HCoV-NL63 Human Coronavirus Spike RBD Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2841A
Catalog Number: MAB11023

DESCRIPTION

Species Reactivity	HCoV-NL63
Specificity	Detects HCoV-NL63 Human Coronavirus Spike RBD in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2841A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Human embryonic kidney cell HEK293-derived HCoV-NL63 Spike RBD protein Ala475-Asp634 Accession # YP_003767.1
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

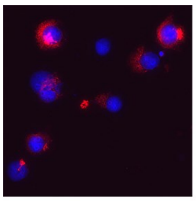
APPLICATIONS

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.*

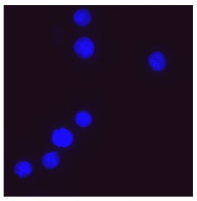
	Recommended Concentration	Sample
Immunocytochemistry	3-25 µg/mL	Immersion fixed HEK293 human embryonic kidney cell line transfected with HCoV-NL63

DATA

Immunocytochemistry



HEK293 transfected cells



HEK293 wild type cells

Spike RBD in HEK293 Human Cell Line Transfected with HCoV-NL63. Spike RBD was detected in immersion fixed HEK293 human embryonic kidney cell line transfected with HCoV-NL63 (positive staining) and HEK293 human embryonic kidney cell line (non-transfected, negative staining) using Rabbit Anti-HCoV-NL63 Human Coronavirus Spike RBD Monoclonal Antibody (Catalog # MAB11023) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

HCoV-NL63 Human Coronavirus Spike RBD Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2841A

Catalog Number: MAB11023

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).

References:

1. Van der Hoek, L. *et al.* (2004) Nat. Med. **10**:368.
2. Fouchier, R.M. *et al.* (2004) Proc. Natl. Acad. Sci. U.S.A. **101**:6212.
3. Hofmann, H. *et al.* (2005) Proc. Natl. Acad. Sci. U.S.A. **102**:7988.
4. Hofmann, H. *et al.* (2006) J. Virol. **80**:8639.
5. Lin, H. *et al.* (2008) J. Gen. Virol. **89**:1015.
6. Li, W. *et al.* (2007) Virology **367**:367.
7. Wu, K. *et al.* (2009) Proc. Natl. Acad. Sci. U.S.A. **106**:19970.

Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449