

# H1 Hemagglutinin (HA) Protein from Influenza A Virus, A/New York/18/2009 (H1N1), Recombinant from Baculovirus

## Catalog No. NR-51159

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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 York/18/2009 (H1N1) was produced in Sf9 insect cells using a baculovirus expression vector system. The recombinant HA protein containing the H1 ectodomain was purified by nickel affinity chromatography.<sup>1,2</sup> The predicted protein sequence is shown in Table 1. The recombinant HA protein lacks the transmembrane domain and signal sequence, and includes a C-terminal octa-histidine tag. The full-length HA precursor protein is 566 residues (GenPept: [ACQ63233](#)). NR-51159 has a theoretical molecular weight of 64,503 daltons.

## Material Provided:

Each vial contains approximately 830 µL of purified recombinant HA protein in 10 mM Tris (pH 8) with 250 mM NaCl and 50% glycerol. The concentration, expressed as mg/mL, is 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 dry ice and should be stored at -20°C immediately upon arrival.

## Functional Activity:

NR-51159 is functional in SDS-PAGE, western blot and ELISA.<sup>1</sup>

## Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: H1 Hemagglutinin (HA) Protein from Influenza A Virus, A/New York/18/2009 (H1N1), Recombinant from Baculovirus, NR-51159."

## 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.

## Disclaimers:

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## References:

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

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Figure 1: Predicted Protein Sequence

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1  ADPGYLLEFD  TLCIGYHANN  STDTVDTVLE  KNVTVTHSVN  LLEDKHNGKL
51  CKLRGVAPLH  LGKCNIAGWI  LGNPECESLS  TASSWSYIVE  TSSSDNGTCY
101 PGDFIDYEEL  REQLSSVSSF  ERFEIFPKTS  SWPNHDSNKG  VTAACPHAGA
151 KSFYKNLIWL  VKKGNSYPKL  SKSYINDKGK  EVLVLVGIIH  PSTSADQQSL
201 YQNADAYVFV  GTSRYSKKFK  PEIAIRPKVR  DQEGRMNYYW  TLVEPGDKIT
251 FEATGNLVVP  RYAFAMERNA  GSGIIISDTP  VHDCNTTCQT  PKGAINSTLP
301 FQNIHPITIG  KCPKYVKSTK  LRLATGLRNV  PSIQSRGLFG  AIAGFIEGGW
351 TGMVDGWYGY  HHQNEQSGY  AADLKSTQNA  IDEITNKVNS  VIEKMNTQFT
401 AVGKEFNHLE  KRIENLNKKV  DDGFLDIWTY  NAELLVLEN  ERTLDYHDSN
451 VKNLYEKVRS  QLKNNAKEIG  NGCFEFYHKC  DNTCMESVKN  GTYDYPKYSE
501 EAKLNREEID  GVKLESTRIY  QIRCRSSGRL  VPRGSPGSGY  IPEAPRDGQA
551 YVRKDGEWVL  LSTFLGHHHH  HHHH

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Plasmid-derived amino acids – Residues 1 to 9, 523 to 529, 536, 566

HA protein – Residues 10 to 522 [represents amino acid residues 18 to 530 of the native HA protein (GenPept: [ACQ63233](#))]

Thrombin cleavage sequence – Residues 530 to 535

Trimerizing domain – Residues 537 to 565

Octa-histidine tag – Residues 567 to 574