

## Neuraminidase (NA) Protein with N-Terminal Histidine Tag from Influenza Virus, B/Florida/4/2006, Recombinant from Baculovirus

### Catalog No. NR-19236

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**For research use only. Not for use in humans.**

### Contributor and Manufacturer:

BEI Resources

### Product Description:

A recombinant form of the neuraminidase (NA) protein from influenza B virus, B/Florida/4/2006 was produced in Sf9 insect cells using a baculovirus expression vector system and was purified by nickel affinity chromatography. NR-19236 contains the predicted ectodomain coding region of the NA protein from influenza B virus, B/Florida/4/2006 (GenPept: [ABU50667](#)) fused to a synthetic gene segment encoding an N-terminal octa-histidine tag followed by a 43 amino acid tetramerization domain from vasodilator-stimulated phosphoprotein (VASP) and a thrombin cleavage site, as described for the 1918 pandemic virus.<sup>1,2</sup> The predicted protein sequence is shown in Figure 1. NR-19236 has a theoretical molecular weight of approximately 51.6 kilodaltons. The full-length NA precursor protein is 466 residues.

### Material Provided:

Each vial contains 50 to 150 µg of purified recombinant NA protein in buffer. The concentration, expressed as mg per mL, and buffer composition are shown on the Certificate of Analysis.

### Packaging/Storage:

NR-19236 was packaged aseptically in cryovials. The product is provided frozen on dry ice and should be stored at -20°C or colder immediately upon arrival. Freeze-thaw cycles should be minimized. Note: NR-19236 is not stable long-term at 4°C.

### Functional Activity:

NR-19236 was demonstrated to be functionally active based on its ability to cleave the fluorogenic substrate 2'-(4-methylumbelliferyl)-α-D-N-acetylneuraminic acid (4-MUNANA).<sup>3</sup>

### Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: Neuraminidase (NA) Protein with N-Terminal Histidine Tag from Influenza Virus, B/Florida/4/2006, Recombinant from Baculovirus, NR-19236."

### 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](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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### References:

1. Kühnel, K., et al. "The VASP Tetramerization Domain is a Right-Handed Coiled Coil Based on a 15-Residue Repeat." Proc. Natl. Acad. Sci. USA 101 (2004): 17027-17032. PubMed: 15569942.
2. Xu, X., et al. "Structural Characterization of the 1918 Influenza Virus H1N1 Neuraminidase." J. Virol. 82 (2008): 10493-10501. PubMed: 18715929.
3. Wetherall, N. T., et al. "Evaluation of Neuraminidase Enzyme Assays Using Different Substrates to Measure Susceptibility of Influenza Virus Clinical Isolates to Neuraminidase Inhibitors: Report of the Neuraminidase Inhibitor Susceptibility Network." J. Clin. Microbiol. 41 (2003): 742-750. PubMed: 12574276.

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Figure 1: Predicted Protein Sequence

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1  ADPHHHHHHH HSSSDYSDLQ RVKQELLEEV KKELQKVKEE IIEAFVQELR
51 KRGSLVPRGS PSRSEFGVTL LLPEPEWTYP RLSCPGSTFQ KALLISPHRF
101 GETKGNSAPL IIREPFIACG PTECKHFALT HYAAQPGGY NGTREDRNKL
151 RHLISVKLGK IPTVENSIFH MAAWSGSACH DGKEWTYIGV DGPDSNALLK
201 IKYGEAYTDT YHSYAKNILR TQESACNCIG GDCYLMITDG PASGISECRF
251 LKIREGRIIK EIFPTGRVKH TEECTCGFAS NKTIECACRD NSYTAKRPFV
301 KLNVETDTAE IRLMCTETYL DTPRPNDGSI TGPCESDGDK GSGGIKGGFV
351 HQRMASKIGR WYSRTMSKTK RMGMGLYVKY DGDPWTDSEA LALSGVMVSM
401 EEPGWYSFGF EIKDKKCDVP CIGIEMVHDG GKTTWHTAAT AIYCLMGSGQ
451 LLWDTVTGVD MAL

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Plasmid-derived amino acids – Residues 1 to 3 and 61 to 66

Octa-histidine Tag – Residues 4 to 11

Tetramerization domain – Residues 12 to 54

Thrombin cleavage sequence – Residues 55 to 60

**NA protein – Residues 67 to 463** (represents amino acid residues 70 to 466)