Product Information Sheet for NR-28607

H1 Hemagglutinin (HA) Protein with C-Terminal Histidine Tag from Influenza Virus, A/Brisbane/59/2007 (H1N1), Recombinant from Baculovirus

Catalog No. NR-28607

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

For research use only. Not for use in humans.

Contributor and Manufacturer:

BEI Resources

Product Description:

A recombinant form of the H1 hemagglutinin (HA) protein from influenza A virus, A/Brisbane/59/2007 (H1N1) was produced in High Five™ insect cells using a baculovirus expression vector system and was purified by nickel affinity chromatography.[1] NR-28607 lacks the signal sequence and contains 501 residues (ectodomain) of the influenza A virus, A/Brisbane/59/2007 (H1N1); the recombinant protein includes a thrombin cleavage site, T4 foldon trimerization domain and C-terminal octa-histidine tag, as described for the 1918 pandemic virus.[2,3] The full-length H1 HA precursor protein is 565 residues (GenPept: ACA28844). The predicted protein sequence of NR-28607 is shown in Figure 1. NR-28607 has a theoretical molecular weight of 62.6 kilodaltons. The crystal structure of the 1918 Human H1 HA precursor has been solved at 3.00 Å resolution (PDB: 1RD8).[2]

Material Provided:

Each vial contains 50 to 110 µg of purified recombinant protein in PBS (pH 7.4) with 50% glycerol. The concentration, expressed as micrograms per milliliter, is shown on the Certificate of Analysis.

Packaging/Storage:

NR-28607 was packaged aseptically in cryovials. The product is provided on blue ice and should be stored at -20°C or colder 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/Brisbane/59/2007 (H1N1), Recombinant from Baculovirus, NR-28607."

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.

Disclaimers:

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References:

1. Fiore, A. E., et al. "Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2008." MMWR Recomm. Rep. 57 (2008): 1-60. PubMed: 18685555.
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.
3. Krammer, F., et al. "A Carboxy-Terminal Trimerization Domain Stabilizes Conformational Epitopes on the Stalk Domain of Soluble Recombinant Hemagglutinin Substrates." PLoS One 7 (2012): e43603. PubMed: 22928001.

Support Provided by NIAID

BEI Resources
www.beiresources.org

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

Figure 1: Predicted Protein Sequence

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1    ADPGYLLEDT ICIGYHANNS TDTVDTVLEK NVTVTHSVNL LENSHNGKLC
51   LLKGIAPLQL GNCSVAGWIL GNPECELLIS KESWSYIVEK PNPENGTCYP
101  GHFADYEELR EQLSSVSSFE RFEIFPKESS WPNHTVTGVS ASCSHNGESS
151  FYRNLLWLTG KNGLYPNLSK SYANNKEKEV LVLWGVHHPP NIGDQKALYH
201  TENAYVSVVS SHYSRKFTPE IAKRPKVRDQ EGRINYYWTL LEPGDTIIFE
251  ANGNLIAPRY AFALSRGFGS GIINSNAPMD KCDAKCQTPQ GAINSSLPFQ
301  NVHPVTIGEC PKYVRSAKLR MVTGLRNIPS IQSRGLFGAI AGFIEGGWTG
351  MVDGWYGYHH QNEQGSGYAA DQKSTQNAIN GITNKVNSVI EKMNTQFTAV
401  GKEFNKLERR MENLNKKVDD GFIDIWTYNA ELLVLLENER TLDFHDSNVK
451  NLYEKVKSQL KNNAKEIGNG CFEFYHKCND ECMESVKNGT YDYPKYSEES
501  KLNREKIDGG SSGRLVPRGS PGSGYIPEAP RDGQAYVRKD GEWVLLSTFL
551  GHHHHHHHH
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Plasmid-derived amino acids – Residues 1 to 8, 510 to 514, 521, 551
HA protein – Residues 9 to 509 (represents amino acid residues 18 to 518)
Thrombin cleavage sequence – Residues 515 to 520
T4 foldon trimerization domain– Residues 522 to 550
Octa-histidine tag – Residues 552 to 559

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www.beiresources.org

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