

SARS-CoV-2 (COVID-19) ORF7a Antibody

Infectious Disease, COVID-19

Catalog # ASC12222

Product Information

Application	IHC, E
Primary Accession	P0DTC7.1
Other Accession	P0DTC7.1
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Clone Names	ORF7a protein, Accessory protein 7a, Protein U122, Protein X4, ORF7a
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	IHC: 1 µg/mL Antibody validated: Immunohistochemistry in human samples. SARS-CoV-2 (COVID-19) ORF7a antibody can detect 2 ng of free peptide at 1 µg/mL in ELISA. All other applications and species not yet tested.

Additional Information

Gene ID	43740573
Other Names	ORF7a protein, Accessory protein 7a, Protein U122, Protein X4, ORF7a
Reconstitution & Storage	SARS-CoV-2 (COVID-19) ORF7a 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) ORF7a Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

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, ORF8, ORF9b, ORF7a and ORF7a. ORF7a plays a role as antagonist of host tetherin (BST2), disrupting its antiviral effect. It acts by binding to BST2 thereby interfering with its glycosylation. It may suppress small interfering RNA (siRNA) and

may bind to host ITGAL, thereby playing a role in attachment or modulation of leukocytes (3).

References

Gorbalenya. bioRxiv: 2020.;Hui et al. Int J Infect Dis. 2020;91:264-266.;Taylor et al. J. Virol. 2015; 89:11820-11833.

Images

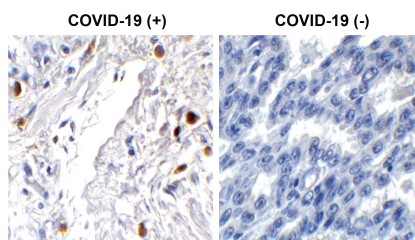


Figure 1 Immunohistochemistry Validation of SARS-CoV-2 (COVID-19) ORF7a in COVID-19 Patient Lung

Immunohistochemical analysis of paraffin-embedded COVID-19 patient lung tissue using anti- SARS-CoV-2 (COVID-19) ORF7a antibody (ASC12222, 1 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 ORF7a protein was observed in macrophages of COVID-19 patient lung, but not in non-COVID-19 patient lung.

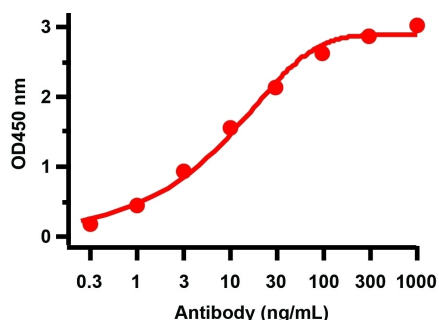


Figure 2 ELISA Validation

Antibodies: SARS-CoV-2 (COVID-19) ORF7a Antibody, ASC12222. A direct ELISA was performed using SARS-CoV-2 ORF7a immunogen peptide (ASC12222P)) as coating antigen and the anti-SARS-CoV-2 (COVID-19) ORF7a antibody as the capture antibody. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:20000 dilution. Detection range is from 0.3 ng/mL to 1000 ng/mL

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