

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

Infectious Disease, COVID-19

Catalog # ASC12219

Product Information

Application	WB, IHC, E
Primary Accession	P0DTC5
Other Accession	P0DTC3
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Clone Names	ORF3b
Calculated MW	25147
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	WB: 0.25 µg/mL; IHC: 0.5 µg/mL Antibody validated: Immunohistochemistry in human samples. 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	43740571
Other Names	ORF3b protein, Accessary protein 3b, ns3b, Non-structural protein 3b, ORF3b
Target/Specificity	ORF3b Antibody is predicted to not cross-react with other coronavirus family members.
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	M
Function	Component of the viral envelope that plays a central role in virus morphogenesis and assembly via its interactions with other viral proteins (By similarity). Regulates the localization of S protein at cis-Golgi, the place of virus budding (PubMed: 33229438). May act by binding cytoplasmic c-terminus of S (PubMed: 33229438).

Cellular Location

Virion membrane {ECO:0000255|HAMAP- Rule:MF_04202}; Multi-pass membrane protein {ECO:0000255|HAMAP- Rule:MF_04202}. Host Golgi apparatus membrane {ECO:0000255|HAMAP- Rule:MF_04202, ECO:0000269|PubMed:33060197}; Multi-pass membrane protein {ECO:0000255|HAMAP- Rule:MF_04202}. Host membrane; Multi-pass membrane protein Note=Largely embedded in the lipid bilayer. {ECO:0000255|HAMAP- Rule:MF_04202}

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

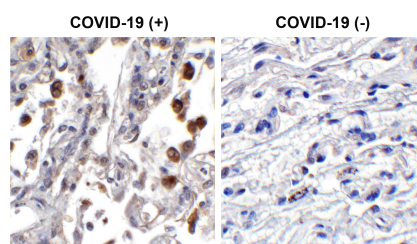


Figure 1 Immunohistochemistry Validation of SARS-CoV-2 (COVID-19) ORF3b in COVID-19 Patient Lung

Immunohistochemical analysis of paraffin-embedded COVID-19 patient lung tissue using anti-SARS-CoV-2 (COVID-19) ORF3b antibody (ASC12219, 0.5 µg/mL). Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4 °C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counter stained with Hematoxylin. Strong signal of SARS-CoV-2 ORF3b protein was observed in macrophages of COVID-19 patient lung, but not in non-COVID-19 patient lung.

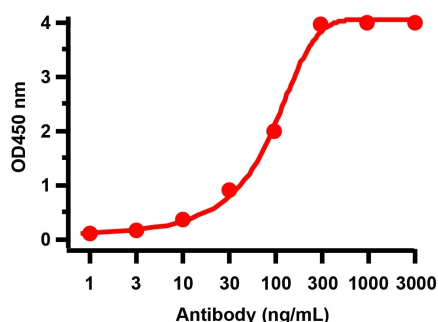
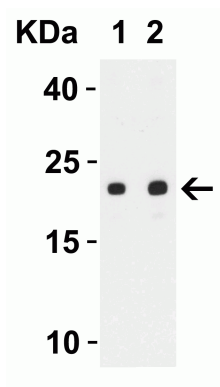


Figure 2 ELISA Validation with SARS-CoV-2 (COVID-19) ORF3b Protein

Antibodies: SARS-CoV-2 (COVID-19) ORF3b Antibody, ASC12219. 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 3 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, ASC12219, 1h incubation at RT in 5%



NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lane 1: 0.25 $\mu\text{g/mL}$ and Lane 2: 0.5 $\mu\text{g/mL}$

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