

Spike Glycoprotein (Stabilized) from SARS-Related Coronavirus 2, B.1.1.529 Lineage (Omicron Variant) with C-Terminal Histidine and Avi Tags, Recombinant from HEK293 Cells

Catalog No. NR-56447

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), B.1.1.529 lineage (Omicron variant) was produced in human embryonic kidney HEK293 (Freestyle 293F) cells and purified by immobilized metal affinity (Ni-NTA) and gel filtration (Superdex) chromatography. NR-56447 lacks the signal sequence and contains 1193 residues (ectodomain) of the SARS-CoV-2 S 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-56447 includes A67V, delH69-V70, T95I, G142D, delV143-Y145, delN211, L212I, ins214EPE, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K and L981F mutations in the S glycoprotein as compared to the SARS-CoV-2 reference sequence (GenPept: [QHD43416](#)). Quality control testing was completed just prior to vialing.

Lot: 70049502

Manufacturing Date: 17DEC2021

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 (A₂₈₀)	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)

¹Pinto, D., et al. "Cross-Neutralization of SARS-CoV-2 by a Human Monoclonal SARS-CoV Antibody." *Nature* 583 (2020): 290-295. PubMed: 32422645.

²Using SARS-CoV-2 (2019-nCoV) Spike S1 Antibody, Rabbit mAb (Sino Biological catalog number 40150-R007)

Figure 1: Analytical FPLC

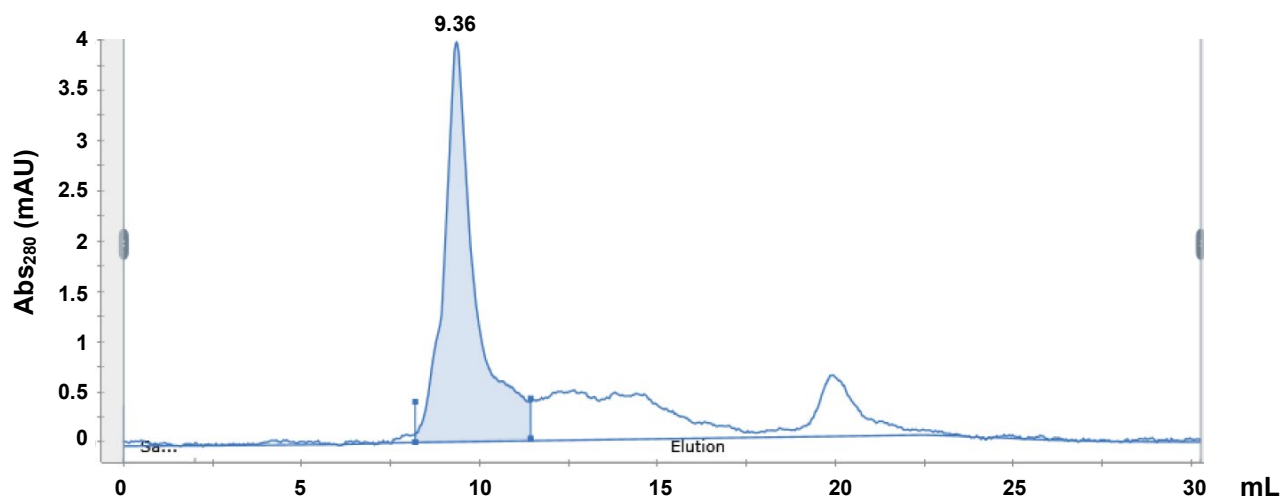


Figure 2: Direct ELISA with S309 mAb

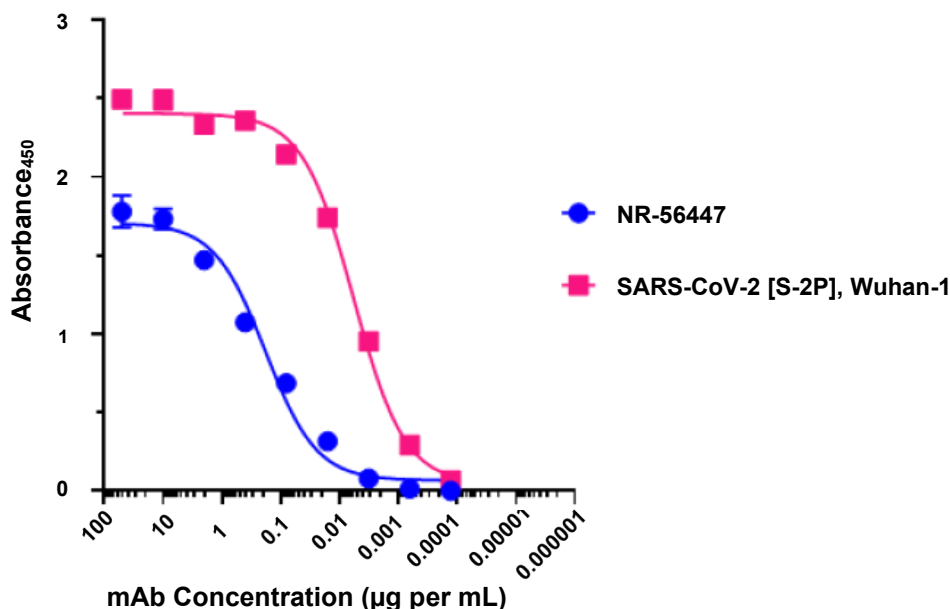
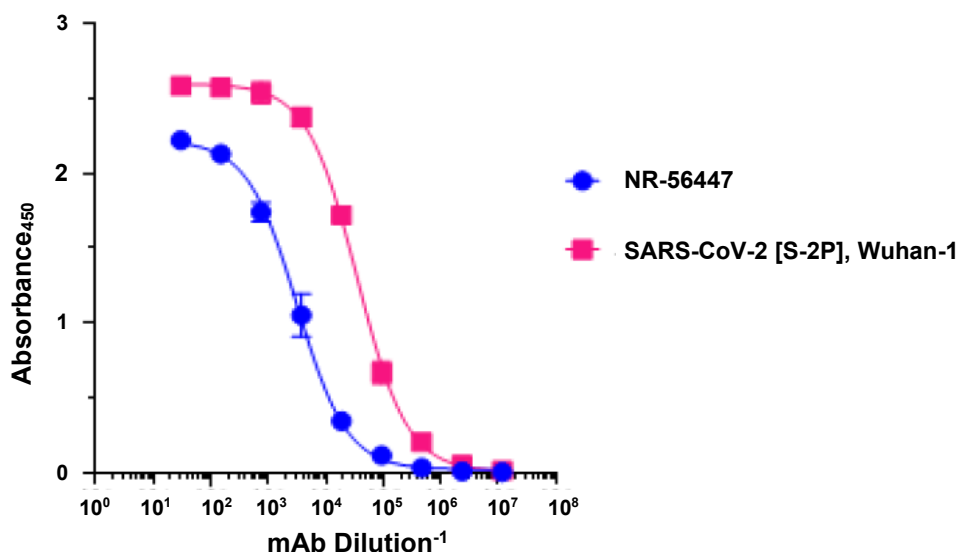


Figure 3: Direct ELISA with Spike S1 mAb



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