

SARS-CoV-2 (COVID-19) ORF3b Antibody

Infectious Disease, COVID-19

Catalog # ASC12220

Product Information

Application	WB, E
Primary Accession	P0DTC6
Other Accession	P0DTC3
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Clone Names	ORF3b
Calculated MW	7273
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	WB: 0.25 µg/mL Antibody validated: SARS-CoV-2 (COVID-19) ORF3b antibody can detect 2 ng of free peptide at 1 µg/mL in ELISA. It can detect SARS-CoV-2 ORF3b recombinant protein by ELISA and WB. All other applications and species not yet tested.

Additional Information

Gene ID	43740572
Other Names	ORF3b protein, Accessary protein 3b, ns3b, Non-structural protein 3b, ORF3b
Reconstitution & Storage	SARS-CoV-2 (COVID-19) ORF3b antibody can be stored at 4 °C for three months and -20 °C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SARS-CoV-2 (COVID-19) ORF3b Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	6
Function	Disrupts bidirectional nucleocytoplasmic transport by interacting with the host RAE1-NUP98 complex (PubMed: 33360543 , PubMed: 33849972). Disrupts cell nuclear import complex formation by tethering karyopherin alpha 2 and karyopherin beta 1 to the membrane (PubMed: 32979938). Retention of import factors at the ER/Golgi membrane leads to a loss of transport into the nucleus (By similarity). Prevents STAT1 nuclear translocation in response to interferon signaling, thus blocking the expression of interferon stimulated genes (ISGs) that display multiple antiviral activities (PubMed: 33097660).

Suppresses IFN-beta production possibly by blocking IRF3 nuclear translocation (PubMed:[32979938](#)). Might induce accumulation of host HNRNPA1 (PubMed:[33360543](#)).

Cellular Location

Host endoplasmic reticulum membrane; Peripheral membrane protein. Host Golgi apparatus membrane; Peripheral membrane protein Note=Localizes to virus-induced vesicular structures called double membrane vesicles

Background

Coronavirus disease 2019 (COVID-19), formerly known as 2019-nCoV acute respiratory disease, is an infectious disease caused by SARS-CoV-2, a virus closely related to the SARS virus (1). The disease is the cause of the 2019–20 coronavirus outbreak (2). SARS-CoV-2 virus proteins include structural proteins, non-structural proteins and accessory factors. The structure of SARS-CoV-2 consists of the following: a spike protein (S), hemagglutinin-esterase dimer (HE), a membrane glycoprotein (M), an envelope protein (E) a nucleocapsid protein (N) and RNA. SARS-CoV-2 non-structural protein is ORF1ab that consists of 16 proteins (ns1-ns16), while accessory factors include ORF3a, ORF3b, ORF6, ORF7a, ORF7b, ORF3b, ORF9b, ORF9c and ORF10. ORF3b may play a role in interferon antiviral system evasion (3).

References

Gorbalenya. bioRxiv. 2020.;Hui et al. Int J Infect Dis. 2020;91:264-266.;Konno et al. Cell Rep. 2020; 32:108185.

Images

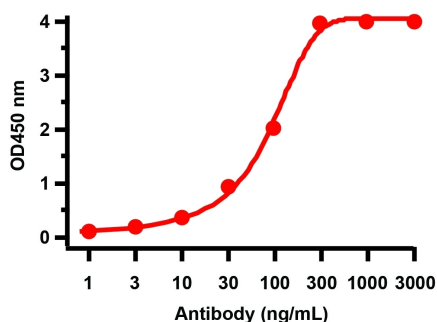


Figure 1 ELISA Validation with SARS-CoV-2 (COVID-19) ORF3b Protein
Antibodies: SARS-CoV-2 (COVID-19) ORF3b Antibody, ASC12220. A direct ELISA was performed using SARS-CoV-2 ORF3b recombinant protein (10-005) as coating antigen and the anti-SARS-CoV-2 (COVID-19) ORF3b antibody as the capture antibody. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:20000 dilution. Detection range is from 1 ng/mL to 3000 ng/mL

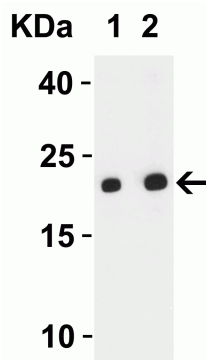


Figure 2 Western Blot Validation with SARS-CoV-2 (COVID-19) ORF3b Protein
Loading: 30 ng per lane of SARS-CoV-2 (COVID-19) ORF3b recombinant protein (10-005). Antibodies: SARS-CoV-2 (COVID-19) ORF3b, ASC12220, 1h incubation at RT in 5% NFDm/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lane 1: 0.25 µg/mL and Lane 2: 0.5 µg/mL

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