

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

Catalog No. NR-53937

This reagent is the 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 stable transfection of the plasmid VRC7471 into Chinese hamster ovary (CHO pYW) cells, and purified utilizing depth-filtration clarification, diafiltration/ultrafiltration using a Tangential Flow Filtration (TFF) cassette (100-kDa molecular weight cutoff) and StrepTactin™ Sepharose® chromatography. NR-53937 lacks the signal sequence and contains 1194 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), and includes a T4 foldon trimerization domain, HRV3C protease cleavage site, and C-terminal octa-histidine and Twin-Strep® (TST) tags.

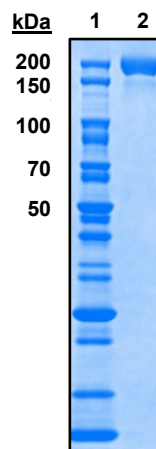
Lot: 70040860

Manufacturing Date: 09NOV2020

TEST	SPECIFICATIONS	RESULTS
Appearance	Report results	Transparent; no particles
SDS-PAGE Analysis	Protein band of interest represents > 90% of total staining intensity	Dominant band of ~ 190 kDa represents 100% of total staining intensity (Figure 1) ¹
Protein Concentration (A ₂₈₀)	Report results	2 mg per mL
Final Product Amount per vial Volume per vial	Report results Report results	1 mg 0.5 mL
Filtration	0.2 µm sterile-filtered	0.2 µm sterile-filtered
Endotoxin	Report results	0.18 EU per mg

¹The 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



Lane 1: Unstained Protein Standard, Broad Range (New England Biolabs)
Lane 2: NR-53937 (2 µg)

/Heather Couch/

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27 JAN 2021

Program Manager or designee, ATCC Federal Solutions

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