abcam

ab284042

Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24851-65
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ELISA

Tested

Species	SARS-CoV-2
Dilution info	-

Notes	-

Not recommended

Species	Transfected cell line - SARS-CoV-2
Dilution info	-
Notes	-

WB

Tested

Species	SARS-CoV-2
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - SARS-CoV-2
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - SARS-CoV-2
Dilution info	-
Notes	-

Expected

Species	SARS-CoV-2
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - SARS-CoV-2
Dilution info	-
Notes	-

Expected

Species	SARS-CoV-2
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	SARS-CoV-2
Dilution info	1/100
Notes	-

Not recommended

Species	Transfected cell line - SARS-CoV-2
Dilution info	-
Notes	-

Target data

See full target information SARS-CoV2 orf8

Function	Plays a role in modulating the host immune response (PubMed:31986261, PubMed:35343786, PubMed:36689483). May act as a secreted virokine by mimicking interleukin-17A (IL17A), and thereby binding to the IL17RA receptor, leading to activation of the IL17 pathway and increased secretion of pro-inflammatory factors (PubMed:35343786, PubMed:36689483). Contributes to the cytokine storm during SARS-CoV-2 infection when secreted by unconventional pathway (PubMed:33723527, PubMed:36689483). May act by down-regulating major histocompability complex class I (MHC-I) at cell surface (PubMed:34021074, PubMed:35157849). May inhibit expression of some members of the IFN-

stimulated gene (ISG) family including hosts IGF2BP1/ZBP1, MX1 and MX2, and DHX58 (PubMed:34177923).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab284042 is the carrier-free version of ab283914

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	SARS-CoV-2 Orf8 also known as open reading frame 8 is a protein of interest in studying the SARS-CoV-2 virus. It is a viral accessory protein that weighs around 22

	kDa and is expressed abundantly in infected host cells especially within the endoplasmic reticulum. Researchers identify this protein as having a unique location among Coronaviridae setting it apart in function when compared to other viral proteins.
Biological function summary	The Orf8 protein interacts with host cellular machinery to affect immune response. It is not part of any known stable complexes but it modulates the unfolded protein response (UPR) in cells influencing how proteins fold and maintaining cellular homeostasis under stress conditions. Orf8 can also impact the major histocompatibility complex class I (MHC-I) pathway which has implications on immune evasion by the virus.
Pathways	Studies indicate that SARS-CoV-2 Orf8 plays roles in immune modulation and protein processing pathways. It interacts with the UPR pathway notably affecting the IRE1 signaling. Comparisons to other viral accessory proteins such as SARS-CoV-2 Orf3b reveal distinct impacts on host immune responses illustrating the diverse strategies the virus employs to enhance survival and replication.
Associated diseases and disorders	Orf8's expression links with COVID-19 severity contributing to immune dysregulation seen in patients. It has connections to inflammatory disorders due to its interference with the MHC-I pathway. Researchers study Orf8 alongside Nsp1 to understand the synergistic effects in manipulating host immune responses aiding in the pathogenesis of the disease. Understanding Orf8 can provide insights into targeted therapeutic interventions for COVID-19.

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

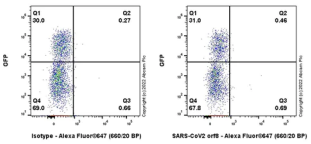
We do not recommend this combination. It is not covered by our product promise.

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:

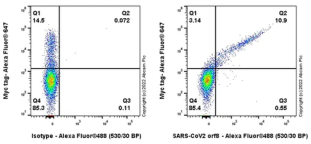
6 product images



Flow Cytometry (Intracellular) - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

SARS-CoV2 orf8 Flow Cytometry (Intracellular) staining using rabbit Anti-SARS-CoV2 orf8 antibody

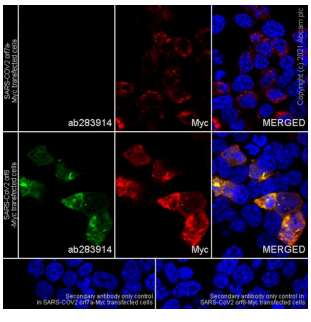
Intracellular Flow Cytometry analysis of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells transfected with a SARS-COV2 orf7a expression vector containing a GFP tag labeling SARS-CoV2 orf8 with ab283914 at 1/500 dilution (right). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti-rabbit IgG (Alexa Fluor® 647, ab150083) secondary antibody was used at 1/5000 dilution. Isotype control - Rabbit monoclonal IgG (left) (ab172730). No cross-reactivity with SARS-COV2 orf7a.
This data was developed using ab283914, the same antibody clone in a different buffer formulation.



Flow Cytometry (Intracellular) - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

SARS-CoV2 orf8 Flow Cytometry (Intracellular) staining using rabbit Anti-SARS-CoV2 orf8 antibody

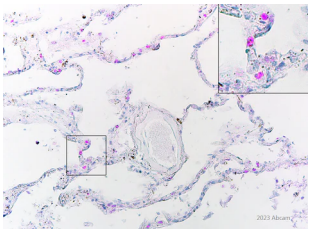
Intracellular Flow Cytometry analysis of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells transfected with a SARS-CoV2 orf8 expression vector containing a myc tag labeling SARS-CoV2 orf8 with ab283914 at 1/500 dilution (right). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti-rabbit IgG (Alexa Fluor® 488, ab150081) secondary antibody was used at 1/5000 dilution. Isotype control - Rabbit monoclonal IgG (left) (ab172730).
This data was developed using ab283914, the same antibody clone in a different buffer formulation.



Immunocytochemistry/ Immunofluorescence - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

SARS-CoV2 orf8 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SARS-CoV2 orf8 antibody

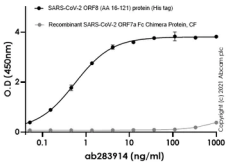
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells labelling SARS-CoV2 orf8 with primary antibody anti-SARS-CoV2 orf8 (ab283914) at 1/100 dilution, followed by AlexaFluor®594 Goat anti-Rabbit (green) (ab150088) secondary antibody at 1/1000 dilution. Confocal image showing cytoplasmic and nuclear staining in HEK-293T cells transfected with a SARS-CoV2 orf8 expression vector containing a myc tag, no staining in HEK-293T cells transfected with a SARS-COV2 orf7a expression vector containing a myc tag. Myc-Tag Mouse mab (Alexa Fluor® 647) (red) was used to counterstain at 1/100 dilution. The nuclear counter stain is DAPI (blue).
This data was developed using ab283914, the same antibody clone in a different buffer formulation.



This image is courtesy of a customer review submitted by Dr, Aron Emmi

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

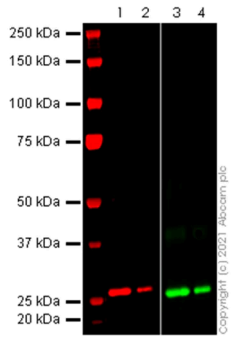
This data was developed using ab283914, the same antibody clone in a different buffer formulation. ab283914 staining SARS-CoV-2 nsp8 in Human Lung (SARS-CoV-2 RNA+) tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde, antigen retrieval was by heat mediation in a EDTA Buffer (pH 9). Samples were incubated with primary antibody (1/100) for 45 minutes at 24°C. A Rabbit HRP-conjugated secondary antibody was used.



ELISA - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

This data was developed using ab283914, the same antibody clone in a different buffer formulation.
Indirect ELISA showing primary antibody ab283914 binding to SARS-CoV2 ORF8 (AA 16-121) protein (His tag). Plates were coated with SARS-CoV2 ORF8 (AA 16-121) protein (His tag) and Recombinant SARS-CoV2 ORF7a Fc Chimera protein at 1000 ng/ml. Binding of ab283914 was assessed in a serial dilution range 0.016- 1000 ng/mL (a 3-fold serial dilution).

Binding was detected using pre-adsorbed secondary antibody, goat anti-rabbit IgG H&L (HRP, ab97080) at 1/2000 dilution.



Western blot - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

This data was developed using ab283914, the same antibody clone in a different buffer formulation.
Lanes 1 & 2: Red – loading control ab18184 (Mouse monoclonal [HIS.H8] to 6X His tag®) observed at 27 kDa.

Lanes 3 & 4: Green – ab283914 observed at 27 kDa.

ab283914 was shown to bind specifically to SARS-CoV-2 ORF8 protein in Western blot. Samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab18184) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution

Blocking buffer: 3% milk in TBS-0.1 % Tween® 20 (TBS-T).

Lanes 1 - 2:
Western blot - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042)

Lanes 3 - 4:
Western blot - Anti-SARS-CoV2 orf8 antibody [EPR24851-65] - BSA and Azide free (ab284042) at 1/20000 dilution

Lanes 1 and 3:
SARS-CoV-2 ORF8 (AA 16-121) protein (His tagged) at 0.5 µg

Lanes 2 and 4:

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