PRODUCT INFORMATION

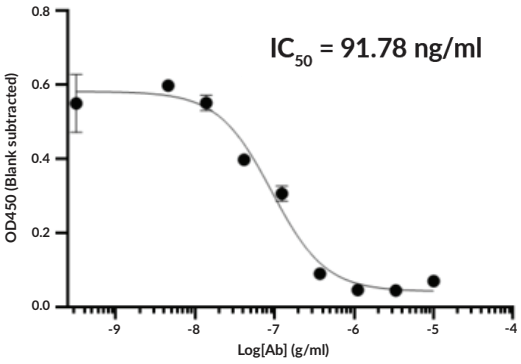
SARS-CoV-2 (human) Neutralizing Recombinant Antibody

Item No. 32526

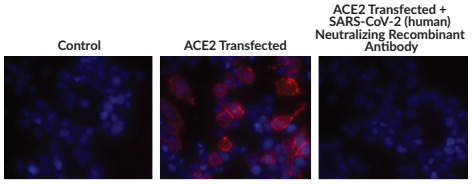
Overview and Properties

Contents: This vial contains 100 µg of protein A-purified recombinant monoclonal antibody.
Synonym: Severe Acute Respiratory Syndrome Coronavirus 2 (human) Neutralizing
Preparation: This antibody was produced as a recombinant protein expressed in CHO cells using engineered constructs based on antibodies from COVID-19 patients
Species Reactivity: (+) Human
Form: Solid
Storage: -20°C (as supplied)
Stability: ≥3 years
Storage Buffer: PBS, pH 7.2, with 0.1% BSA when reconstituted with 100 µl deionized water
Host: CHO cells
Applications: ELISA, Immunofluorescence (IF), and Western blot (WB); the recommended starting dilution is 1:1,000 for ELISA, IF, and WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



SARS-CoV-2 (human) Neutralizing Recombinant Antibody ELISA. Rabbit Fc-tagged receptor-binding domain (RBD) subunit 1 (S1 RBD) protein (100 ng/ml) and mouse anti-rabbit Fc-HRP conjugate (200 ng/ml) were incubated with serial dilutions of the SARS-CoV-2 (human) Neutralizing Recombinant Antibody in ACE2-expressing HEK293T/17 cells. Inhibition of S1 RBD binding on the cells by the SARS-CoV-2 (human) Neutralizing Recombinant Antibody was revealed by a reduction in absorbance at 450 nm after the addition of TMB substrate (IC_{50} = 91.78 ng/ml).



Inhibition of S1 RBD-ACE2 interaction. Twenty-four hours after seeding HEK293T/17 cells on reverse transfection complexes containing ACE2 DNA (middle and right) or control DNA (left), the cells were incubated with a mixture of rabbit Fc-tagged S1 RBD and DyLight550-conjugated anti-rabbit Fc antibody (left and middle) or with the addition of SARS-CoV-2 (human) Neutralizing Recombinant Antibody (right) for 1 hour at room temperature. Cell nuclei were counterstained with DAPI in blue. The presence of SARS-CoV-2 (human) Neutralizing Recombinant Antibody significantly inhibited the interaction of S1 RBD with ACE2 on the cell surface and abolished the DyLight550-S1 RBD immunostaining in red.

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Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus, a member of the *Betacoronavirus* genus, and the causative agent of COVID-19.[1-5] The SARS-CoV-2 surface glycoprotein, also known as the spike glycoprotein, is located on the outer envelope of the virion.[1] It is composed of an S1 and S2 subunit divided by a furin S-cleavage site not found in other SARS-CoVs.[6,7] The S1 subunit contains the receptor-binding domain (RBD), which binds to the carboxypeptidase angiotensin-converting enzyme 2 (ACE2), and the S1 and S2 subunits are cleaved by the protease TMPRSS2 to facilitate viral fusion with the host cell membrane.[8-10] In this way, ACE2 acts as the functional receptor for SARS-CoV-2. SARS-CoV-2 infection can result in the production of neutralizing antibodies, which bind to the SARS-CoV-2 spike RBD preventing further viral entry and infection, starting approximately 4-10 days after symptom onset.[11,12] Cayman's SARS-CoV-2 (human) Neutralizing Recombinant Antibody disrupts the S1 RBD-ACE2 interaction and can be used for ELISA, immunofluorescence (IF), and Western blot (WB) applications. The antibody recognizes the SARS-CoV-2 spike glycoprotein at approximately 65 kDa.

References

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