HCoV-HKU1 Spike RBD Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_{2A} Clone # 1045307

Catalog Number: FAB10936N

100 µg

DESCRIPTION

Species Reactivity	HCoV-HKU1
Specificity	Detects Human Coronavirus HCoV-HKU1 Spike RBD and 229E in direct ELISAs. No staining of NL63 HKu1.
Source	Monoclonal Mouse IgG_{2A} Clone # 1045307
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived HCoV-HKU1 Spike RBD Thr310-Tyr624 Accession # Q5MQD0.1
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 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.*

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-HKU1 was identified in Hong Kong in 2005 as a new human coronavirus (1). Coronaviruses are a family of viruses 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). There are two well-known human coronavirus families that infect humans: Alpha coronaviruses which includes HCoV-229E and HCoV-NL63; beta coronaviruses that includes HCov-OC43, Severe Acute Respiratory Syndrome (SARS-CoV), Middle East Respirator Syndrome (MERS-CoV), and global pandemic Covid-19 (SARS-CoV2) (2). The HCoV-HKU1 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. The receptor binding domain (RBD) of HCoV-HKU1 is located at C-terminal region of S1 subunit, similar to SARS-COV, MERS-COV and SARS-COV2, but the RBD regions do not share significant amino acid sequence identity (3). HCoV-HKU1 has been demonstrated to bind specifically to 9-O-acetylated sialic acids (9-O-Ac-Sias) attached as terminal residues to glycan chains on glycoproteins and lipids, but additional receptors remain unknown (4). HCoV-HKU1, along with HCov-OC43, differ from other cornonaviruses in that their virions possess two types of surface projections, both involved in attachment: large "spikes" that are comprised of homotrimers of the S protein, and unique, smaller protrusions, comprised of the homodimeric hemagglutinin-esterase (HE) (5).

PRODUCT SPECIFIC NOTICES

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