

Bioreagents to Assist Your Research for COVID-19 Outbreak

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With COVID-19 rapidly spreading globally, The World Health Organization declared the Coronavirus outbreak a pandemic on Wednesday, March 11. This global uncertainty makes infection prevention and control through diagnostic testing and quarantine become increasingly critical. During this period, we are very closely following the changing situation on a daily basis and we support our scientists to control or prevent infections with our selected antibodies, proteins and detection kits which supported by detailed data - from processing and recommendation use to validation results and user comments.

SARS-CoV-2

All Coronaviruses share very similar structures with 4 or 5 structural proteins: S, M, E, N, and HE proteins.

The S protein is an important target for antibody neutralization and vaccine development. It binds to the membrane receptor on the host cells, mediating the viral and cellular membrane fusion. Often conserved, the N protein can be used as a diagnostic marker.

Thus, the S and N proteins are highly valued. Thus, the S and N proteins are highly valued for the pharmaceutical industry.

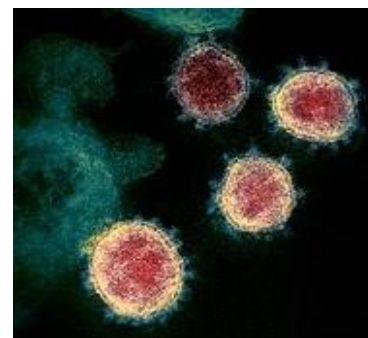


Fig. 1 Microscopy image of SARS-CoV-2

Recombinant SARS-CoV-2 antigens, paired antibodies, IgG/IgM ELISA Kits and rapid test strips for the detection and assay development are all ready to ship from Creative Diagnostics.

*Brochure is available on request.

Biomarkers

Apart from testing for SARS-CoV-2, screening and monitoring for various health issues that may arise are also needed. Clinical analyzes reveal at the early stage of COVID-19 infection, elevation of CRP, MYO, cTnl, D-dimer can be observed.

Reagents of other biomarkers for diagnostic tests used in predicting the severity of patients with COVID-19 including PCT, SAA, IgG, IgM, and albumin can all be found here at:

<https://www.creative-diagnostics.com/ivd-raw-materials.htm>

● Related products

Targets	Cat.	Product Name	Applications
CRP	DMAB5618MH	Mouse Anti-Human CRP Mab	ELISA, Assay development
	DCAB-TJ229	Mouse Anti-Human CRP Mab	ELISA, Assay development
	DCAB-TJ230	Mouse Anti-Human CRP Mab	ELISA, Assay development
	DAGA-977	Native CRP Antigen	Native protein

<p>We recommend the following for assay development (Capture - Detection):</p> <p>DCAB-TJ229 - DCAB-TJ229; DCAB-TJ230 - DMAB5618MH; DCAB-TJ230 - DCAB-TJ229; DMAB5618MH - DCAB-TJ230; DMAB5618MH - DMAB5618MH.</p>			
Myoglobin	CABT-L1793	Recombinant Rabbit Anti-Human Myoglobin Mab	WB, ICC, IHC
	DMAB-L21015	Mouse Anti-Human Myoglobin Mab	ELISA, Assay development
	DMAB-L21016	Mouse Anti-Human Myoglobin Mab	ELISA, Assay development
	DAGA-857	Recombinant Myoglobin Antigen	E. coli, Purity 95%
<p>We recommend the following for assay development (Capture - Detection):</p> <p>DMAB-L21015 - DMAB-L21016</p>			
Troponin I	DCAB-TJ201	Mouse Anti-Troponin I (aa 59-79) Mab	ELISA, Assay development
	DCAB-TJ202	Mouse Anti-Troponin I (aa 24-40) Mab	ELISA, Assay development
	DCAB-TJ203	Mouse Anti-Troponin I (aa 80-95) Mab	ELISA, Assay development
	DMAB4452MH	Mouse Anti-Troponin I (aa 24-40) Mab	ELISA, Assay development
	DMAB4456MH	Mouse Anti-Troponin I (aa 24-40) Mab	ELISA, Assay development
<p>We recommend the following for assay development (Capture - Detection):</p> <p>DCAB-TJ203 - DMAB4452MH (min sensitivity 0.3ng/ml) DCAB-TJ203 - DMAB4456MH (min sensitivity 0.3ng/ml) DCAB-TJ201 - DMAB4452MH (min sensitivity 0.1ng/ml) DCAB-TJ201 - DMAB4456MH (min sensitivity 0.1ng/ml) DCAB-TJ202 - DMAB4456MH (min sensitivity 0.2ng/ml) DCAB-TJ202 - DMAB4452MH (min sensitivity 0.2ng/ml)</p>			
D-dimer	DCABY-4390	Mouse Anti-D-dimer Mab	ELISA, Assay development
	DCABY-4393	Mouse Anti-D-dimer Mab	ELISA, Assay development
	DCABY-4394	Mouse Anti-D-dimer Mab	ELISA, Assay development
	DCABY-4395	Mouse Anti-D-dimer Mab	ELISA, Assay development
	DAGA-848	Native D-dimer Protein	Native Protein
<p>We recommend the following for assay development (Capture - Detection):</p> <p>DCABY-4390 - DCABY-4393; DCABY-4395 - DCABY-4394</p>			

Serology Reagents

Additional to the sensitive PCR assay, serological test is helpful for tracking the spread of the virus as they also identify asymptomatic carriers and diagnosing infected suspects as well as close contacts though the presence of IgM and IgG antibodies can take time to develop. The clinical trial of the IgM and IgG rapid serology test for SARS-CoV-2 from five institutions in China demonstrated 87.3% sensitivity and 100% specificity when compared to traditional tests. According to Chinese Clinical Guideline for COVID-19 Pneumonia Diagnosis and Treatment (7th edition), the serological diagnosis criterion of seroconversion or ≥ 4 -fold increase in the IgG titer is suitable for a majority of COVID-19 patients.

- **Related products**

Cat.	Product Name	Application	Info.
DCABH-9601	Mouse anti-Human IgG Mab	ELISA, LFIA	Unconjugated
DCABH-8040	Mouse anti-Human IgM Mab	ELISA, LFIA	Unconjugated

ACE2

Angiotensin Converting Enzyme 2 (ACE2), a type I transmembrane metallopeptidase with homology to ACE, is one of the important receptors on the cell membrane of the host cells.

- **An Entry Receptor for SARS-CoV-2**

The interaction of SP and ACE2 contributes to the SARS-CoV invasion for host cells. Studies show SARS-CoV-2 uses membrane bound ACE2 as the critical receptor for infection but not other coronavirus receptors like aminopeptidase N or dipeptidyl peptidase 4. Therefore, soluble ACE2 may act as front-line therapy for COVID-19 to prevent binding to ACE2 at the membrane and virus entry. Treatment with anti ACE2 antibodies also disrupts the interaction between viruses and receptors.

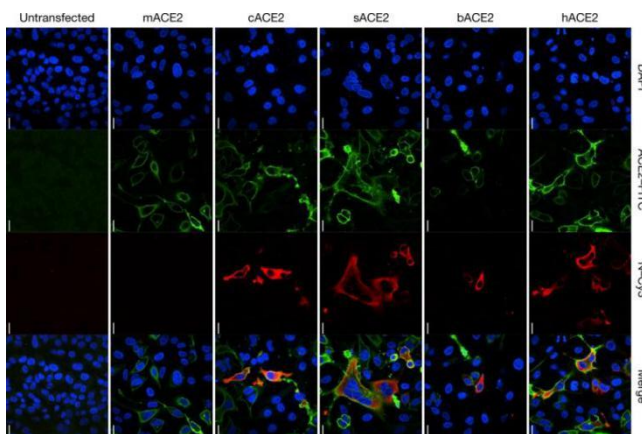


Fig. 2 Analysis of the receptor use of 2019-nCoV
(Peng Zhou et al. Nature Feb. 3rd 2020)

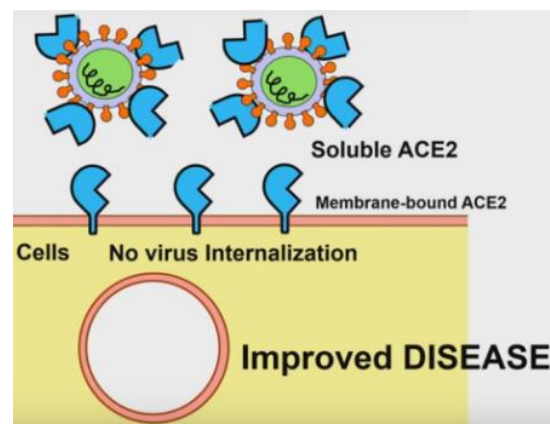


Fig.3 Soluble ACE2 disrupts the interaction between virus and receptors

● **Related products**

Cat.	Product Name	Application	Info.
DCABH-120	Rabbit Anti-Human ACE2 Mab	WB, ICC, IHC	Recombinant Rabbit Mab
DCABY-968	Mouse anti-Human ACE2 Mab	WB, ELISA	Ascites
CABT-L948M	Mouse anti-Human ACE2 Mab	WB, IHC	Purified, Liquid
CABT-L948G	Goat Anti-Human ACE2 Pab	WB, IP, IHC, Block	Purified, Lyophilized

*Different conjugations are available on request.

CD147

CD147 is a transmembrane glycoprotein that belongs to the immunoglobulin superfamily which is involved in tumor development, plasmodium invasion, and virus infection.

● **CD147-SP**

It has been reported that SARS-CoV-2 invades host cells by attaching itself to CD147 via spike protein (SP). This combination blocks CD147 and inhibits SARS-CoV-2 replication. The discovery of this invasion route provides a critical target for the development of specific antiviral drugs like Meplazumab, which could competitively inhibit the binding of SP and CD147 and prevent the viruses from invading host cells.

● **Related products**

Cat#	Product name	Application	Info.
CABT-L881	Rabbit Anti-Human CD147 Mab	WB, ICC, IF, IHC	Recombinant Rabbit Mab
CABT-47078MH	Mouse Anti-Human CD147 Mab	FC, WB, FuncS	Biofunctional Grade
DCABH-865	Mouse Anti-Human CD147 Mab	FC, WB, IF	Purified, Liquid
DPABH-25455	Rabbit Anti-Human CD147 Pab	WB	Purified, Liquid
CABT-L47085U	Rat Anti-Mouse CD147 Mab	FC, IHC, IP	Purified, Liquid
CABT-L949R	Rabbit Anti-Mouse CD147 Mab	FC, IHC, IF	Chimeric Rabbit Mab

*Different conjugations are available on request.

Cytokine Storm

Cytokine Storm is a severe complication of Coronavirus. Like many other acute respiratory infections such as SARS and MERS, the severe nature of COVID-19 is also caused by elevated levels of pro-inflammatory cytokines induced by viral infections. A number of clinical analyses have shown increased levels of several cytokines in infected individuals, especially those in critical conditions. Currently, inhibiting excessive immune cell activation and cytokine production as well as using neutralizing antibodies are two commonly used treatments.

● COVID-19 Related Cytokines

Early symptom involved with cough, high fever, high ferritin, TNF, IL-1B, IL-6 and IL-17 (IL-17 appears to have a combined effect with IL-6) may all be indications of an impending Cytokine Storm. Early treatment with anti-IL-6 drugs may prevent severe complications and death in patients with Cytokine Storm.

● Related products

Target	Cat.	Product Name	Applications
IL-2R	CABT-B8954	Mouse Anti-Human IL-2Ra Mab	ELISA, WB, Neut, IHC
	DCABH-3072	Mouse Anti-Human IL-2Ra Mab	FC, ICC
	CABT-L950M	Mouse Anti-Human IL-2Ra Mab	FC, WB, Block, ELISA
	CABT-L951H	Human Anti-Human IL-2Ra Mab [Basiliximab Biosimilar, Biofunctional Grade]	FC, Block
	CABT-B12173	Recombinant Human Anti-Human IL-2RB Mab, FITC	FC
	CABT-L952M	Mouse Anti-Human IL-2RG Mab [Biofunctional Grade]	Block
IL-6	CABT-L1410	Recombinant Rabbit Anti-Human IL-6 Mab	ELISA, FC, WB
	CABT-L4270	Mouse Anti-Human IL-6 Mab	ELISA (Cap) Pair with CABT-L4269
	CABT-L4269	Mouse Anti-Human IL-6 Mab	ELISA (Det) Pair with CABT-L4270
	CABT-L263	Mouse Anti-Human IL-6 Mab [Biofunctional Grade]	ELISA(Cap), IHC, Neut, WB Pair with CABT-L264
	CABT-L264	Goat Anti-Human IL-6 Pab	ELISA(Det), ICC/IF, WB Pair with CABT-L263
	CABT-WN1691	Rat anti-Human IL-6 Mab [Biofunctional Grade]	ELISA(Cap), Neut, ICC, IF Pair with CABT-WN1698
	CABT-WN1698	Rat anti-Human IL-6 Mab	ELISA(Det), WB Pair with CABT-WN1691
IL-8	CABT-29133MH	Mouse Anti-Human IL-8R Mab	IHC, FC, Neut, Block
	CABT-L1411	Recombinant Rabbit Anti-Human IL-8 Mab	WB
	DCABY-3912	Mouse Anti-Human IL-8 Mab	WB, ICC, ELISA(Cap), FC, Neut

			Pair with DPABY-364
	DPABY-364	Goat Anti-Human CXCL8/IL-8 Pab, Biotin	WB, ICC, ELISA(Det) Pair with DCABY-3912
IL-10	CABT-L200	Mouse Anti-Human IL-10 Mab	ELISA(Cap), WB Pair with CABT-L201
	CABT-L201	Goat Anti-Human IL-10 Pab, Biotin	ELISA(Det), WB Pair with CABT-L200
	CABT-L953R	Rabbit Anti-Human IL-10 Mab [Biofunctional Grade]	Neut, Block, FC
	CABT-L954M	Recombinant Mouse Anti-Human IL-10 Mab [Biofunctional Grade]	Neut, WB
	CABT-48536RH	Rat Anti-Human IL-10 Mab [Biofunctional Grade]	ELISA, IHC, FC, WB
IL-12	DPABH-19999	Goat anti-Human IL-12 Pab	IHC, WB, ELISA, Neut
	CABT-L955G	Goat anti-Human IL-12 Pab [Biofunctional Grade]	WB, Neut
	DCABH-8373	Mouse anti-Human IL-12A Mab	FuncS
	DCABY-4001	Mouse Anti-Human IL-12 Mab	ICC, ELISA(Cap) Pair with DPABY-381
	DPABY-381	Goat anti-Human IL-12 Pab, Biotin	WB, ICC, ELISA(Det) Pair with DCABY-4001
	CABT-L4326	Rat Anti-Human IL-12 p70 Mab [Biofunctional Grade]	FuncS, ELISA, FC
IL-16	DCABH-790	Mouse anti-Human IL-16 Mab	IHC
	DCABY-3935	Mouse anti-Human IL-16 Mab	WB, ELISA(Cap) Pair with DPABY-397
	DPABY-397	Goat Anti-Human IL-16 Pab, Biotin	WB, ELISA(Det), FC Pair with DCABY-3935
IL-17	CABT-BL7718U	Mouse Anti-IL-17A Mab	ELISA, FC, IHC, IF, ICC, RIA, Neut
	CABT-L259	Mouse Anti-IL-17 Mab	ELISA(Cap), IP Pair with CABT-L260
	CABT-L260	Goat Anti-Human IL-17 Pab, Biotin	ELISA(Det)

			Pair with CABT-L259
	DCABY-4096	Mouse Anti-Human IL-17D Mab	WB, Block, ELISA(Cap) Pair with DPABY-685
	DPABY-685	Goat Anti-Human IL-17D Pab, Biotin	WB, ELISA(Det) Pair with DCABY-4096
IL-18	CABT-L204	Mouse Anti-Human IL-18 Mab	IP, ELISA(Cap), Neut Pair with CABT-L389
	CABT-L389	Rat Anti-Human IL-18 Mab, Biotin	ELISA(Det) Pair with CABT-L204
	CAB-1003MH	Mouse Anti-Human IL18 Mab	ELISA, WB, IHC
	CABT-L956R	Recombinant Rabbit Anti-Human IL-18 Mab [Biofunctional Grade]	Neut
	CABT-L957M	Mouse Anti-Human IL-18 Mab	WB, FC
	CABT-L958M	Mouse Anti-Human IL-18 Mab	ELISA, ICC/IF, FC
IFNG	CABT-51771MB	Mouse Anti-Bovine/Human IFNG Mab	ELISA, FC
	CABT-WN1201	Mouse Anti-Human IFNG Mab [Biofunctional Grade]	ELISA(Cap), Neut Pair with CABT-WN1587
	CABT-WN1587	Mouse Anti-Human IFNG Mab	ELISA(Det), WB, FC Pair with CABT-WN1201
	CABT-L188	Mouse Anti-Human IFNG Mab	ELISA(Cap), WB Pair with CABT-L189
	CABT-L189	Goat Anti-Human IFNG Pab, Biotin	ELISA(Det), ICC/IF, WB Pair with CABT-L188
	DCABH-2787	Recombinant Rabbit Anti-IFNG Mab	WB, IHC, FC
IFN alpha	CABT-L1388	Recombinant Rabbit Anti-Human IFN alpha Mab	WB
	DCABH-12	Mouse anti-Human IFN alpha Mab	WB, ELISA
	CABT-L959M	Mouse anti-Human IFN alpha 2 Mab [Biofunctional Grade]	Neut
	CABT-L960M	Mouse anti-Human IFN alpha 2 Mab	ELISA (Cap) Pair with CABT-L961M
	CABT-L961M	Mouse anti-Human IFN alpha 2 Mab, Biotin	ELISA (Det) Pair with CABT-L960M
	CABT-L962M	Mouse anti-Human IFN alpha 2 Mab	ICC

TNF alpha	DCABH-7989	Mouse Anti-Human TNF-alpha Mab [Biofunctional Grade]	FuncS
	CABT-BL8359U	Mouse Anti-Human TNF-alpha Mab	FC
	CABT-LU244	Goat Anti-Human TNF-alpha Pab [Biofunctional Grade]	ELISA, WB, Neut
	DMAB4480MH	Mouse Anti-Human TNF-alpha Mab	ELISA (Cap)
	DMAB4481MH	Mouse Anti-Human TNF-alpha Mab	ELISA (Det)
	DPABH-00932	Rabbit Anti-TNF Pab	WB, IHC, IF
CCL2	CABT-BL7025U	Mouse Anti-CCL2 Mab	ELISA, FC, IHC, IP, FuncS, WB, IF
	CABT-L161	Mouse Anti-CCL2 Mab	ELISA(Cap), WB Pair with CABT-L162
	CABT-L162	Goat anti Human CCL2 Pab, Biotin	ELISA(Det), WB Pair with CABT-L960M
	CABT-WN1741	Armenian Hamster Anti-Mouse CCL2 Mab [Biofunctional Grade]	Neut, WB, IHC, ELISA Pair with CABT-WN1792
	CABT-WN1792	Mouse Anti-Human CCL2 Mab [Biofunctional Grade]	ELISA, WB, FC, IHC, IP, Neut Pair with CABT-WN1741

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Warm wishes to your health and success!

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