

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP22388d**Specification**

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Product Information

Application	E,E
Primary Accession	P0DTC2
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	141178
Antigen Region	530-559

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Additional Information**Gene ID** 43740568**Target/Specificity**

This Anti-SARS-CoV-2 Spike glycoprotein antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 530-559 amino acids from the N-terminal region of human SARS-CoV-2 Spike glycoprotein.

Dilution

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Protein Information**Name** S {ECO:0000255|HAMAP-Rule:MF_04099}

Function [Spike protein S1]: Attaches the virion to the cell membrane by interacting with host receptor, initiating the infection. The major receptor is host ACE2 (PubMed:[32142651](#), PubMed:[32155444](#), PubMed:[33607086](#)). When S2/S2' has been cleaved, binding to the receptor triggers direct fusion at the cell membrane (PubMed:[34561887](#)). When S2/S2' has not been cleaved, binding to the receptor results in internalization of the virus by endocytosis using host TFRC and GRM2 and leading to fusion of the virion membrane with the host endosomal membrane

(PubMed:[32075877](#), PubMed:[32221306](#), PubMed:[34903715](#), PubMed:[36779763](#)). Alternatively, may use NRP1/NRP2 (PubMed:[33082294](#), PubMed:[33082293](#)) and integrin as entry receptors (PubMed:[35150743](#)). The use of NRP1/NRP2 receptors may explain the tropism of the virus in human olfactory epithelial cells, which express these molecules at high levels but ACE2 at low levels (PubMed:[33082293](#)). The stalk domain of S contains three hinges, giving the head unexpected orientational freedom (PubMed:[32817270](#)).

Cellular Location

Virion membrane {ECO:0000255|HAMAP-Rule:MF_04099, ECO:0000269|PubMed:32979942}; Single-pass type I membrane protein {ECO:0000255|HAMAP-Rule:MF_04099, ECO:0000269|PubMed:34504087}. Host endoplasmic reticulum-Golgi intermediate compartment membrane {ECO:0000255|HAMAP-Rule:MF_04099, ECO:0000269|PubMed:34504087}; Single-pass type I membrane protein {ECO:0000255|HAMAP-Rule:MF_04099}. Host cell membrane {ECO:0000255|HAMAP-Rule:MF_04099, ECO:0000269|PubMed:34504087}; Single-pass type I membrane protein {ECO:0000255|HAMAP-Rule:MF_04099}. Note=Accumulates in the endoplasmic reticulum-Golgi intermediate compartment, where it participates in virus particle assembly. Some S oligomers are transported to the host plasma membrane, where they may mediate cell-cell fusion (PubMed:34504087). An average of 26 +/-15 S trimers are found randomly distributed at the surface of the virion (PubMed:32979942) {ECO:0000255|HAMAP-Rule:MF_04099, ECO:0000269|PubMed:32979942, ECO:0000269|PubMed:34504087}

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Images

Anti-SARS-CoV-2 Spike glycoprotein antibody (P540) - Background

The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. It's been reported that 2019-nCoV can infect the human respiratory epithelial cells through interaction with the human ACE2 receptor. The spike protein is a large type I transmembrane protein containing two subunits, S1 and S2. S1 mainly contains a receptor binding domain (RBD), which is responsible for recognizing the cell surface receptor. S2 contains basic elements needed for the membrane fusion. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity. The main functions for the Spike protein are summarized as: Mediate receptor binding and membrane fusion; Defines the range of the hosts and specificity of the virus; Main component to bind with the neutralizing antibody; Key target for vaccine design; Can be transmitted between different hosts through gene recombination or mutation of the receptor binding domain (RBD), leading to a higher mortality rate.