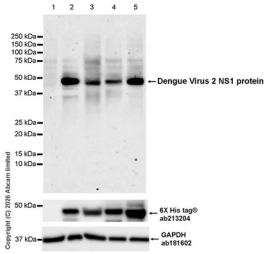
Immunocytochemistry/ Immunofluorescence - Anti-Dengue Virus 2 NS1 protein antibody [RM30747] (ab327792)

Dengue Virus 2 NS1 protein Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Dengue Virus 2 NS1 protein antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T(human cervical adenocarcinoma epithelial cell) cells transfected with an empty expression vector containing a myc-His-tag®
293T cells transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a myc-His-tag®
293T cells transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a myc-His-tag®
293T cells transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a myc-His-tag®
293T cells transfected with a Dengue Virus 4 NS1 glycoprotein1 expression vector containing a myc-His-tag®
labelling Dengue Virus 2 NS1 glycoprotein with ab327792 at 1/500 (0.93 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing positive staining in 293T cells (shown in green) transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a myc-His-tag®, showing weak staining in 293T cells transfected with an empty or Dengue Virus 1/3/4 NS1 expression vector containing a myc-His-tag®. The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).
Panel A: 293T cells transfected with an empty expression vector containing a myc-His-tag®.
Panel B: 293T cells transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a myc-His-tag®
Panel C: 293T cells transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a myc-His-tag®
Panel D: 293T cells transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a myc-His-tag®
Panel E: 293T cells transfected with a Dengue Virus 4 NS1 glycoprotein expression vector containing a myc-His-tag®

ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) was used to counterstain Myc at 1/100 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).



Western blot - Anti-Dengue Virus 2 NS1 protein antibody [RM30747] (ab327792)

Dengue Virus 2 NS1 protein Western blot staining using rabbit Anti-Dengue Virus 2 NS1 protein antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The blot was developed using a high-sensitivity ECL substrate, allowing for the detection of proteins in the mid-femtogram range.

This antibody does cross-react with overexpressed Dengue Virus 1 NS1 glycoprotein, Dengue Virus 3 NS1 glycoprotein and Dengue Virus 4 NS1 glycoprotein by WB.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) (1:200000) (36KDa); Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) (1:5000) (42KDa).

All lanes:
Western blot - Anti-Dengue Virus 2 NS1 protein antibody [RM30747] (ab327792) at 1/1000 dilution

Lane 1:
293T (human cervical adenocarcinoma epithelial cell) cells transfected with an empty expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 2:
293T cells transfected with a Dengue Virus 2 NS1 glycoprotein expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 3:
293T cells transfected with a Dengue Virus 3 NS1 glycoprotein expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 4:
293T cells transfected with a Dengue Virus 1 NS1 glycoprotein expression vector containing a myc-His-tag® whole cell lysate at 20 µg

Lane 5:
293T cells transfected with a Dengue Virus 4 NS1 glycoprotein expression vector containing a myc-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

Developed using the ECL technique.

Observed band size: 42 kDa, 36 kDa

Exposure time: 180s

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