

SARS-CoV-2 Proteins and Kits

In December of 2019, the SARS-CoV-2 virus, which causes the disease COVID-19, was first detected in Wuhan, China. The SARS-CoV-2 virus is a single-stranded RNA coronavirus that causes respiratory infections. The rapid spread of COVID-19 has resulted in a global pandemic which has caused an unprecedented social and economic disruption to daily life.

To aid in the advancement of infectious disease research, Advansta now offers recombinant forms of the Nucleocapsid and Spike Receptor Binding Domain (RBD) proteins encoded by the virus as well as ELISA kits to detect the IgG immune response to both the Nucleocapsid and Spike (RBD) proteins. Each protein is expressed in *Escherichia coli* or CHO K1 cells and affinity purified. The ELISA assays are designed for the qualitative measurement of human IgG, immunoglobulin that

is produced in response to an antigen, against the Nucleocapsid or Spike (RBD) proteins from the SARS-CoV-2 virus. Each ELISA kit contains a high binding ELISA plate, a recombinant SARS-CoV-2 protein, Positive and Negative Control Serum, 1X EIA Coating Buffer, AdvanBlock-EIA, Anti-Human IgG HRP Conjugate, TMB Substrate and Stop Solution sufficient to perform one 96-well colorimetric ELISA assay.

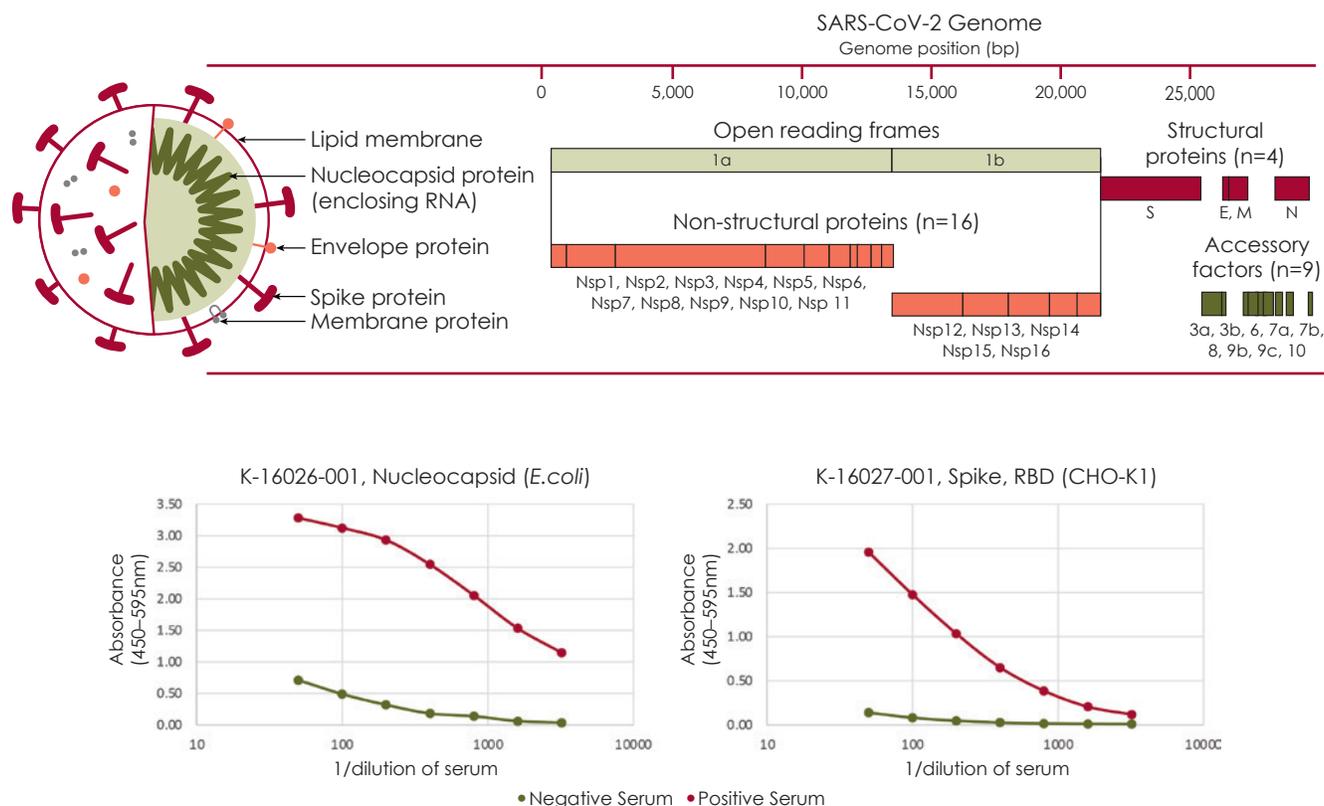


Figure 1. Evaluation of IgG humoral immune response by ELISA to recombinant SARS-CoV-2 target proteins in negative and COVID-19 positive serum samples.

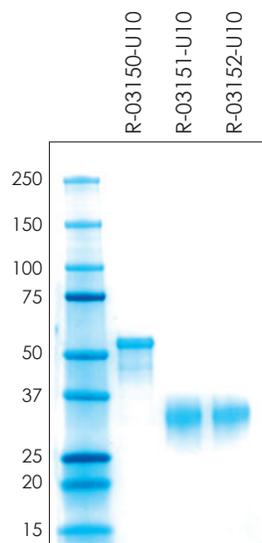


Figure 2. SDS-PAGE analysis of the purified recombinant SARS-CoV-2 target proteins.

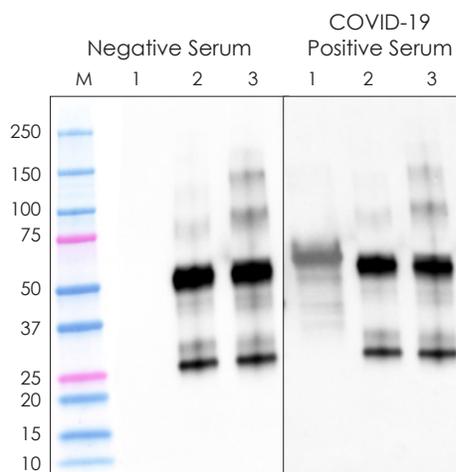


Figure 3. A humoral IgG immune response against recombinant nucleocapsid protein was detected by Western blot. Negative and COVID-19 positive serum samples diluted 1:2500 in AdvanBlock™-Chemi were incubated with blotted nitrocellulose membranes for one hour. The blots were then incubated with a goat anti-human IgG HRP conjugate and antibodies against the nucleocapsid protein were detected by chemiluminescence using WesternBright® ECL.

1 = 2µg Nucleocapsid, R-03150-U10
2 = 0.5µg Purified human IgG
3 = 5µg Negative Serum

Recombinant SARS-CoV-2 Protein Sequences

R-03150-U10 (Expressed in *E.coli*) Sequence Nucleocapsid (M1-A419) with C-terminal 6XHis tag:

MSDNGPQNRNAPRITFGGSPDSTGNSQNGERSGARSKQRRPQGLPNNTASWFTALQHGKEDLKFPRGQGVPIINTSSPDDQIGYYR
RATRRIRGGDGKMKDLSPRWYFYLLGTGPEAGLPYGANKDGIWVATEGALNTPKDHIGTRNPANNAIIVLQLPQGTTLPKGFYAEGSRGGSQA
SSRSSRSRNSRNPSTPGSSRGTSPTARMAGNGGDAALALLLDRLNQLLESKMSGKGGQQGQGVTVTKKSAEASKKPRQRATKAYNVTQAFGRRG
PEQTQGNFQDQELIRQGTDYKHWPIAQFAPSASAFFGMSRIGMEVTPSGTWLTYTGAIKLDKDPNFKDQVILLNKHIDAYKTFPTEPKDKKKKA
DETQALPQRQKKQVTLLPAADLDDFSKQLQSQMSADSTQAGSHHHHHHHH

R-03151-U10 (Expressed in CHO-K1) Sequence Spike (RBD) (R319-F541) with C-terminal 6XHis tag:

RVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNYYADSFVIRGDEVRQIAPGQTGKI
ADYNYKLPDDFTGCVIAWNSNLDLSDKVGNYNYLRLFRKSNLKPFFERDSTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVL
FELLHAPATVCGPKKSTNLVKNKCVNFHHHHHHH

R-03152-U10 (Expressed in CHO-K1) Sequence Spike (RBD) (R319-F541) with C-terminal C tag:

RVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCFTNYYADSFVIRGDEVRQIAPGQTGKI
ADYNYKLPDDFTGCVIAWNSNLDLSDKVGNYNYLRLFRKSNLKPFFERDSTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVVL
FELLHAPATVCGPKKSTNLVKNKCVNFGGGSEPEA

Ordering Information

Catalog Number	Product	Size
K-16026-001	SARS-CoV-2 IgG ELISA Kit, Nucleocapsid, 96-wells	1 kit
K-16027-001	SARS-CoV-2 IgG ELISA Kit, Spike (RBD), 96-wells	1 kit
R-03150-U10	SARS-CoV-2 Nucleocapsid, His Tag (<i>E.coli</i>)	100 µg
R-03151-U10	SARS-CoV-2 Spike (RBD), His Tag (CHO-K1)	100 µg
R-03152-U10	SARS-CoV-2 Spike (RBD), C Tag (CHO-K1)	100 µg

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The detailed User's Manual is available for download. Please use the QR-code to access the product page.

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