

# Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) ab273074

Recombinant

★★★★★ [9 Abreviews](#) [7 References](#) [7 Images](#)

## Overview

<b>Product name</b>	Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric)
<b>Description</b>	Rabbit monoclonal [CR3022] to SARS-CoV-2 Spike Glycoprotein S1 - Chimeric
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> Indirect ELISA, ELISA
<b>Species reactivity</b>	<b>Reacts with:</b> SARS-CoV, SARS-CoV-2
<b>Immunogen</b>	Tissue, cells or virus corresponding to Human coronavirus SARS-CoV-2 Spike Glycoprotein S1. The original monoclonal antibody was generated by sequencing peripheral blood lymphocytes of a patient exposed to the SARS-CoV. Database link: <a href="#">P59594</a>
<b>Epitope</b>	This antibody binds the amino acids 318-510 in the S1 domain of the SARS-CoV Spike protein as well as SARS-CoV-2 (COVID-19) Spike protein. The antibody also binds to P462L-substituted S318–510 fragments of the SARS spike protein. The binding epitope is only accessible in the "open" conformation of the spike protein (Joyce et al. 2020)
<b>General notes</b>	<p>This rabbit monoclonal chimeric antibody was made using the variable domain sequences of the original Human IgG1 format, for improved compatibility with existing reagents, assays and techniques.</p> <p>The original CR3022 antibody was generated by sequencing peripheral blood lymphocytes of a patient exposed to the SARS-CoV. This antibody was shown to neutralize SARS-COV in a concerted action with clone CR3014. Presence of both antibodies delivers a blocking action of the SARS-COV RBD-ACE2 interaction, by binding two distinct and functional epitopes (16796401).</p> <p>CR3022 has been shown to bind with a high affinity to SARS-CoV2 (32416259, 32413276). Structural modelling has confirmed that CR3022 targets a conserved epitope between SARS-CoV and SARS-CoV2 in the RBD domain (32245784, 32065055). Precisely, this antibody binds to the 'open' conformation of the spike protein to the amino acids 318-510 in the S1 domain of the SARS-CoV as well as SARS-CoV-2 strains (32245784, Joyce et al. 2020). The antibody is also able to bind the P462L-substituted S318–510 fragments of the SARS spike protein. The binding epitope of clone CR3022 does not overlap with the ACE2 binding site of SARS-COV2 (32065055). <i>Therefore whilst CR3022 can neutralise SARS-COV in in a concerted action with clone CR3014, CR3022 is not believed to independently neutralise SARS-COV2, based on in vitro studies (32226289, 32065055, 32383254, 32416259).</i></p>

Recombinant Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody (ab273074) is a Rabbit Chimeric version of CR3022 for research use only. CR3022 is also available as a human monoclonal antibody ([ab273073](#)).

### Applications overview

Tick: Tested and Guaranteed to work    X: Will not work    —: No data

	WB	IHC	ICC/IF	Flow Cyt	ELISA	IP
SARS-CoV	—	—	—	—	—	—
SARS-CoV2	<a href="#">Reviews ①</a>	<a href="#">Reviews ①</a>	<a href="#">Reviews ①</a>	—	✓	<a href="#">Reviews ①</a>

ab273074 was developed to have a rabbit IgG isotype.

Other isotypes of clone CR3022 available:

[ab278112](#) – human IgA

[ab273073](#) – human IgG1

[ab278111](#) – human IgM

[ab273886](#) – rat IgG2a

### Properties

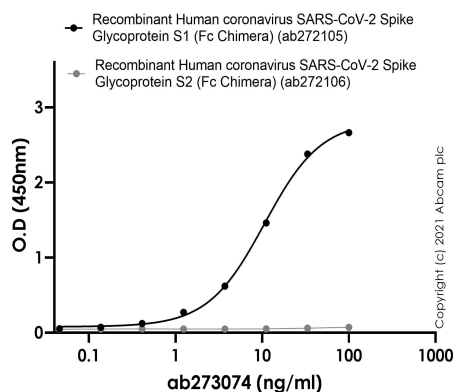
Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Proclin 300 Constituent: PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	CR3022
Isotype	IgG
Light chain type	kappa

### Applications

**The Abpromise guarantee**    Our **Abpromise guarantee** covers the use of ab273074 in the following tested applications.  
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Indirect ELISA		Use at an assay dependent concentration.
ELISA	★★★★★ (1)	Use at an assay dependent concentration.

### Images

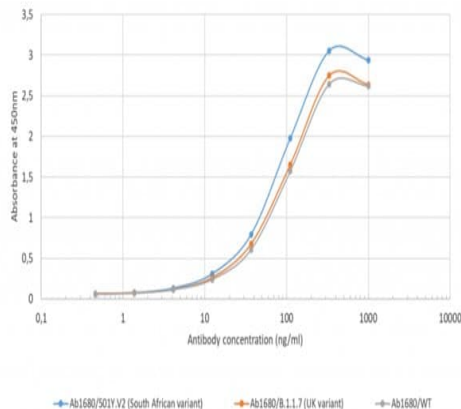


ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

Plates were coated with Recombinant Human coronavirus SARS-CoV-2 Spike Glycoprotein S1 (Fc Chimera, [ab272105](#)) or Recombinant Human coronavirus SARS-CoV-2 Spike Glycoprotein S2 (Fc Chimera, [ab272106](#)) at 1000 ng/ml at 1000 ng/ml.

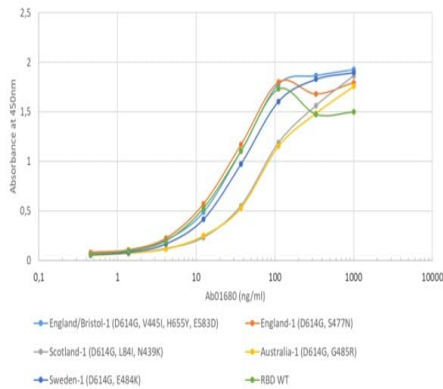
Primary antibody (ab273074) concentration range 0.045-100 ng/ml.

Pre-adsorbed secondary antibody, goat anti-rabbit IgG H&L (HRP, [ab97080](#)) used at 1/2000 dilution.



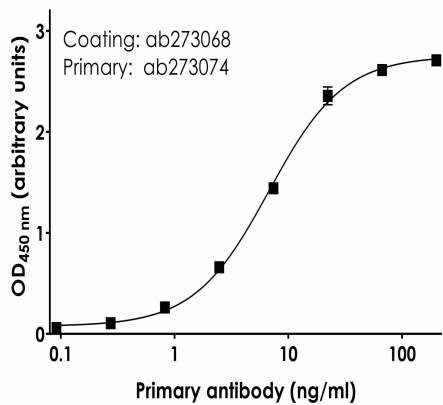
ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

ELISA using [ab273073](#) with UK (B.1.1.7) and South African (B.1.351 (501Y.V2)) mutant spike proteins. The plate was coated with the mutant spike protein variants (The Native Antigen Company) at 2.5 µg/ml. Ab01680 was conjugated to HRP and titrated on a 3-fold serial dilution starting at 1,000 ng/ml. CR3022 (Ab01680) exhibited exceptional binding to all mutant spike proteins. WT – wild type.



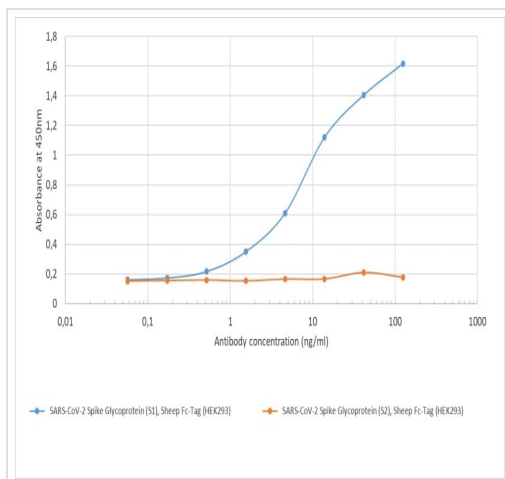
ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

ELISA using **ab273073** and mutant spike proteins. The plate was coated with the mutant spike protein variants (The Native Antigen Company) at 2.5 µg/ml. Ab01680 was conjugated to HRP and titrated on a 3-fold serial dilution starting at 1,000 ng/ml. CR3022 (Ab01680) exhibited exceptional binding to all mutant spike proteins. RBD WT – wild-type receptor binding domain.



Indirect ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

Indirect ELISA showing primary antibody ab273074 (CR3022, rabbit chimeric) binding to the antigen **ab273068** (recombinant human coronavirus SARS-CoV-2 Spike Glycoprotein S1 (Active)). Plates were coated with 100ng/well **ab272105** or **ab273068** and binding of **ab273073** assessed in serial dilution from 200ng/ml primary antibody in duplicate. Binding was detected using **ab97080**, an anti-rabbit H&L secondary conjugated to HRP. Data are represented as the mean and error bars represent standard deviation.



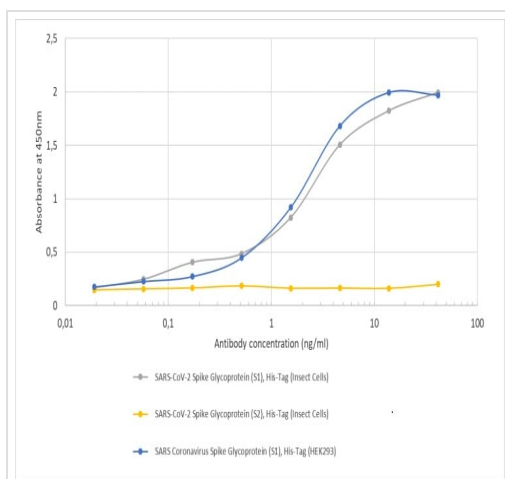
ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

### Binding curve of [ab273073](#) to SARS-CoV-2 Spike Glycoprotein (S1), Sheep Fc-Tag and SARS-CoV-2 Spike Glycoprotein (S2), Sheep Fc-Tag from HEK293 cells.

ELISA plate coated with SARS-CoV-2 Spike Glycoprotein (S1), Sheep Fc-Tag (blue line) or SARS-CoV-2 Spike Glycoprotein (S2), Sheep Fc-Tag (orange line) from HEK293 cells at concentrations of 5 µg/ml. A 3-fold serial dilution from 125 ng/ml was performed using [ab273073](#).

For detection, a 1/4000 dilution of HRP-labelled anti-human IgG antibody was used.

This data was developed using an alternative version of this antibody clone ([ab272073](#)).



ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Rabbit IgG (Chimeric) (ab273074)

### Binding curve of [ab273073](#) to SARS-CoV-2 Spike Glycoprotein domains S1 and S2 of various origin.

ELISA plate coated with SARS-CoV-2 Spike Glycoprotein (S1), His-Tag (Insect Cells; grey line), SARS-CoV-2 Spike Glycoprotein (S2), His-Tag (Insect Cells; yellow line) and SARS Coronavirus Spike Glycoprotein (S1), His-Tag (HEK293 cells; blue line) at concentrations of 5 µg/ml. A 3-fold serial dilution from 41.6 ng/ml was performed using [ab273073](#).

For detection, a 1/4000 dilution of HRP-labelled anti-human IgG antibody was used.

This data was developed using an alternative version of this antibody clone ([ab272073](#)).

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody  
[CR3022] - Rabbit IgG (Chimeric) (ab273074)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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