

Anti-CoV2RBD-c2-hIgG1

Monoclonal human IgG1 antibody against SARS-CoV-2 Spike (clone B38)

Catalog code: cov2rbdc2-mab1-3

<https://www.invivogen.com/sars2-spike-b38-mab>

For research use only, not for diagnostic or therapeutic use

Version 23L11-MM

PRODUCT INFORMATION

Contents:

- 3 x 100 µg of Anti-CoV2RBD-c2-hIgG1, provided azide-free and lyophilized

Target: SARS-CoV-2 Spike receptor binding domain (S-RBD)

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-CoV2RBD-c2-hIgG1 has been functionally validated by ELISA using a SARS-CoV-2 Spike-RBD-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-CoV2RBD-c2-hIgG1, originally described under the name 'clone B38', is a recombinant SARS-CoV-2 neutralizing monoclonal antibody (mAb)¹. Anti-CoV2RBD-c2-hIgG1 features a variable region that is reactive against the receptor binding domain (RBD) of the Spike protein of SARS-CoV-2, and the constant region of the human IgG1 (hIgG1) isotype. Anti-CoV2RBD-c2-hIgG1 was generated by recombinant DNA technology, produced in CHO cells, and purified by affinity chromatography with protein G.

SARS-CoV-2 Spike RBD mAb (clone B38)

The SARS-CoV-2 Spike receptor-binding domain (S-RBD) is an important candidate for both treatment and vaccination strategies in the context of COVID-19. A previously characterized SARS-CoV neutralizing mAb (CR3022) against the S-RBD was rapidly found to cross react with SARS-CoV-2². However, it did not neutralize the virus³. Thus, peripheral blood mononuclear cells (PBMCs) were isolated from a convalescent COVID-19 patient and screened for SARS-CoV-2 specific antibodies against the S-RBD¹. Subsequently, 'clone B38' was identified and shown to effectively neutralize the virus by blocking the interaction between the SARS-CoV2 S-RBD and the host receptor ACE2, *in vitro*¹.

TECHNICAL SUPPORT

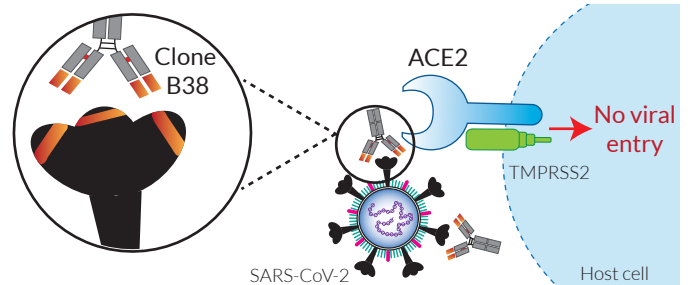
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The interaction between clone B38 and the spike-RBD was further characterized with crystallography, suggesting that the antibody sterically hinders ACE2 binding¹.

Interestingly, synergistic neutralization ability was observed when clone B38 was used in combination with a different epitope-targeting antibody (clone H4) identified in the same study¹. This makes them a potentially promising virus-targeting antibody cocktail for therapeutic and/or vaccine purposes.

IgG1 Isotype effector function

Human IgG1 binds with high affinity to the Fc receptor on phagocytic cells and therefore, Anti-CoV2RBD-c2-hIgG1 displays high effector function, including antibody-dependent cell-mediated cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC).

1. Wu, Y. *et al.* 2020. A noncompeting pair of human neutralizing antibodies block COVID-19 virus binding to its receptor ACE2. *Science* 368, 1274-1278. 2. Tian X. *et al.*, 2020. Potent binding of 2019 novel coronavirus spike protein by a SARS coronavirus-specific human monoclonal antibody. *Emerging Microbes & Infections*. 9(1):382-385. 3. Yuan M. *et al.*, 2020. A highly conserved cryptic epitope in the receptor-binding domains of SARS-CoV-2 and SARS-CoV. *Science*. DOI: 10.1126/science.abb7269.

METHODS

Anti-CoV2RBD-c2-hIgG1 resuspension (100 µg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

- Add 1 ml 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
Anti-CoV2RBD-c1-hIgG1 (clone H4)	cov2rbdc1-mab1-3
Anti-Spike-RBD-hIgG1 (CR3022)	srbd-mab1-3
HEK-Blue™ hACE2 Cells	hkb-hace2

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