b|e|i RESOURCES

SUPPORTING INFECTIOUS DISEASE RESEARCH

Certificate of Analysis for NR-53524

Spike Glycoprotein (Stabilized) from SARS-Related Coronavirus 2, Wuhan-Hu-1 with C-Terminal Histidine and Avi Tags, Recombinant from HEK293F Cells

Catalog No. NR-53524

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

Product Description:

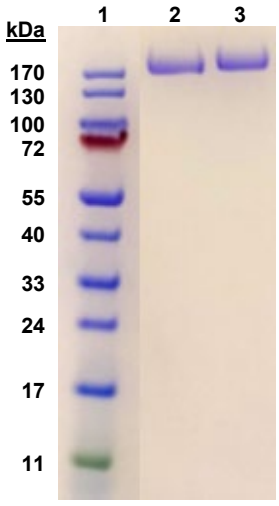
A recombinant form of the spike (S) glycoprotein from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenPept: QJE37812) was produced in human embryonic kidney HEK293F (FreeStyle™) cells and purified by immobilized metal (nickel) affinity and size exclusion chromatography. NR-53524 lacks the signal sequence and contains 1194 residues (ectodomain) of the SARS-CoV-2 spike glycoprotein; the recombinant protein was modified to remove the polybasic S1/S2 cleavage site (RRAR to A; residues 682 to 685), stabilized with a pair of mutations [K986P and V987P, wild type numbering (GenPept: YP_009724390)] 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: 70036207 **Manufacturing Date: 26MAY2020**

TEST	SPECIFICATIONS	RESULTS
Appearance	Clear and colorless	Clear and colorless
Purity 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)[1] Single peak in elution profile (Figure 2)
Protein Concentration (A_{280})	Report results	1 mg per mL
Final Product Amount per vial Volume per vial	 Report results Report results	 50 µg 50 µL
Dynamic Light Scattering	Report results	Aggregate detectable by scattering intensity; negligible aggregate mass (Figure 3)
Filtration	0.22 µm sterile-filtered	0.22 µm sterile-filtered

[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: Fisher BioReagents™ EZ-Run™ prestained *Rec* protein ladder (1 µg)
Lane 2: NR-53524 (non-reduced; 1 µg)
Lane 3: NR-53524 (reduced; 1 µg)

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

© 2020 American Type Culture Collection (ATCC). All rights reserved.

Figure 2: SEC-HPLC

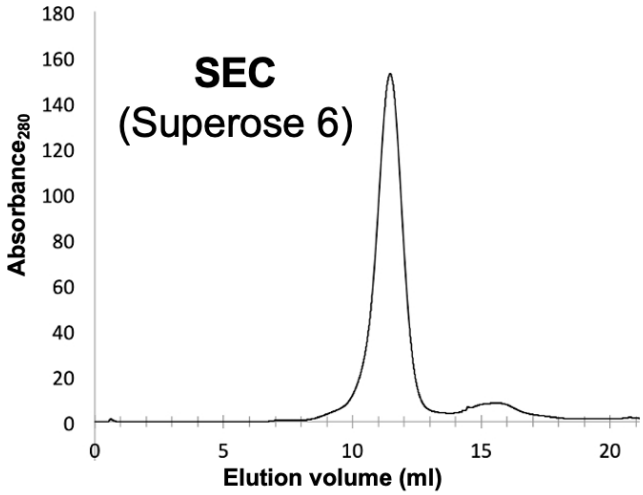
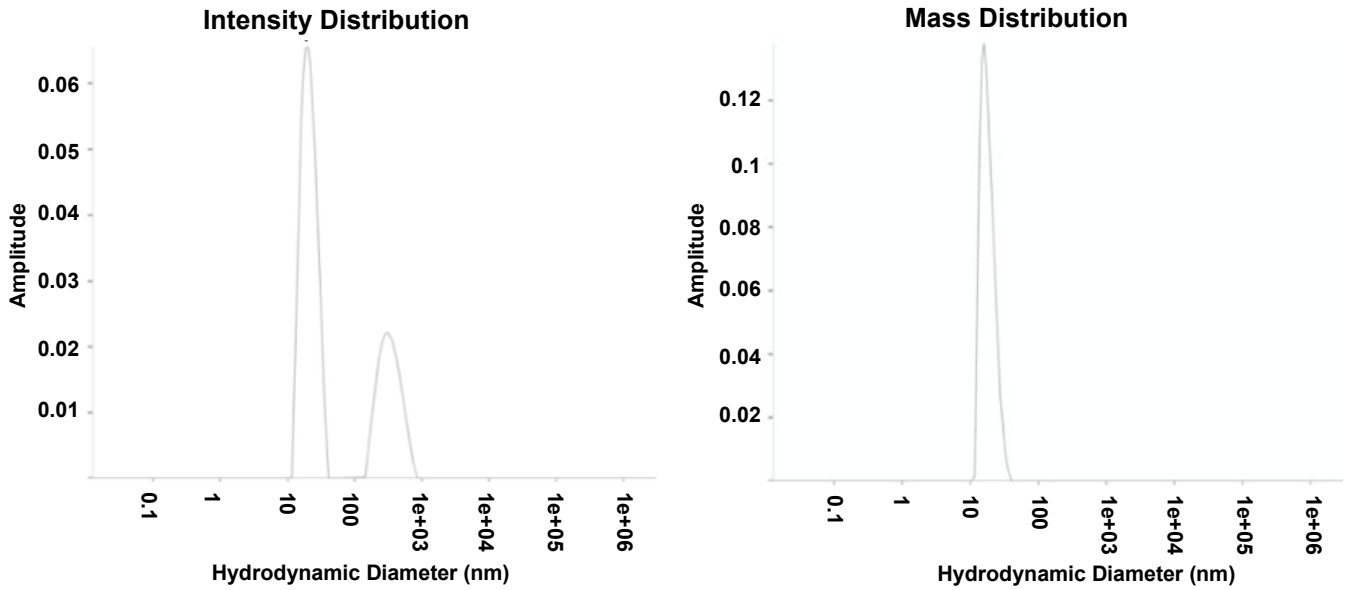


Figure 3: Dynamic Light Scattering Analysis



/Heather Couch/
Heather Couch 08 JUN 2020
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.

ATCC® is a trademark of the American Type Culture Collection.
You are authorized to use this product for research use only. It is not intended for human use.

BEI Resources
www.beiresources.org
E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898

© 2020 American Type Culture Collection (ATCC). All rights reserved.