

SARS-CoV-2 Furin Site Blocking Polyclonal Antibody

(Catalog #A-1810)

Background

SARS-CoV-2 harbors a unique furin cleavage site at the boundary between the S1 and S2 subunits of its spike protein, which can be cleaved by the proprotein convertase (PC) furin and furin-like PCs. Proteolytic activation of SARS-CoV-2 spike protein at the S1/S2 boundary facilitates interaction with host ACE2 receptor for cell entry. The complete SARS-CoV-2 furin cleavage site has been characterized as a 20 amino acid motif corresponding to the amino acid sequence A672- S691 of SARS-CoV-2 spike protein, with one core region SPRRAR|SV (8 amino acids, S680- V687) and two flanking solvent-accessible regions (8 amino acids, A672- N679, and 4 amino acids, A688- S691). The core region is very unique as its R683 and A684 positions are positively-charged (Arg) and hydrophobic (Ala) residues, respectively, which could be cleaved by furin and/or furin-like PCs secreted from host cells and bacteria in the airway epithelium. Furin and furin-like PCs, such as PC5/6A and PACE4, are proven to be cleavage region sequence-specific, and these PCs exhibit widespread tissue distribution.

Description

SARS-CoV-2 Furin Site Blocking Polyclonal Antibody. **A novel antibody against the furin cleavage site of SARS-CoV-2 spike protein.** This antibody is suitable for SARS-CoV-2 Spike protein detection by ELISA and IP, SARS-CoV-2 furin site cleavage blockage, and SARS-CoV-2 spike protein neutralization. Unconjugated. Raised in: Rabbit.

Formulation

Liquid. 50% glycerol, PBS, pH 7.4

Concentration

0.5 mg/ml

Source

Human

Specificity

S1/S2 furin cleavage site of SARS-CoV-2 spike protein

Isotype

IgG

Uniprot ID

P0DTC2

Purification

Affinity Purified

Immunogen

Peptide-KLH conjugate consisting of the SARS-CoV-2-specific furin motif (20 aa)

Storage

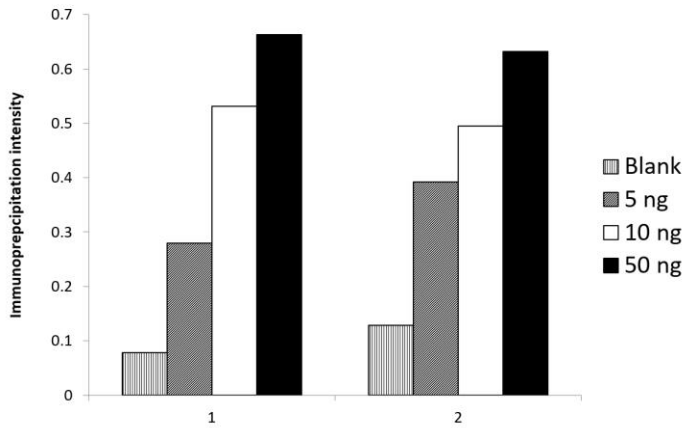
Shipped at 4°C. Upon receipt, store at 4°C for short term (3-4 weeks) and -20°C for long term (18 months). Avoid repeated freeze.

Alternative Names

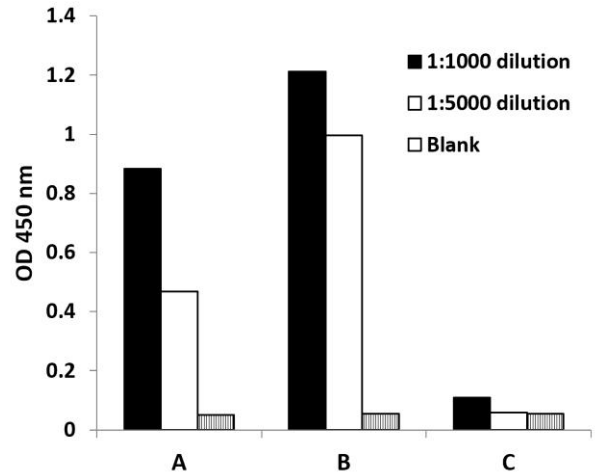
fbAB; anti-SARS-CoV-2 S protein, anti- SARS-CoV-2 Spike glycoprotein, anti-nCoV-19, anti-COVID-19

Application

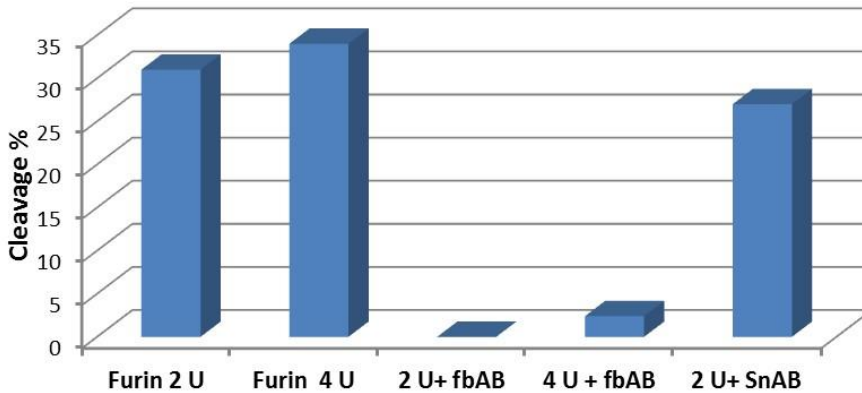
ELISA, IP, SARS-CoV-2-specific furin cleavage site blockage; Recommended dilution: ELISA: 1:500-1:5000; IP: 2-10 µg (per reaction)



Immunoprecipitation of the SARS-CoV-2 protein containing the S1/S2 boundary furin site by fbAB. SARS-CoV-2 protein containing the S1/S2 boundary furin site or peptide containing the SARS-CoV-2-specific furin motif were added at the indicated amounts to fbAB-coated wells (200 ng/well). 1: SARS-CoV-2 protein containing the S1/S2 boundary furin site; 2: Peptide containing the SARS-CoV-2 specific furin motif.



Specificity of fbAB recognizing the SARS-CoV-2 spike protein containing the S1/S2 boundary furin site or a peptide containing the SARS-CoV-2-specific furin motif. fbAB was added at the indicated dilutions to wells coated with the different targets (10 ng/well). A: SARS-CoV-2 protein containing the S1/S2 boundary furin site; B: Peptide containing the SARS-CoV-2-specific furin motif; C: SARS-CoV-2 S1 RBD protein lacking the S1/S2 boundary furin site.



fbAB blockage of SARS-CoV-2 furin motif cleavage by furin. Furin concentration = 2-4 U/well. fbAB and spike protein neutralization antibody (SnAB) concentration = 200 ng/well.