HCoV-NL63 Spike RBD Alexa Fluor® 350-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 1044936

Catalog Number: FAB11037U

100 µg

DESCRIPTION

Species Reactivity	HCoV-NL63
Specificity	Detects HCoV-NL63 Spike RBD protein in direct ELISAs.
Source	Monoclonal Mouse IgG_{2A} Clone # 1044936
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived HCoV-NL63 Spike RBD protein Ala475-Asp634 Accession # YP_003767.1
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Blockade of Receptor-ligand Interaction	Optimal dilution of this antibody should be experimentally determined.
Immunocytochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

HCoV-NL63, a virus first isolated from a child suffering from respiratory disease in 2003, belongs to a family of viruses known as coronaviruses that are commonly comprised of a large plus-strand RNA genome and four structural proteins: Spike protein (S), Envelope protein (E), Membrane protein (M), and Nucleocapsid protein (N) (1, 2). Other well-known human coronaviruses include three viruses that cause relatively mild respiratory disease: HCoV-229E, HCoV-HKU1 and HCov-OC43, plus three viruses that cause the Severe Acute Respiratory Syndrome (SARS-CoV), the Middle East Respirator Syndrome (MERS-CoV), and the global pandemic Covid-19 (SARS-CoV2). HCov-NL63 Spike Protein (S Protein) is a glycoprotein that mediates membrane fusion and viral entry. As with most coronaviruses, proteolytic cleavage of the S protein generates two distinct peptides, S1 and S2 subunits. The S1 subunit is focused on attachment of the protein to the host receptor while the S2 subunit is involved with cell fusion. Although HCoV-NL63 S protein shares high homology (56%) with HCoV-229E, it does not employ CD13 (aminopeptidase N) as the receptor like HCoV-229E. Instead, HCoV-NL63 engages Angiotensin-Converting Enzyme 2 (ACE-2), the same receptor as SARS-CoV and SARS-CoV2, for cellular entry and replication (3). The receptor binding domain (RBD) of HCoV-NL63 is located at C-terminal region of S1 subunit (4, 5). Although NL63-CoV and SARS-CoV do not share structural homology in RBD region, they bind an overlapping region of ACE-2 (6, 7).

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