

COVID 19 Spike protein, Beta Variant of Concern, B.1.351 variant Coronavirus Recombinant Protein | COVID-19 recombinant protein

Recombinant SARS-CoV-2 Spike protein, Beta Variant of Concern, B.1.351 variant (South Africa, L18F, D80A, D215G, ?242-244, R246I, K417N, E484K, N501Y, D614G and A701V)

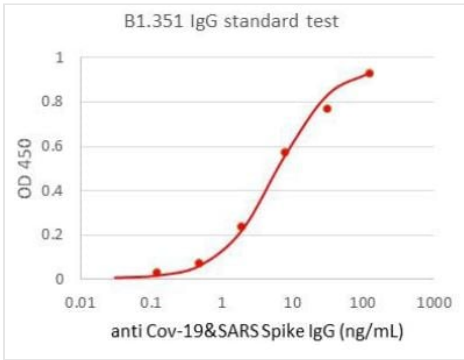
CATALOG # AAA47144	HOST HEK293 Cells	APPLICATIONS IA (Immunoassay)
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PRODUCT SYNONYMS

COVID 19 Spike protein; Beta Variant of Concern; B.1.351 variant Coronavirus; Recombinant SARS-CoV-2 Spike protein; B.1.351 variant (South Africa; L18F; D80A; D215G; ?242-244; R246I; K417N; E484K; N501Y; D614G and A701V); 2019 Novel Coronavirus; Coronavirus; CoV; COVID-19 virus; HCoV-2; Human Coronavirus 2019; SARS2; SARS-CoV-2; Severe acute respiratory syndrome coronavirus 2; B.1.351 Variant of Concern; South Africa mutant; South Africa; D614G; A701V; Spike glycoprotein; S protein.; COVID-19 recombinant protein

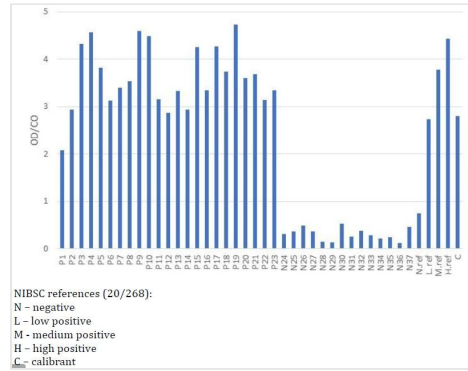
PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	Affinity chromatography, >90% as estimated by SDS-PAGE
Form/Format	Liquid
Sequence Positions	16-1211
Sequence	VNFTTRTQLP PAYTNSFTRG VYYPDKVFRS SVLHSTQDLF LPFFSNVTWF HAIHVSGTNG TKRFANPVL P FNDGVYFAST EKSNIIRGWI FGTTLDSTQ SLLIVNNATN VVIKVEFQF CNDPFLGYH KNNKSWMESE FRVYSSANNC TFEYVSQPFL MDLEGKQGNF KNLREFVFN IDGYFKIYSK HTPINLVRGL PQGFSALEPL VDLPIGINIT RFQTLHISYL TPGDSSSGWT AGAAAYVGY LQPRFLKYN ENGTITDAVD CALDPLSEK CTLKSFTEVEK GIYQTSNFRV QPTESIVRFP NITNLCPFGE VFNATRFASV YAWNKRKRISN CVADYSVLYN SASFSTFKCY GVSPTKLNDL CFTNVYADSF VRGDEVQRQA PGQTGNIADY NYKLPPDDFTG CVAWNSNNL DSKVGGNNY LYRLFRKSNL KPFERDISTE IYQAGSTPCN GVKGFNCYFP LQSYGFQPTY GVGYPYRVV VLSFELLHAP ATVCGPKKTN LVKNKCVNFN ENGLTGTGVL TESNKKFLPF QQFGRDIADT TDAVRDPQTL EILDITPCSF GGVSVITPGT NTSNQVAVLY QGVNCTEVPV AIHADQLTPT WRVYSTGSNV FQTRAGCLIG AEHVNSYECD IPIGAGICAS YQTQNSPRG AGSVASQSII AYTMISLGVN SVAYSNNNSIA IPTNFTISVT TEILPVSMK TSDVCTMYIC GDSTECNLL LQYGSFCTQL NRALTGIAVE QDKNTQEVFA QVQIYKTPPI KDFGGFNFSQ ILPDPSKPSK RSFIEDLLFN KVTLDAGFI KQYGDCLGDI AARDLCAQK FNGTLVLPPL LTDEMIAQYT SALLAGTITS GWTFGAGPAL QIPFAMQMAY RFNGIGVTQV LYENQKLIAN QFNSAIGKIQ DSLSSTPSAL GKLQDVVNQN AQALNTLVKQ LSSNFGAISS VLNDILSRDL PPEAEVQIDR LITGRLQSLQ TYVTQQLIRA AEIRASANLA ATKMSECVLG QSKRVDCGKG YHLMSPQSA PHGVVFLHVT YVPAQEKNT TAPAICHDGK AHFPREGVVF SNGTHWFTQ RNFYEPQIIT TDNTFVSGNC DVVIGVNNNT VYDPLQPELD SFKEELDKYF KNHTSPDVL GDIGINASVV NIQKEIDRLN EVAKNLNESL IDLQELGKYE QYIKSGGSGY IPEAPRDGQA YVRKDGEWVL LSTFLGSHHH HHHHH
Applicable Applications for COVID-19 recombinant protein	IA (Immunoassay)
Species	Severe Acute Respiratory Syndrome Coronavirus 2
Amount Sent	0.48 ml of 0.245 mg/ml by A280 absorbance=117 ug (lot specific)
Tag	8xHis at the C terminus.
Endotoxin	Less than 0.1 ng/ug (1 IEU/ug), as measured by LAL method.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	The protein can be stored at 2-8°C for 1 month. For long term, it should be stored at -20°C to -70°C preferably in small aliquots to avoid repeated freeze-thaw cycles.



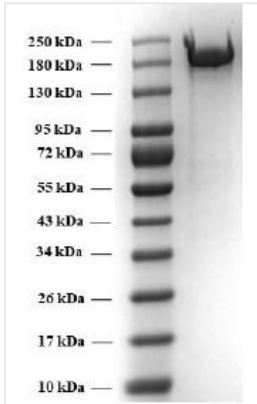
Application Data

Binding curve of anti-Cov-19&SARS S glycoprotein antibody IgG CR3022 to the trimeric Spike B.1.351, beta variant



Application Data

Protein was immobilised in 96-well plates as a capture antigen. Human serum samples from a serological verification panel containing anti-SARS-CoV-2 antibodies from National Institute of Biological Standards and Controls, NIBSC (20/B770) were added to the plate for incubation and subsequent washing. Secondary human anti-IgG, HRP-conjugated, were added for detection in a sandwich ELISA format. The final colorimetric reaction occurs upon addition of TMB substrate which is quenched by the addition of acid solution.



SDS-PAGE

>90% as estimated by SDS-PAGE stained with Instant Blue Stain (Expedeon).

ADDITIONAL INFORMATION

Related Product Information for COVID-19 recombinant protein

Full-length soluble with foldon trimerization motif, mutated Furin recognition site and 4 stabilising mutations (A892P, A942P, K986P and V987P), based on/modified from Amanat et al, 2020 and Hsieh et al, 2020.

The first reports of atypical pneumonia in China were announced at the very end of 2019, in the city of Wuhan, Hubei province. Its cause was identified in January 2020 as a novel β -CoV (1), named SARS-CoV-2, which started spreading very quickly causing a global pandemic COVID-19. Spike protein attaches the virion to the cell membrane by interacting with host receptor, initiating the infection. Binding to human ACE2 receptor and internalization of the virus into the endosomes of the host cell induces conformational changes in the Spike glycoprotein (2, 3). The protein forms a trimer in vivo mediating receptor binding and membrane fusion (4). It has been demonstrated by Florian Krammer's group that certain mutations and the inclusion of trimerization motif can stabilize recombinant Spike protein (5, 6). The original Wuhan strain of the virus has become quickly replaced by its more transmissible variant, mainly determined by a single amino acid point mutation D614G (7). The B.1.351 variant is a strain of the coronavirus with 9 distinctive mutations (in addition to the D614G) in the virus's spike protein, the structure that allows the virus to bind to and infect human cells (8).

References

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3. Wrapp D., Wang N., Corbett KS., et al. Cryo-EM structure of the 2019-nCoV spike in the prefusion conformation. *Science*, 2020;367(6483):1260-1263.
4. Yin HS., Wen X., Paterson RG., Lamb RA., Jardetzky TS. Structure of the parainfluenza virus 5 F protein in its metastable, prefusion conformation. *Nature*, 2006;439(7072):38-44.
5. Amanat, F., Stadlbauer, D., Strohmeier, S., et al. A serological assay to detect SARS-CoV-2 seroconversion in humans. *Nat Med.*, 2020;26:1033–1036.
6. Stadlbauer, D., Amanat, F., Chromikova, V., et al. SARS-CoV-2 seroconversion in humans: A detailed protocol for a serological assay, antigen production, and test setup. *Current Protocols in Microbiology*, 2020;57, e100.
7. Korber, B., Fischer, W., Gnanakaran, S., et al. Tracking Changes in SARS-CoV-2 Spike: Evidence that D614G Increases Infectivity of the COVID-19 Virus. *Cell*, 2020;182:1-16.
8. Tegally, H., Wilkinson, E., Giovanetti, M., et al. Emergence and rapid spread of a new severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) lineage with multiple Spike mutations in South Africa. *MedRxiv*, 21.12.2020;182:1-16.

NCBI AND UNIPROT INFORMATION

UniProt Accession #	P0DTC2
Molecular Weight	Predicted Molecular Weight: 137 kDa Estimated Molecular Weight, SDS-PAGE: ~190 kDa

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/covid-19-spike-protein-beta-variant-of-concern-b-1-351-variant-coronavirus-recombinant-protein-hek293-cells-ia-immunoassay/47144>