

Product Datasheet

SARS-CoV-2 (COVID-19) Envelope Antibody (orb1239971)

Description	SARS-CoV-2 (COVID-19) Envelope Antibody
Species/Host	Rabbit
Reactivity	Virus
Conjugation	Unconjugated
Tested Applications	ELISA, IF, IHC
Immunogen	Anti-SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope antibody (orb1239971) was raised against a peptide corresponding to 10 amino acids near the amino terminus of SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope protein. The immunogen is located within the first 50 amino acids of SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope.
Target	E
Preservatives	SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope Antibody is supplied in PBS containing 0.02% sodium azide.
Form/Appearance	Liquid
Concentration	1 mg/mL
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Note	For research use only
Isotype	IgG
Clonality	Polyclonal
Uniprot ID	QHD43418

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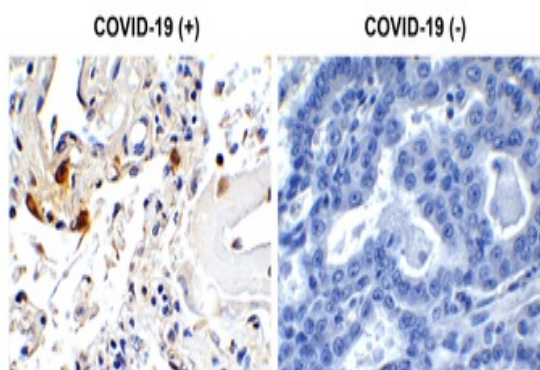
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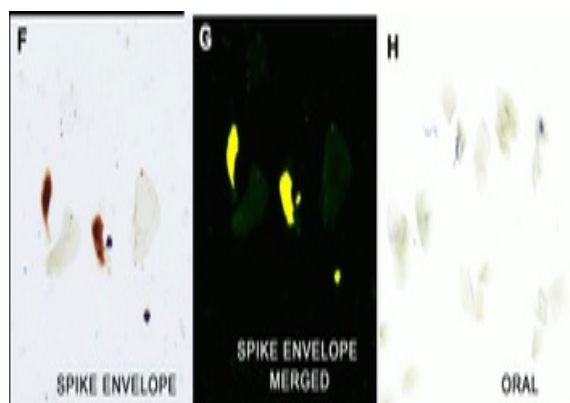
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NCBI**QHD43418****Expiration Date**

12 months from date of receipt.



Immunohistochemistry Validation of SARS-CoV-2 (COVID-19) Envelope in COVID-19 Patient Lung. Immunohistochemical analysis of paraffin-embedded COVID-19 patient lung tissue using anti- SARS-CoV-2 (COVID-19) Envelope antibody (orb1239971, 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 envelope protein was observed in macrophage of COVID-19 patient lung, but not in non-COVID-19 patient lung.



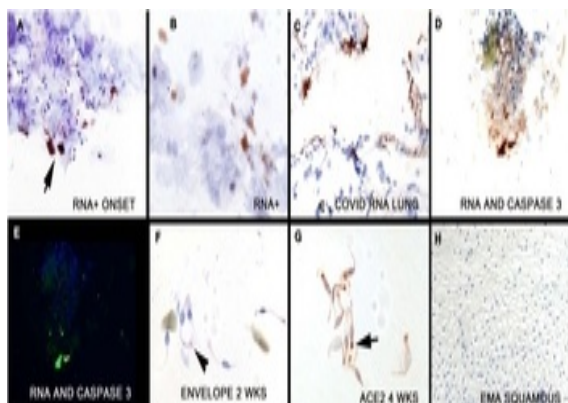
IHC/IF Validation in COVID-19 Patient Sample. (Nuovo et al., 2020) Detection of SARS-CoV-2 proteins in nasopharyngeal swab cell preparations F-H. Co-expression of spike detected by spike antibodies (orb1239976) and envelope proteins detected by envelope antibodies (orb1239971) of SARS-CoV-2 (panel F) documented localization of each protein to glandular cells with negative squamous cells two weeks after full recovery (panel G, signal yellow). No signal was seen in oral swabs of positive cases (panel H). Both the spike and envelope protein detected by anti-spike antibodies (orb1239976, 0.2 µg/mL) and anti-envelope antibodies (orb1239971, 2 µg/mL) produced a signal in the nasopharyngeal swabs of the three cases and no signal was evident in the nasopharyngeal swabs of the seven controls.

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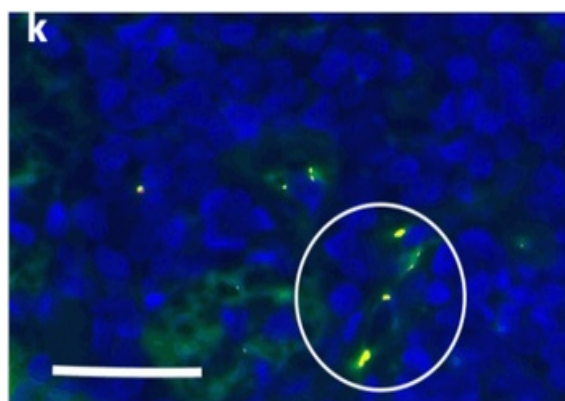
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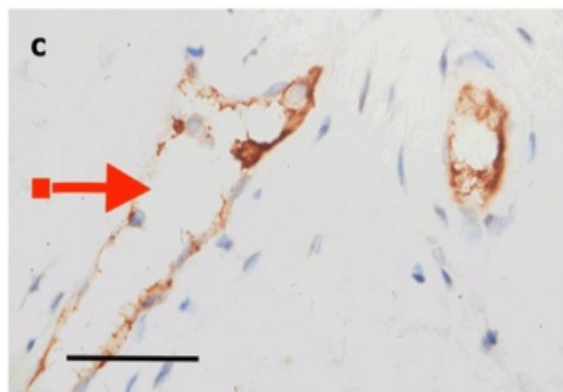
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IHC Validation in COVID-19 Patient Sample. (Nuovo et al., 2020) Detection of SARS-CoV-2 Envelope protein in nasopharyngeal swab samples of COVID-19 patients. Panel F shows Envelope protein detected by envelope antibodies (orb1239971, 2 µg/mL) was still evident 2 weeks after the initial swabs (signal is red with hematoxylin counterstain), though the amount of virus was much less than at the initial swab.



IF Validation of Envelope in COVID-19 Patient Skin. (Magro et al., 2020) Detection of SARS-CoV-2 Envelope protein in the skin of COVID-19 patients that were confirmed by PCR. The skin staining shows Envelope protein expression (green) detected by envelope antibodies (orb1239971, 3 µg/mL) in mononuclear cells with hematoxylin counterstain. The staining was negative in control normal skin/lung (not shown).



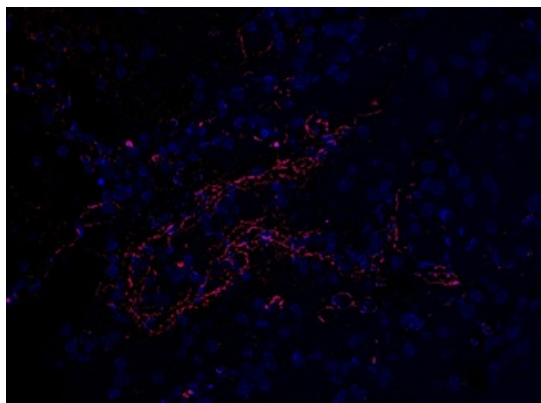
IHC Validation of Envelope in COVID-19 Patient Skin. (Magro et al., 2020) Detection of SARS-CoV-2 Envelope protein in the blood vessels of COVID-19 patients that were confirmed by PCR. The staining shows Envelope protein expression (green) detected by envelope antibodies (orb1239971, 3 µg/mL) in the endothelial cytoplasm in thrombosed and normal appearing blood vessels with hematoxylin counterstain. The staining was negative in control normal skin/lung (not shown).

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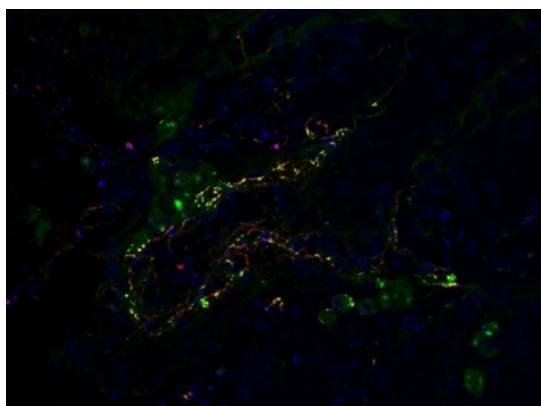
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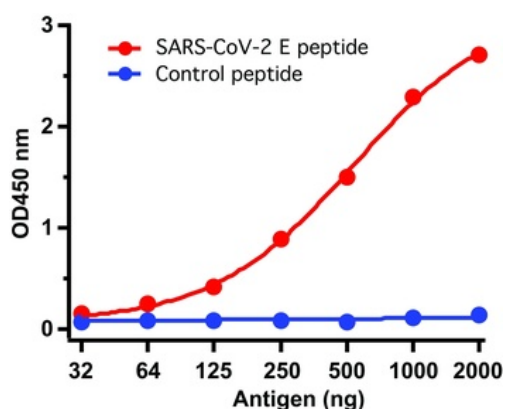
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Immunofluorescence Validation of SARS-CoV-2 (COVID-19) Envelope in Human Lung Tissue from the COVID-19 Patient. Immunofluorescent I analysis of paraffin-embedded COVID-19 patient lung tissue using anti- SARS-CoV-2 (COVID-19) Envelope antibody (orb1239971, 2 $\mu\text{g}/\text{mL}$). 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, followed by a goat anti-rabbit IgG secondary antibody at 1/500 (red) and DAPI staining (blue).



Co-expression of SARS-CoV-2 (COVID-19) Envelope and C5b-9 in Human Lung Tissue from the COVID-19 Patient. Immunofluorescent I analysis of paraffin-embedded COVID-19 patient lung tissue using anti- SARS-CoV-2 (COVID-19) Envelope antibody (orb1239971, 2 $\mu\text{g}/\text{mL}$, red) and anti-C5b-9 antibody (green). 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, followed by secondary antibodies at 1/500 and DAPI staining (blue). Co-expression was shown in yellow.



ELISA Test. Antibodies: SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope Antibody, orb1239971 (1 $\mu\text{g}/\text{mL}$). A direct ELISA was performed using antigen or control peptide as coating antigen and the anti-SARS-CoV-2 (COVID-19, 2019-nCoV) Envelope antibody as the capture antibody. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:20000 dilution. Detection range is from 32 ng/mL to 2000 ng/mL.

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