

**Spike Glycoprotein (Stabilized) from SARS-Related Coronavirus 2, Wuhan-Hu-1 HexaPro with C-Terminal Histidine and Twin-Strep® Tags, Recombinant from CHO Cells**

**Catalog No. NR-53769**

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), Wuhan-Hu-1 (GenPept: [QHD43416](#)) was produced by transfection of purified plasmid (derived from BEI Resources NR-53587) in Chinese hamster ovary (CHO) cells (ExpiCHO-S™; Thermo A29127), purified by immobilized nickel affinity chromatography (cOmplete™ His-Tag Resin) and vialled in 20 mM Tris, pH 8.0 and 500 mM NaCl. NR-53769 lacks the signal sequence and contains 1194 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) as well as the additional proline substitutions that create the HexaPro variant (F817P, A892P, A899P and A942P), and includes a T4 foldon trimerization domain, HRV3C protease cleavage site, and C-terminal octa-histidine and Twin-Strep® (TST) tags.

**Lot: 70038511**

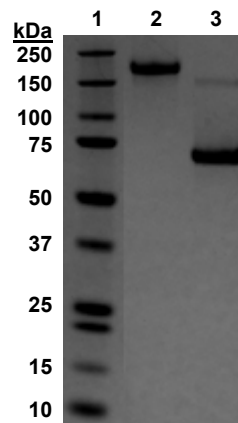
**Manufacturing Date: 14SEP2020**

TEST	SPECIFICATIONS	RESULTS
<b>Appearance</b>	Clear and colorless	Clear and colorless
<b>SDS-PAGE Analysis (Coomassie Blue)</b>	Protein band of interest represents > 90% of total staining intensity	Protein band of ~ 190 kDa represents > 90% of total staining intensity (Figure 1) <sup>1</sup>
<b>Concentration by Bicinchoninic Acid Assay</b> Bovine Serum Albumin (standard)	Report results	0.48 mg per mL
<b>Final Product</b> Amount per vial Volume per vial	Report results Report results	39 µg 80 µL
<b>Functional Activity by Western Blot Analysis</b> Monoclonal anti-histidine tag	Reactive	Reactive (Figure 2) <sup>2</sup>
<b>Sterility</b>	0.2 µm sterile-filtered	0.2 µm sterile-filtered

<sup>1</sup>The recombinant protein migrated to a slightly larger size than was expected, likely caused by glycosylation common in recombinant spike proteins derived from coronaviruses. For more information, please see Chakraborti, S., et al. "The SARS Coronavirus S Glycoprotein Receptor Binding Domain: Fine Mapping and Functional Characterization." *Virology* 2 (2005): 73. PubMed: 16122388.

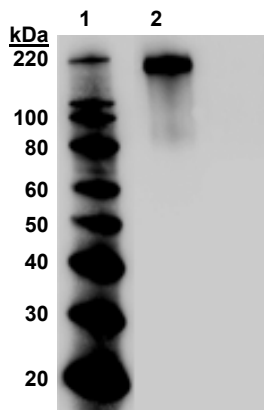
<sup>2</sup>Using a 1:1000 dilution of mouse monoclonal anti-histidine tag (R&D Systems MAB050) as primary antibody and a 1:1000 dilution of HRP-conjugated goat anti-mouse IgG (R&D Systems HAF007) as secondary antibody.

**Figure 1: SDS-PAGE Analysis**



Lane 1: Precision Plus Protein™ Standard (4 µL)  
 Lane 2: NR-53769 (2 µg)  
 Lane 3: Bovine serum albumin (2 µg)

Figure 2: Anti-Histidine Western Blot Analysis



Lane 1: MagicMark™ XP Protein Standard (6 µL)  
 Lane 2: NR-53769 (0.5 µg)  
 Lane 3: Bovine serum albumin (0.5 µg)

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