

## Product datasheet

# Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] ab273073

Recombinant

★★★★★ [2 Abreviews](#) [17 References](#) [6 Images](#)

### Overview

<b>Product name</b>	Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022]
<b>Description</b>	Human monoclonal [CR3022] to SARS-CoV-2 Spike Glycoprotein S1
<b>Host species</b>	Human
<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>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> <p>Recombinant Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody (ab273073) is a Human IgG1 Recombinant version of CR3022 for research use only. CR3022 is also available as a chimeric</p>

rabbit antibody ([ab273074](#)).

### 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	—	—	—	—	✓	—

ab273073 was developed to have a human IgG1 isotype.

Other isotypes of clone CR3022 available:

[ab278112](#) – human IgA

[ab278111](#) – human IgM

[ab273074](#) – rabbit IgG

[ab273886](#) – rat IgG2a

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.02% Proclin 300 Constituent: PBS
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	CR3022
<b>Isotype</b>	IgG1
<b>Light chain type</b>	kappa

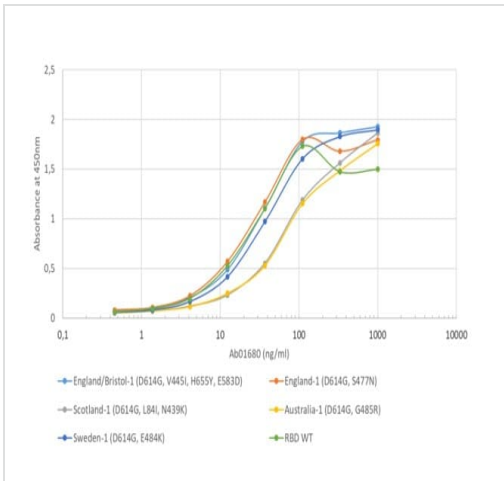
### Applications

**The Abpromise guarantee**    Our **Abpromise guarantee** covers the use of ab273073 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

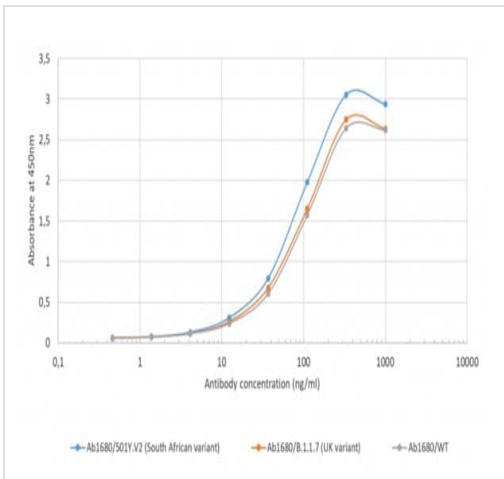
Application	Abreviews	Notes
Indirect ELISA		Use at an assay dependent concentration.
ELISA		Use at an assay dependent concentration.

### Images



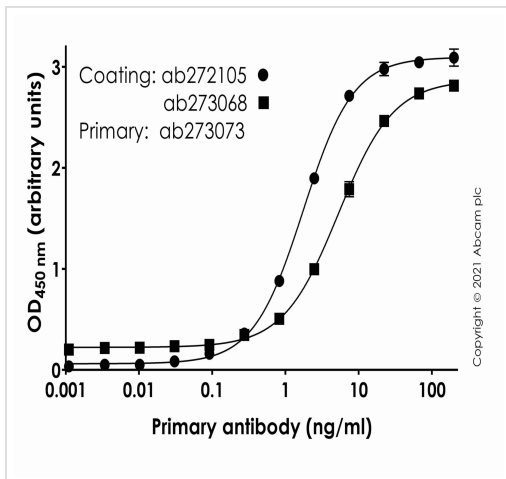
ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] (ab273073)

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.



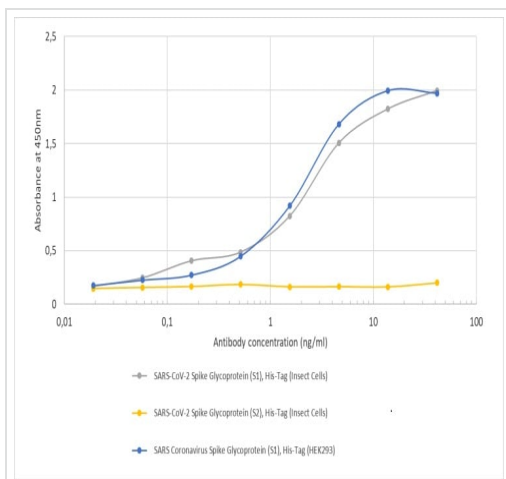
ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] (ab273073)

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.



Indirect ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] (ab273073)

Indirect ELISA showing primary antibody ab273073 (CR3022, human chimeric) binding to the antigens **ab272105** (recombinant human coronavirus SARS-CoV-2 Spike Glycoprotein S1 (sheep Fc fusion)) and **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 **ab98624**, an anti-human Fc secondary conjugated to HRP. Data are represented as the mean and error bars represent standard deviation.

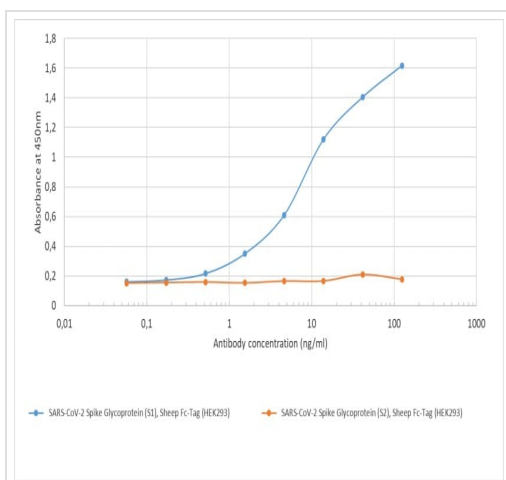


ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Chimeric (ab273073)

**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.



ELISA - Anti-SARS-CoV-2 Spike Glycoprotein S1 antibody [CR3022] - Chimeric (ab273073)

**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.

### 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] (ab273073)

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

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- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
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