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

Infectious Disease, COVID-19
Catalog # ASC12218

Product Information

Application	WB, E
Primary Accession	P0DTC4
Other Accession	P0DTC3
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Clone Names	ORF3b
Calculated MW	8365
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	WB: 0.1 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	43740570
Other Names	ORF3b protein, Acessary 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	E {ECO:0000255|HAMAP-Rule:MF_04204}
Function	Plays a central role in virus morphogenesis and assembly. Acts as a viroporin and self-assembles in host membranes forming pentameric protein-lipid pores that allow ion transport. Also plays a role in the induction of apoptosis (By similarity). Regulates the localization of S protein at cis-Golgi, the place of virus budding (PubMed:33229438). May act by slowing down the cell

	secretory pathway (PubMed:33229438). May interfere with tight-junction stability by interacting with host MPP5. This would result in disruption of epithelial barriers, thereby amplifying inflammatory processes (PubMed:32891874).
Cellular Location	Host Golgi apparatus membrane {ECO:0000255|HAMAP- Rule:MF_04204}; Single-pass type III membrane protein {ECO:0000255|HAMAP-Rule:MF_04204, ECO:0000269|PubMed:32898469, ECO:0000269|PubMed:33177698}. Note=The cytoplasmic tail functions as a Golgi complex-targeting signal. {ECO:0000255|HAMAP-Rule:MF_04204}

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 nucleoclapid protein (N) and RNA. SARS-CoV-2 non-structural protein is ORF1ab that consists of 16 proteins (nsp1-nsp16), 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

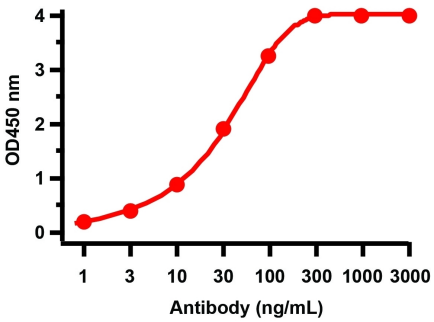

Figure 1 ELISA Validation with SARS-CoV-2 (COVID-19) ORF3b Protein
Antibodies: SARS-CoV-2 (COVID-19) ORF3b Antibody, ASC12218. A direct ELISA was performed using SARS-CoV-2 ORF3b recombinant protein (10-005) as coating antigen and the anti-SARS-CoV-2 (COVID-19) ORF3b antibody as the capture antibody. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:20000 dilution. Detection range is from 1 ng/mL to 3000 ng/mL

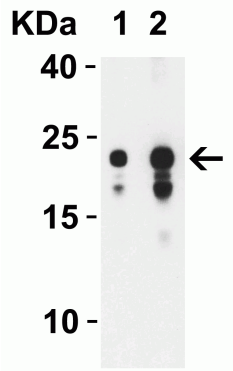

Figure 2 Western Blot Validation with SARS-CoV-2 (COVID-19) ORF3b Protein
Loading: 30 ng per lane of SARS-CoV-2 (COVID-19) ORF3b recombinant protein (10-005). Antibodies: SARS-CoV-2 (COVID-19) ORF3b, ASC12218, 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lane 1: 0.1 µg/mL and Lane 2: 0.2 µg/mL