Product Information Sheet for NR-19235

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

For research use only. Not for human use.

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) containing an N-terminal histidine tag was produced in High Five™ insect cells using a baculovirus expression vector system and was purified by nickel affinity chromatography under denaturing conditions. The purified protein was refolded by dialysis and filtered. The predicted ectodomain coding region of the NA gene was fused to a synthetic gene segment encoding an N-terminal eight-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. The predicted protein sequence is shown in Table 1. The full-length NA precursor protein is 454 residues (GenPept: ABD77678).

Material Provided:
Each vial contains approximately 50 to 150 µg of purified recombinant NA protein in 50 mM Tris-HCl (pH 8.5), 240 mM NaCl, 10 mM KCl, 1 mM EDTA, 0.5 M Arginine, 0.5% Triton X-100, and 1 mM DTT. The protein content in µg and the concentration, expressed as µg/mL, are shown on the Certificate of Analysis.

Packaging/Storage:
Purified recombinant NA protein was packaged aseptically in screw-capped plastic cryovials. This product is provided on refrigerated bricks and should be stored at 2°C to 8°C immediately upon arrival. Do not freeze.

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-β-N-acetylneuraminic acid (4-MUNANA).

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:
You are authorized to use this product for research use only. It is not intended for human use.

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References:

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### Table 1 – Predicted Protein Sequence

<table>
<thead>
<tr>
<th>Residue</th>
<th>Sequence</th>
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<tr>
<td>1</td>
<td>ADPHHHHHH HSSDYSDLQ RVKQELLEE KKELOQKVKEE IEAEFQELR</td>
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<tr>
<td>51</td>
<td>KRGSLVPRGS PSRSEFVLTM GNNLCPRIQ WAIYSDKNSI RIGSKGDVFV</td>
</tr>
<tr>
<td>101</td>
<td>IREPFISCHEL ECTTFFLTQ GALLNDKHSS GTVKDRSPYR ALMSCPVEA</td>
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<tr>
<td>151</td>
<td>PSPYNSRFES VAWSASACHD GMGWLTIGIS GPDNGAVAVL KYNIGITETI</td>
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<tr>
<td>201</td>
<td>KSWRKKILRT QSECAVCNV SCFTIMTDGP SDGLASYIF KIEKGVTKS</td>
</tr>
<tr>
<td>251</td>
<td>IELNAPNSHY EECSCYPDTG KVCVCRDNW HGSNRPWVSF DQNLDPYQIGY</td>
</tr>
<tr>
<td>301</td>
<td>ICSEVGFGDNP RPEDTGGSCG PVYDVGANGV KGFERYGNG VWIGRTKSHS</td>
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<tr>
<td>351</td>
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<tr>
<td>401</td>
<td>CMRPCFWVEL IRGRPKEKTI WTSASSIFSC GVNSDTVDWS WPDGAELPFS</td>
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<tr>
<td>451</td>
<td>IDK</td>
</tr>
</tbody>
</table>

Plasmid-derived amino acids – Residues 1 to 3 and 61 to 66  
His Tag – Residues 4 to 11  
Tetramerization domain – Residues 12 to 54  
Thrombin cleavage sequence – Residues 55 to 60  
NA protein – Residues 67 to 453*

*This represents amino acid residues 68 to 454 of the A/Puerto Rico/8/1934 (H1N1) NA protein.