

H1 Hemagglutinin (HA) Protein with C-Terminal Histidine Tag from Influenza Virus, A/New Caledonia/20/1999 (H1N1), Recombinant from Baculovirus

Catalog No. NR-48873

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Contributor and Manufacturer:

BEI Resources

Product Description:

A recombinant form of the H1 hemagglutinin (HA) protein from influenza A virus, A/New Caledonia/20/1999 (H1N1) was produced in Sf9 insect cells using a baculovirus expression vector system and was purified by nickel affinity chromatography. The predicted protein sequence is shown in Figure 1. NR-48873 lacks the signal sequence and includes additional plasmid encoded residues at both the N-terminal and C-terminal ends, as well as T4 foldon trimerization domain, thrombin cleavage site and C-terminal octa-histidine tag.^{1,2} The full-length HA precursor protein is 565 residues (GenPept: [AAP34324](#)). NR-48873 has a theoretical molecular weight of 62,125 daltons. The crystal structure for the precursor HA protein has been solved at 3.00 Å resolution (PDB: [1RD8](#)).

Material Provided:

Each vial contains 50 µg to 150 µg of purified recombinant HA protein in PBS (pH 7.4) with 50% glycerol. The protein content in µg and the concentration, expressed as µg per mL, are shown on the Certificate of Analysis.

Packaging/Storage:

Purified recombinant HA protein was packaged aseptically, in screw-capped plastic cryovials. This product is provided on blue ice and should be stored at -20°C immediately upon arrival.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: H1 Hemagglutinin (HA) Protein with C-Terminal Histidine Tag from Influenza Virus, A/New Caledonia/20/1999 (H1N1), Recombinant from Baculovirus, NR-48873.”

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/bmbl5/index.htm.

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References:

1. Stevens, J., et al. “Structure of the Uncleaved Human H1 Hemagglutinin from the Extinct 1918 Influenza Virus.” *Science* 303 (2004): 1866-1870. PubMed: 14764887.
2. Stevens, J., et al. “Structure and Receptor Specificity of the Hemagglutinin from an H5N1 Influenza Virus.” *Science* 312 (2006): 404-410. PubMed: 16543414.

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Figure 1: Predicted Protein Sequence

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1   ADPDTICIGY HANNSTDTVD TVLEKNVTVT HSVNLLEDSE NGKLCLLKGI
51  APLQLGNCSV AGWILGNPEC ELLISKESWS YIVETPNPEN GTCYPGYFAD
101 YEELREQLSS VSSFERFEIF PKESSWPNHT VTGVSASCSH NGKSSFYRNL
151 LWLTGKNGLY PNLKSYSVNN KEKEVLVLWG VHHPPNIGNQ RALYHTENAY
201 VSVVSSHYSR RFTPEIAKRP KVRDQEGRIN YYWTLLEPGD TIIIFEANGNL
251 IAPWYAFALS RFGSGGIITS NAPMDECDAK CQTPQGAINS SLPFQNVHPV
301 TIGECPKYVR SAKLRMVTGL RNIPSIQSRG LFGAIAGFIE GGWTGMVDGW
351 YGYHHQNEQG SGYAADQKST QNAINGITNK VNSVIEKMNT QFTAVGKEFN
401 KLERRMENLN KKVDDGFLDI WTYNALLVL LENERTLDFH DSNVKNLYEK
451 VKSQLKNNAK EIGNGCFEFY HKCNECMES VKNGTYDYPK YSEESKLNRE
501 KIDGVIIGRLV PRGSPGSGYI PEAPRDGQAY VRKDGEWVLL STFLGHHHHH
551 HHH
  
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Plasmid-derived amino acids – Residues 1 to 3, 506 to 508, 515, 545

HA protein – Residues 4 to 505 [Represents amino acid residues 18-519 of the nativeHA protein (GenPept: [AAP34324](#)).

Thrombin cleavage sequence – Residues 509 to 514

T4 foldon trimerizing domain – Residues 516 to 544

Octa-histidine tag – Residues 546 to 553