

# Anti-CoV2RBD-c1-hIgG1

Monoclonal human IgG1 antibody against SARS-CoV-2 Spike (clone H4)

Catalog code: cov2rbdc1-mab1

<https://www.invivogen.com/sars2-spike-h4-mab>

For research use only, not for diagnostic or therapeutic use

Version 20I30-ED

## PRODUCT INFORMATION

### Contents:

- 100 µg of Anti-CoV2RBD-c1-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. Lyophilized product is stable for at least 1 year.
- 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

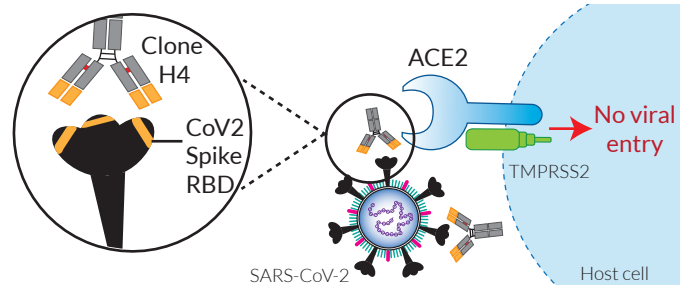
- The complete sequence of the antibody construct has been verified.
- Anti-CoV2RBD-c1-hIgG1 has been functionally validated by ELISA using a SARS-CoV-2 Spike-RBD-His fusion peptide.
- Absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and TLR4 cellular assays.

## PRODUCT DESCRIPTION

Anti-CoV2RBD-c1-hIgG1, originally described under the name 'clone H4', is a recombinant SARS-CoV-2 neutralizing monoclonal antibody (mAb)<sup>1</sup>. Anti-CoV2RBD-c1-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-c1-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 H4)

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-2<sup>2</sup>. However, it did not neutralize the virus<sup>3</sup>. 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-RBD<sup>1</sup>. Subsequently, 'clone H4' 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*<sup>1</sup>.



### IgG1 Isotype effector function

Human IgG1 binds with high affinity to the Fc receptor on phagocytic cells and therefore, Anti-CoV2RBD-c1-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-c1-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
Anti-Spike-RBD-hIgG1	srbd-mab1
Anti-Spike-RBD-hIgM	srbd-mab5
Anti-Spike-RBD-hIgA1	srbd-mab6
Anti-Spike-RBD-mIgG2a	srbd-mab10
Spike-RBD-Fc	fc-sars2-rbd
Spike-RBD-His	his-sars2-rbd
Spike-S1-Fc	fc-sars2-s1
Spike-S1-His	his-sars2-s1

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

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