

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 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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 coronaviruses 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

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.