Certificate of Analysis for NR-55307

Spike Glycoprotein (Stabilized) from SARS-Related Coronavirus 2, P.1 Lineage with C-Terminal Histidine and Avi Tags, Recombinant from HEK293 Cells

Catalog No. NR-55307

This reagent is the tangible property of the U.S. Government.

Product Description:

A recombinant form of the spike (S) glycoprotein from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Brazil variant (P.1 lineage) was produced in human embryonic kidney HEK293 (Freestyle 293F) cells and purified by immobilized metal affinity (Ni-NTA) chromatography. NR-55307 lacks the signal sequence and contains 1196 residues (ectodomain) of the SARS-CoV-2 spike glycoprotein; the recombinant protein was stabilized by substitution at the furin S1/S2 cleavage site (RRAR→GSAS; residues 682 to 685) and KV→PP mutations (residues 986 and 987; wild type numbering), and includes a T4 foldon trimerization domain, HRV3C protease cleavage site and C-terminal octa-histidine tag fused to an AviTag™ BirA biotinylation acceptor sequence. NR-55307 is derived from the P.1 lineage of SARS-CoV-2, which includes L18F, T20N, P26S, D138Y, R190S, K417T, E484K, N501Y, D614G, H655Y, T1027I and V1176F mutations in the S glycoprotein as compared to the SARS-CoV-2 reference sequence (GenPept: QHD43416).

Lot: 70043095 **Manufacturing Date: 24FEB2021**

TEST	SPECIFICATIONS	RESULTS
Appearance	Report results	Clear and colorless
Purity Analytical Fast Protein Liquid Chromatography (FPLC)	Report results	Peak observed at expected retention time (Figure 1)
Protein Concentration (A_{280})	Report results	0.25 mg per mL
Final Product Amount per vial Volume per vial	 Report results Report results	 25 µg 100 µL
Functional Activity by Direct ELISA SARS-CoV-2 spike (S309) antibody[1] SARS-CoV-2 spike S1 antibody[2]	 Report results Report results	 Reactive (Figure 2) Reactive (Figure 3)

[1]Pinto, D., et al. "Cross-Neutralization of SARS-CoV-2 by a Human Monoclonal SARS-CoV Antibody." Nature 583 (2020): 290-295. PubMed: 32422645.
[2]Using SARS-CoV-2 (2019-nCoV) Spike S1 Antibody, Rabbit mAb (Sino Biological catalog number 40150-R007)

Figure 1: Analytical FPLC

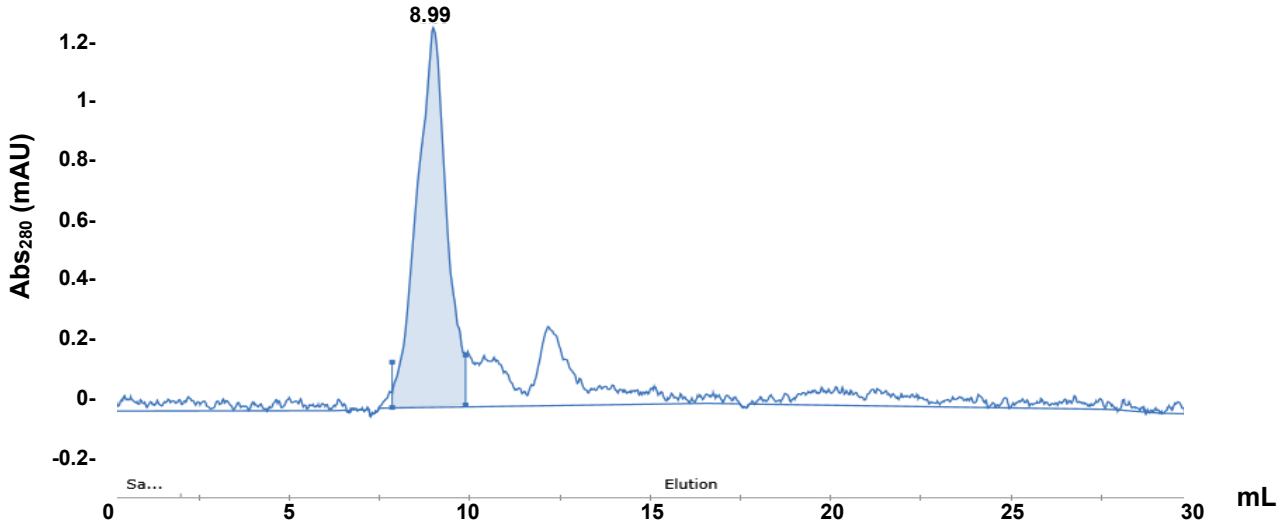

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Figure 2: Direct ELISA with S309 mAb

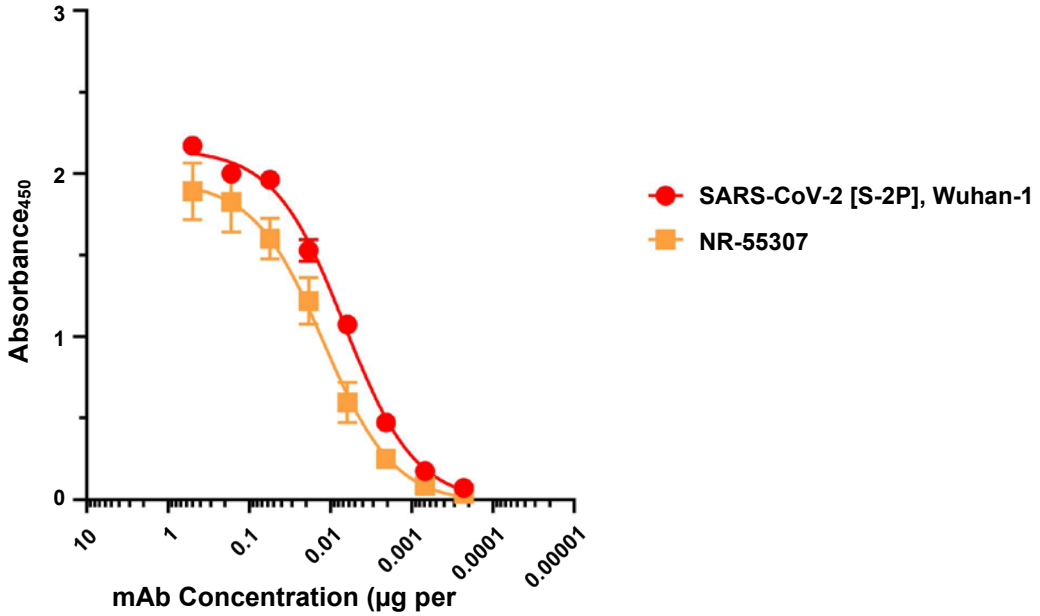
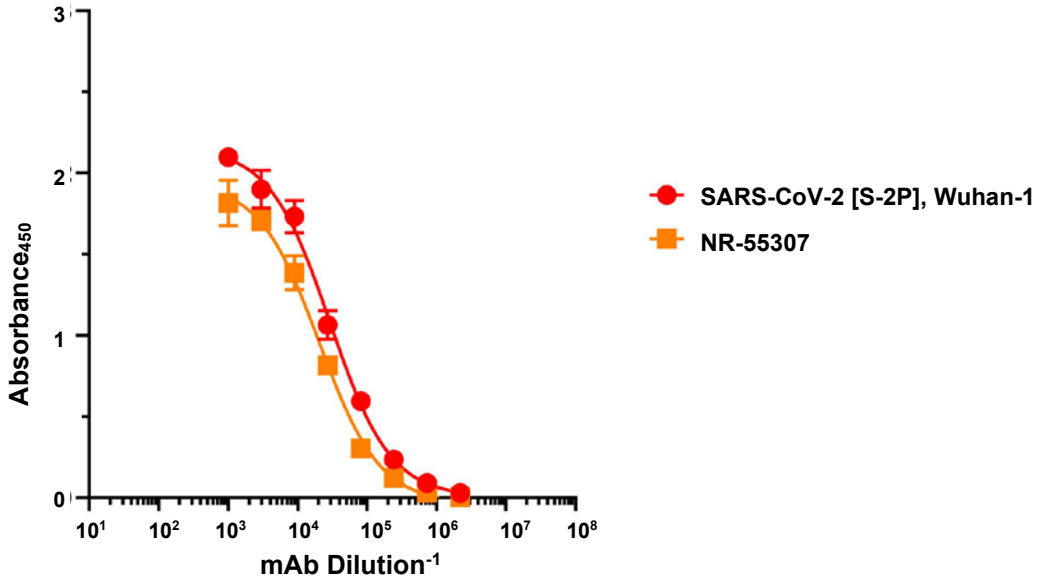


Figure 3: Direct ELISA with Spike S1 mAb



/Heather Couch/
Heather Couch 30 APR 2021
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