N1 Neuraminidase (NA) Protein with N-Terminal Histidine Tag from Influenza Virus, A/Puerto Rico/8/1934 (H1N1), Recombinant from Baculovirus

Catalog No. NR-19235
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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 N1 neuraminidase (NA) protein from influenza A virus, A/Puerto Rico/8/1934 (H1N1) was produced in insect cells using a baculovirus expression vector system and purified by nickel affinity chromatography under denaturing conditions. NR-19235 contains the predicted ectodomain coding region of the N1 neuraminidase (NA) protein from influenza A virus, A/Puerto Rico/8/1934 (H1N1) (GenPept: ABD77678) 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.1,2 The predicted protein sequence is shown in Figure 1. NR-19235 has a theoretical molecular weight of approximately 50.5 kilodaltons. The full-length NA precursor protein is 454 residues and the crystal structure has been solved at 2.50 Å resolution (PDB: 2HTY).3

NR-19235 lots 64123709 and 70041699 were expressed from the same recombinant baculovirus vector as BEI Resources NR-42002, which was purified in the soluble form from cell supernatants and is functionally active.

Material Provided:
Each vial contains approximately 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-19235 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-19235 is not stable long-term at 4°C.

Functional Activity:
NR-19235 has not been tested for enzymatic activity. Previous work at BEI Resources indicated that other influenza virus neuraminidases purified under denaturing conditions and refolded by dialysis are not able to cleave the fluorogenic substrate 2’-(4-methylumbelliferyl)-α-D-N-acetylleuraminic acid (4-MUNANA).4

Citation:
Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: N1 Neuraminidase (NA) Protein with N-Terminal Histidine Tag from Influenza Virus, A/Puerto Rico/8/1934 (H1N1), Recombinant from Baculovirus, NR-19235."

Biosafety Level: 1

Disclaimers:
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References:
Product Information Sheet for NR-19235


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Figure 1: Predicted Protein Sequence

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<thead>
<tr>
<th>Residue</th>
<th>Amino Acid</th>
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<tbody>
<tr>
<td>1-3</td>
<td>ADP</td>
</tr>
<tr>
<td>4-11</td>
<td>HSSDYSDLQ</td>
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<tr>
<td>12-54</td>
<td>RKGLVPRGSS PSRSEFVILT GNSSLCPIRG WAIYSKDNSI RIGSKGDFVF</td>
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<tr>
<td>55-60</td>
<td>IREPFISCSH LECRTFELTQ GALLNDKSS GTVKDRSPYR ALMSCPVGEA</td>
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<tr>
<td>61-66</td>
<td>KRGS</td>
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<tr>
<td>67-300</td>
<td>VAWSASACHD GMGWLTIGIS GPDNGAVAVL KYNGIITETI</td>
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<td>301-350</td>
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<td></td>
<td>CMRPCFWVEL IRGRPKEKTI WTSASSIFC GVNSDTVDWS WPDGAELPF</td>
</tr>
</tbody>
</table>

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
HA protein – Residues 67 to 453 (represents amino acid residues 68 to 454)