

Spike Glycoprotein Receptor Binding Domain (RBD) from SARS-Related Coronavirus 2, Wuhan-Hu-1 with C-Terminal Histidine Tag, Recombinant from HEK293 Cells

Catalog No. NR-53800

Sino Biological Catalog No. 40592-V08H

For research use only. Not for use in humans.

Contributor and Manufacturer:

Sino Biological, Wayne, Pennsylvania, USA

Product Description:

A recombinant form of the spike glycoprotein receptor binding domain (RBD) from severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), Wuhan-Hu-1 (GenPept: [YP_009724390](#)) was produced by transfection in human embryonic kidney HEK293 cells and purified.^{1,2} NR-53800 lacks the signal sequence, contains 223 residues of the SARS-CoV-2 spike glycoprotein RBD (amino acid residues R319 to F541) and features a C-terminal poly-histidine tag.^{1,2} The predicted protein sequence is shown in Figure 1. NR-53800 has a theoretical molecular weight of 26,540 daltons.¹ Representative SDS-PAGE and SEC-HPLC results are shown in Figures 2 and 3.¹

Material Provided:

Each vial contains approximately 50 µg of purified recombinant protein in phosphate buffered saline (PBS, pH 7.4). **Note:** NR-53800 was not lyophilized. The concentration, expressed as mg per mL, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-53800 was packaged aseptically in cryovials. The product is provided on dry ice and should be stored under sterile conditions at -20°C to -80°C immediately upon arrival. It is recommended that the protein be aliquoted for optimal storage.¹ Freeze-thaw cycles should be avoided.

Functional Activity:

The biological activity of NR-53800 was measured by its binding ability in a functional ELISA (Figure 4), in which immobilized human ACE2 protein (Fc tag) (Sino Biological 10108-H05H) (100 µL/well) can bind NR-53800; the half maximal effective concentration (EC₅₀) of NR-53800 is 20 to 60 ng/mL.¹

Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Spike Glycoprotein Receptor Binding Domain (RBD) from SARS-Related Coronavirus 2, Wuhan-Hu-1 with C-Terminal Histidine Tag, Recombinant from HEK293 Cells, NR-53800."

Biosafety Level: 1

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 6th ed. Washington, DC: U.S. Government Printing Office, 2020; see www.cdc.gov/biosafety/publications/bmb15/index.htm.

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References:

- Lu, Z., Personal Communication.
- Wu, F., et al. "A New Coronavirus Associated with Human Respiratory Disease in China." Nature 579 (2020): 265-269. PubMed: 32015508.

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Figure 1: Predicted Protein Sequence

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1  RVQPTESIVR FPNITNLC PF GEVFNATRFA SVYAWN RKRI SNCVADYSVL
51  YNSASFSTFK CYGVSP TKLN DLCFTN VYAD SFVIRGDEVR QIAPGQTGKI
101 ADYNYKL PDD FTGCVIA WNS NNLD SKVGGN YNYLYRLFRK SNLKPFERDI
151 STEIYQAGST PCNGVEGFNC YFPLQSYGFQ PTNGVGYQPY RVVVL SFELL
201 HAPATVCGPK KSTNLVKNKC VNF AHHHHHH HHHH

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RBD – Residues 1 to 223 (represents amino acid residues 319 to 541)

Poly-histidine tag – Residues 225 to 234

Figure 2: Representative SDS-PAGE

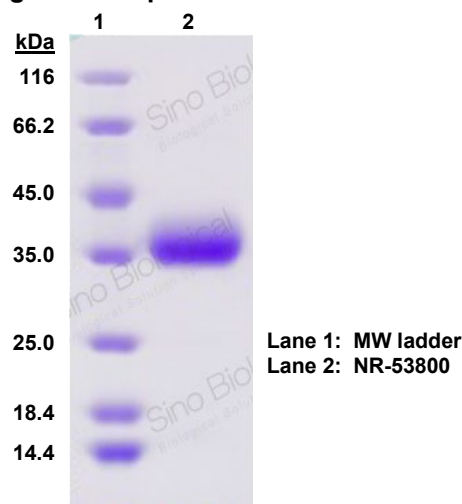


Figure 3: Representative SEC-HPLC

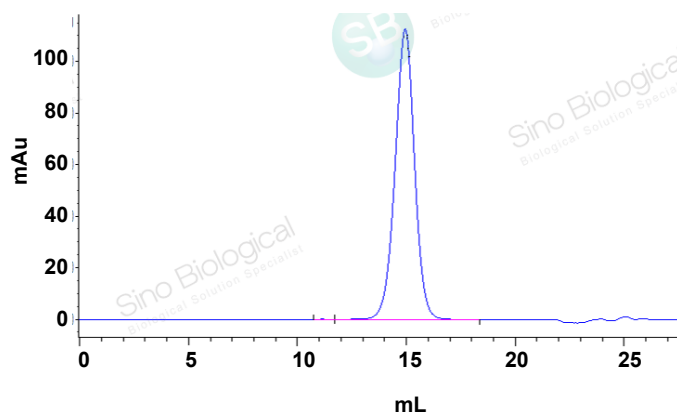


Figure 4: Representative Functional ELISA

