Recombinant Proteins

SARS-CoV-2 Recombinant Spike Protein, aa16-685 (HEK293-expressed)

SARS-CoV-2 recombinant spike protein, amino acids Val16-Arg685, FLAG & His tags

Catalog #	100-0594	100 µg
	100-0595	1000 µg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

SARS-CoV-2 Recombinant Spike Protein, aa16-685 is expressed in HEK293 cells and is one of four structural proteins encoded by the SARS-CoV-2 genome. The Spike Protein plays a key role in attachment to host cells, allowing invasion through clathrin-mediated endocytosis. The Spike Protein can be cleaved by host cell proteases after aa685 to yield the N-terminal S1 subunit and C-terminal S2 region. The S1 subunit is responsible for interacting with the host cell receptor (angiotensin-converting enzyme II) through a receptor-binding domain that is highly conserved with SARS-CoV. The S1 subunit has two conformations: a 'down' conformation in which the receptor is inaccessible, and an 'up' conformation in which the receptor is accessible. These conformational changes are key for monoclonal antibody drugs and vaccine development. SARS-CoV-2 Recombinant Spike Protein contains a polyhistidine tag at the amino terminus; it also contains a FLAG tag at the carboxy terminus.

Product Information

Alternative Names:	S protein, Spike glycoprotein
Accession Number:	P0DTC2
Amino Acid Sequence:	DAAQPARRAVRSLHHHHHHHHHHHLVPRGSRTVNLTTRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLPF FSNVTWFHAIHVSGTNGTKRFDNPVLPFNDGVYFASTEKSNIIRGWIFGTTLDSKTQSLLIVNNATNVVIKVCEFQF CNDPFLGVYYHKNNKSWMESEFRVYSSANNCTFEYVSQPFLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTP INLVRDLPQGFSALEPLVDLPIGINITRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLKYNENGTIT DAVDCALDPLSETKCTLKSFTVEKGIYQTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCV ADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNVYADSFVIRGDEVRQIAPGQTGKIADYNYKLPDDFTGCVIAWN SNNLDSKVGGNYNYLYRLFRKSNLKPFERDISTEIYQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVV VLSFELLHAPATVCGPKKSTNLVKNKCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEILDI TPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSYEC DIPIGAGICASYQTQTNSPRRARDYKDDDDK
Predicted Molecular Mass:	79.5 kDa
Species:	Novel human coronavirus (SARS-CoV-2/2019-nCoV)
Formulation:	Lyophilized from a 0.2 µm-filtered solution containing Tris-HCl, NaCl, and trehalose, pH 8.0.
Source:	HEK293 cells

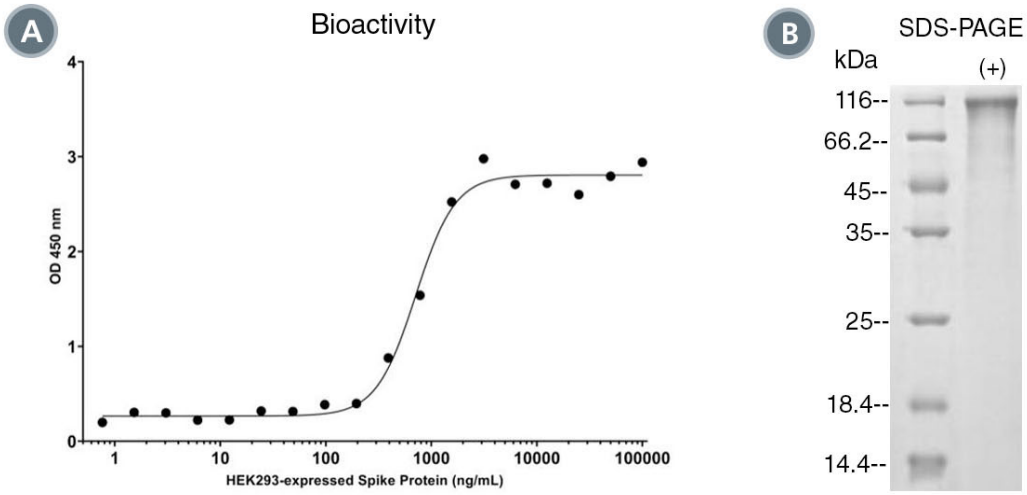
Specifications

Activity:	The EC50 is ≤ 711 ng/mL as determined by functional ELISA using Human Recombinant ACE2 Protein (Catalog #100-0598).
Purity (SDS-PAGE):	≥ 85%

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable until expiry date (EXP) on label.
Preparation:	Centrifuge before opening. Reconstitute the product in sterile water to a concentration of 0.1 - 1.0 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week.

Data



(A) Binding activity tested by functional ELISA using SARS-CoV-2 Recombinant Spike Protein and immobilized Human Recombinant ACE2 Protein at 0.2 µg/well. SARS-CoV-2 Recombinant Spike Protein can bind Human Recombinant ACE2 Protein with an EC50 of 711 ng/mL.

(B) SARS-CoV-2 Recombinant Spike Protein was resolved with SDS-PAGE under reducing (+) conditions and visualized by Coomassie Blue staining. SARS-CoV-2 Recombinant Spike Protein has a predicted molecular mass of 79.5 kDa and an observed band size of 110 kDa (due to glycosylation).

Related Products

For a complete list of recombinant proteins, as well as related products available from STEMCELL Technologies, visit www.stemcell.com or contact us at techsupport@stemcell.com.

References

Ahmed SF et al. (2020) Preliminary identification of potential vaccine targets for the COVID-19 coronavirus (SARS-CoV-2) based on SARS-CoV immunological studies. Viruses 12(3): 254.

Amanat F & Krammer F. (2020) SARS-CoV-2 vaccines: Status report. Immunity 52(4): 583–9.

Hoffmann M et al. (2020) SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by a clinically proven protease inhibitor. Cell 181(2): 271–80.e8.

Li H et al. (2020) Coronavirus disease 2019 (COVID-19): Current status and future perspectives. Int J Antimicrob Agents 55(5): 105951.

Yang N & Shen HM. (2020) Targeting the endocytic pathway and autophagy process as a novel therapeutic strategy in COVID-19. Int J Biol Sci 16(10): 1724–31.

Yang P & Wang X. (2020) COVID-19: A new challenge for human beings. Cell Mol Immunol 17(5): 555–7.