

Anti-CoV-N-hIgG1

Monoclonal human IgG1 antibody against SARS-CoV & SARS-CoV-2 nucleocapsid (clone CR3018)

Catalog code: covn-mab1-3

<https://www.invivogen.com/sars2-nucleocapsid-cr3018-mab>

For research use only, not for diagnostic or therapeutic use

Version 23L11-MM

PRODUCT INFORMATION

Contents:

- 3 x 100 µg of Anti-CoV-N-hIgG1, provided azide-free and lyophilized

Target: SARS-CoV & SARS-CoV-2 nucleocapsid protein

Source: CHO cells

Isotype: Human IgG1

Light chain type: Kappa

Clonality: Monoclonal

Purification: By affinity chromatography with protein G

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20°C.
- Reconstituted antibody is stable for 1 month when stored at 4°C and for 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- The complete sequence of the antibody construct has been verified.
- Anti-CoV-N-hIgG1 has been functionally validated by ELISA using a SARS-CoV-2 Nucleocapsid-His fusion peptide.
- Absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

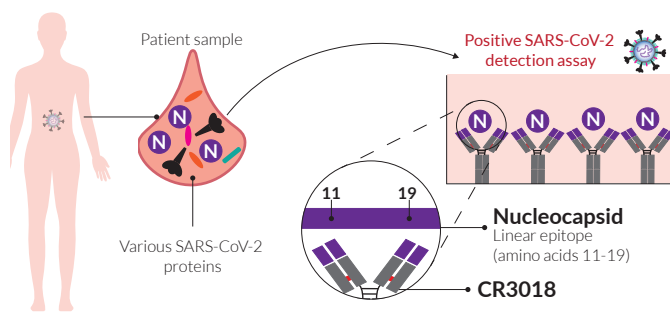
PRODUCT DESCRIPTION

Anti-CoV-N-hIgG1, originally described under the name 'clone CR3018' is a recombinant SARS-CoV/SARS-CoV-2 monoclonal antibody (mAb)¹. Anti-CoV-N-hIgG1 features a variable region that is reactive against the nucleocapsid protein of SARS-CoV and SARS-CoV-2, and the constant region of the human IgG1 (hIgG1) isotype. Anti-CoV-N-hIgG1 was generated by recombinant DNA technology, produced in CHO cells, and purified by affinity chromatography with protein G.

SARS-CoV/SARS-CoV-2 Nucleocapsid mAb (clone CR3018)

The SARS-CoV-2 nucleocapsid (N) protein plays a crucial role in viral infection through its involvement in RNA packaging and virus particle release¹. The N protein is highly expressed during SARS-CoV-2 infection and it has been demonstrated that COVID-19 patients' sera contain antibodies against the N protein². This suggests that the SARS-CoV-2 nucleoprotein may be a potent antigen useful for diagnostics purposes³.

During the previous SARS-CoV pandemic, a mAb targeting the nucleocapsid protein, clone CR3018, was isolated from semisynthetic antibody phage display libraries⁴.



Subsequently, CR3018 was shown *in vitro* to effectively bind to the SARS-CoV nucleocapsid protein. Furthermore, CR3018 was described to specifically bind with a linear epitope (amino acids 11-19)⁴. Importantly, this same linear epitope is conserved in SARS-CoV-2. Therefore, CR3018 binds to and recognizes the SARS-CoV-2 nucleocapsid protein, and may be a useful tool for early detection.

IgG1 Isotype effector function

Human IgG1 binds with high affinity to the Fc receptor on phagocytic cells and therefore, displays high effector function, including antibody-dependent cell-mediated cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC).

1. Zeng, W. *et al.* 2020. Biochemical characterization of SARS-CoV-2 nucleocapsid protein. *Biochem Biophys Res Commun* 527, 618-623. 2. Burbelo, P.D. *et al.* 2020. Sensitivity in Detection of Antibodies to Nucleocapsid and Spike Proteins of SARS-CoV-2 in Patients With COVID-19. *J Infect Dis* 222, 206-213. 3. Li, T. *et al.* 2020. Serum SARS-COV-2 Nucleocapsid Protein: A Sensitivity and Specificity Early Diagnostic Marker for SARS-COV-2 Infection. *Front Cell Infect Microbiol* 10, 470. 4. van den Brink, E.N. *et al.* 2005. Molecular and biological characterization of human monoclonal antibodies binding to the spike and nucleocapsid proteins of severe acute respiratory syndrome coronavirus. *J Virol* 79, 1635-1644.

METHODS

Anti-CoV-N-hIgG1 resuspension (200 µg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 500 µl of sterile water to the vial and gently pipette until completely resuspended.
- Prepare aliquots and store at 4°C or -20°C until required.

RELATED PRODUCTS

Product	Catalog Code
Nucleocapsid-Fc	fc-sars2-n
Nucleocapsid-His	his-sars2-n

Note: For more products related to COVID-19 research, please visit our website <https://www.invivogen.com/covid-19>

TECHNICAL SUPPORT

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