

**Spike Glycoprotein (Stabilized) from Human Coronavirus, HKU1 with C-Terminal Histidine and Avi Tags, Recombinant from HEK293F Cells**

**Catalog No. NR-53713**

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

**Product Description:**

A recombinant form of the spike (S) glycoprotein from human coronavirus (HCoV), HKU1 (GenPept: [ABC70719](#)) was produced in human embryonic kidney HEK293F cells and purified by immobilized metal affinity and size exclusion chromatography. NR-53713 lacks the signal sequence and contains 1264 residues (ectodomain) of the HCoV spike glycoprotein; the recombinant protein was stabilized by substitution at the furin S1/S2 cleavage site (RRKRR to GGSGS; residues 752 to 756) and with a pair of mutations (N1067P and L1068P, wild type numbering), and includes a thrombin cleavage site, T4 foldon trimerization domain and C-terminal hexa-histidine tag fused to an AviTag™ BirA biotinylation acceptor sequence.

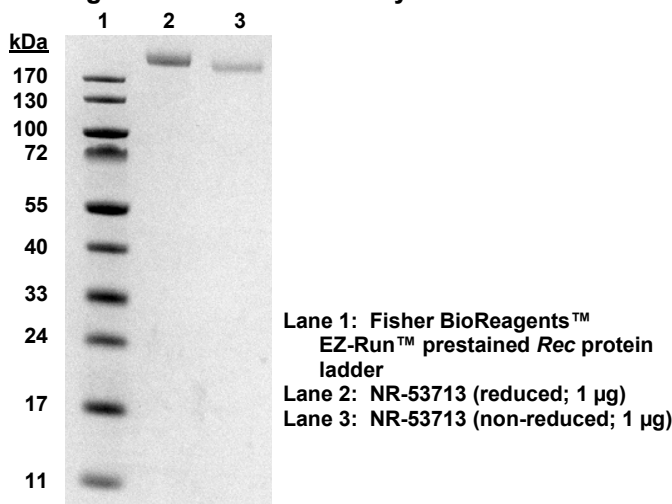
**Lot: 70037919**

**Manufacturing Date: 30JUL2020**

TEST	SPECIFICATIONS	RESULTS
<b>Appearance</b>	Clear and colorless	Clear and colorless
<b>Purity</b> SDS-PAGE analysis  SEC-HPLC (pre-vial)	Protein band of interest represents > 90% of total staining intensity Report results	Protein band of > 170 kDa represents > 90% of total staining intensity (Figure 1) <sup>1</sup> Single peak in elution profile (Figure 2)
<b>Protein Concentration (A<sub>280</sub>)</b>	Report results	1 mg per mL
<b>Final Product</b> Amount per vial Volume per vial	Report results Report results	50 µg 50 µL
<b>Dynamic Light Scattering</b>	Report results	Aggregate detectable by scattering intensity; negligible aggregate mass (Figure 3)
<b>Filtration</b>	0.22 µm sterile-filtered	0.22 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.

**Figure 1: SDS-PAGE Analysis**



**Figure 2: SEC-HPLC**

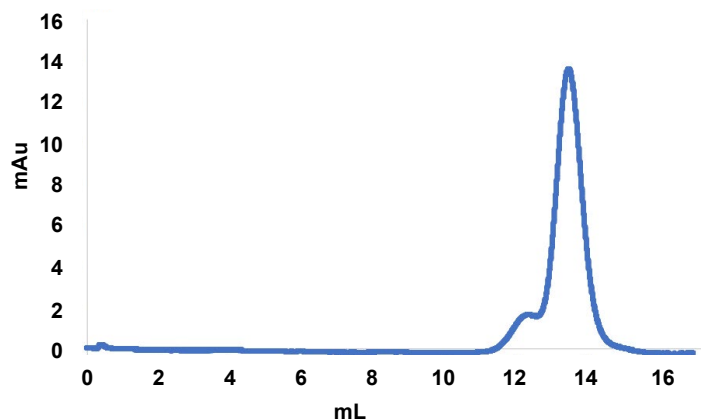
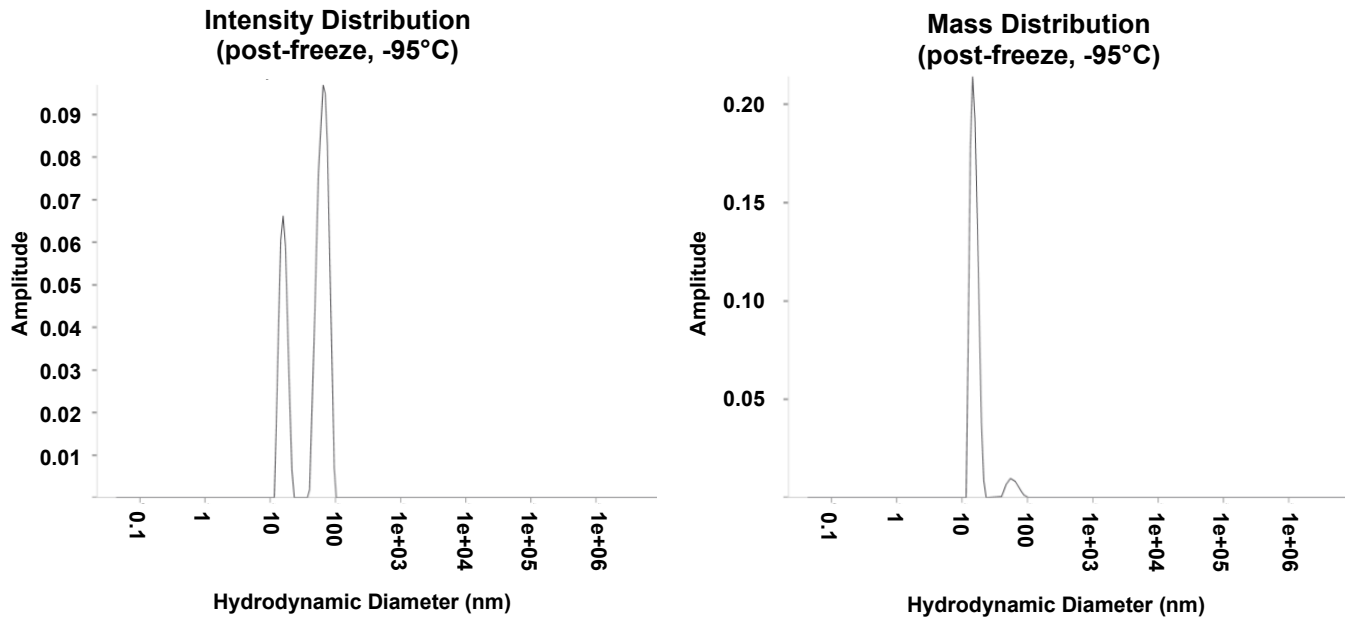


Figure 3: Dynamic Light Scattering Analysis



/Heather Couch/

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25 AUG 2020

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