HCoV-OC43 Nucleocapsid Antibody

Monoclonal Mouse IgG_1 Clone # 1051436

Catalog Number: MAB11289

DESCRIPTION

Species Reactivity	HCoV-OC43
Specificity	Detects HCoV-OC43 Nucleocapsid in direct ELISA.
Source	Monoclonal Mouse IgG_1 Clone # 1051436
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*Sf*-21 (baculovirus)-derived hcov-oc43 Nucleocapsid Met1-Ile448 Accession # YP_009555245.1
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.

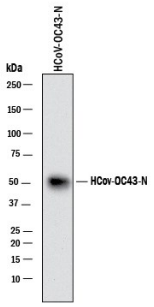
APPLICATIONS

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
Western Blot	1 µg/mL	HCoV-OC43-N
Flow Cytometry	0.5 µg/10^6 cells	HEK293 cells transfected with HCOV-OC43-N or HEK293 cells transfected with an irrelevant protein
Immunocytochemistry	8-25 µg/mL	Immersion fixed Transfected & Wild Type HEK293 Human Embryonic Kidney Cell Line

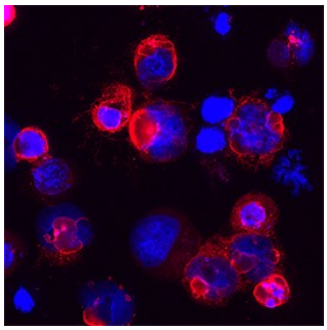
DATA

Western Blot



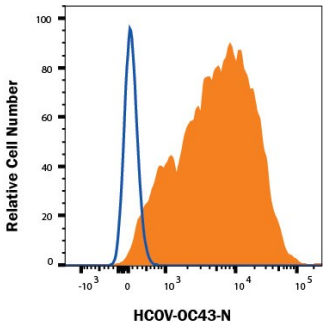
Detection of HCoV-OC43 Nucleocapsid by Western Blot. Western blot shows the detection of recombinant HCoV-OC43-N. PVDF membrane was probed with 1 µg/mL of Mouse Anti-HCoV-OC43 Nucleocapsid Monoclonal Antibody (Catalog # MAB11289) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Nucleocapsid at approximately 51 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Immunocytochemistry



Detection of Nucleocapsid in Transfected & Wild Type HEK293 Human Embryonic Kidney Cell Line. Nucleocapsid was detected in immersion fixed Transfected & Wild Type HEK293 Human Embryonic Kidney Cell Line using Mouse Anti-HCoV-OC43 Nucleocapsid Monoclonal Antibody (Catalog # MAB11289) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cell surface and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Flow Cytometry



Detection of Nucleocapsid in HEK293 cells transfected with HCOV-OC43-N or HEK293 cells transfected with an irrelevant protein cells by Flow Cytometry. HEK293 cells transfected with HCOV-OC43-N or HEK293 cells transfected with an irrelevant protein were stained with Mouse Anti-HCoV-OC43 Nucleocapsid Monoclonal Antibody (Catalog # MAB11289, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # F0101B). View our protocol for Staining Membrane-associated Proteins.

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HCoV-OC43 Nucleocapsid Antibody

Monoclonal Mouse IgG_1 Clone # 1051436

Catalog Number: MAB11289

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.

BACKGROUND

HCoV-OC43, a virus first isolated in 1960's that accounts for ~ 20% of the common cold, 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-NL63, 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). While the S, E and M proteins build up the viral envelop, the N protein is involved transcription, replication, and packaging of the viral RNA genome into a helical ribonucleocapsid (RNP) (3, 4). The CoV-OC43 N protein is a ~50 kDa protein composed of two independent structural domains connected by a linker region. Both the N-terminal and the linker regions contain RNA binding domains, while the C-terminal region is responsible for the oligomerization of the N protein (5). The CoV-OC43 N protein shares 64% amino acid sequence identity with CoV-HKU1 N protein. the N protein is an abundant protein during coronavirus infection and displays high immunogenic activity. Cross activity of antibodies among different strains should be rigorously tested when designing serological diagnostic kits (6, 7).

References:

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3. Chang, C.K. *et al.* (2006) J. Biomed. Sci. **13**:59.
4. Hurst, K.R. *et al.* (2009) J. Virol. **83**:7221.
5. Huang, C.Y. *et al.* (2009) Protein Sci. **18**:2209.
6. Chan, K.H. *et al.* (2005) Clin Diagn Lab Immunol. **12**:1317.
7. Mourez, T. *et al.* (2007) J. Virol Methods. **139**:175.

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