b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-53937

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:

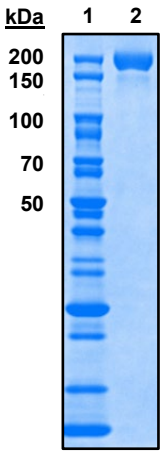
A recombinant form of the spike (S) glycoprotein from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenPept: QHD43416) was produced by stable transfection of the plasmid VRC7471 into Chinese hamster ovary (CHO pYW) cells, and purified utilizing depth-filtration clarification, 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	Report results	1 mg
Volume per vial	Report results	0.5 mL
Filtration	0.2 µm sterile-filtered	0.2 µm sterile-filtered
Endotoxin	Report results	0.18 EU per mg

[1]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." Virol. J. 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)

BEI Resources
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/Heather Couch/
Heather Couch 27 JAN 2021
Program Manager or designee, ATCC Federal Solutions

ATCC®, on behalf of BEI Resources, hereby represents and warrants that the material provided under this certificate has been subjected by the contributor to the tests and procedures specified and that the results described, along with any other data provided in this certificate, are true and accurate to the best of ATCC®'s knowledge.

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