Product Datasheet

Recombinant Influenza A Virus H1N1 Influenza A nucleoprotein Protein
NBP2-26581-0.1mg

Unit Size: 0.1 mg

Store at -80C. Avoid freeze-thaw cycles.

Publications: 11

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## Product Information

<table>
<thead>
<tr>
<th><strong>Unit Size</strong></th>
<th>0.1 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concentration</strong></td>
<td>Lyoph</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>Store at -80°C. Avoid freeze-thaw cycles.</td>
</tr>
<tr>
<td><strong>Preservative</strong></td>
<td>No Preservative</td>
</tr>
<tr>
<td><strong>Reconstitution Instructions</strong></td>
<td>Rehydrate with sterile water.</td>
</tr>
<tr>
<td><strong>Purity</strong></td>
<td>Chromatography</td>
</tr>
<tr>
<td><strong>Buffer</strong></td>
<td>Lyophilized from 20 mM HEPES, pH7.0, 1.5 mM MgCl2, 0.2 mM EDTA, 0.5 mM PMSF, and 0.5 mM DTT.</td>
</tr>
</tbody>
</table>

## Product Description

**Description**: A cDNA coding for Human Influenza-A (Influenza A virus (A/Puerto Rico/8/34/Mount Sinai (H1N1)) segment 5) nuclear protein NP.

**Source**: Baculovirus expression vector

**Amino Acid Sequence**:

```
MASQGTKRSYEQMETDGERQNATEIRASVGKMIGGIGRFYIQMCTELKLSDYEGRLI
QNSLTIERVML
SAFDERRNKYLEHPSAGKDPPKTGGPIYRRVNGKWMRELILYDKEIIHRIRWQRAN
GDDATAGLTHMIWHSNLNDATYQRTRALVRTGMPMCSLMQGSLPRRSAAGAAVKVG
TMVMELVRMIKGINDRNFWRGENGRKTRIAYERMNILKGFQTAQQAMMDQVRESRN
PGNAEFEDLTFLRSLALIRGSVAHKKSCLPACVYGPAVAGSYDFEREGLGIDPFRLL
LQNSQVYSLIRPNENPAHKSQLVWMACHSAAFDLRVLASSIKGTKVLPRGKLSTRG
VQNASNENMETMESSTLELSRYWAIRTRSGGNTNQQRASAGQISIQPTFSVORNL
PFDRTTIMAAANFNGTNEGRSDMRTEIIRMMESARPEDVFSQGRGVFELSDEKAASIP
VPSDMSNEGSYFFGDNAAEYDN
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**Species** | Influenza A Virus H1N1

**Preparation Method**: A cDNA coding for Human Influenza-A (Influenza A virus (A/Puerto Rico/8/34/Mount Sinai (H1N1)) segment 5) nuclear protein NP was cloned into a Baculovirus expression vector. The recombinant HNP-A was purified by proprietary chromatographic techniques.

**Notes**: For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

## Product Application Details

**Applications**: ELISA, SDS-Page

**Recommended Dilutions**: ELISA, SDS-Page 2-10 µg/lane

**Application Notes**: This protein migrates as a 55 kDa band in SDS-PAGE. The protein concentration was estimated by a BioRad Assay. The purity of the recombinant protein is approximately 70%.
Images

SDS-Page: Recombinant Influenza A Virus H1, Viral, Virus, Influenza A Virus H1N1 Influenza A nucleoprotein Protein [NBP2-26581] - Recombinant Influenza A Virus H1, Viral, Virus Influenza A nucleoprotein Protein [NBP2-26581] - Recombinant Influenza A Virus H1 Influenza A nucleoprotein Protein [NBP2-26581] - Coomassie stained SDS-PAGE gel of Influenza A Nuclear Protein. 0.5 ug (lane A), 1.0 ug (lane B), 2.0 ug (Lane C) of protein was loaded and separated by 4-20% SDS-PAGE.

ELISA: Recombinant Influenza A Virus H1, Viral, Virus, Influenza A Virus H1N1 Influenza A nucleoprotein Protein [NBP2-26581] - Recombinant Influenza A Virus H1, Viral, Virus Influenza A nucleoprotein Protein [NBP2-26581] - Influenza A/NP-A mAb, clone 2F205 was used as the capture antibody. Influenza A/NP-A pAb was used as the detection antibody. Recombinant Influenza A Nucleoprotein was used as the protein standard.

Publications


Details:
Immunization (Fig 7): Mice were immunized with 20 ug NP-A (IMR-274) alone or in combination with either dsRNA oligonucleotides (10 ug) or polyinosinic-polycytidylic acid (10 ug) in the rear quadriceps, 7-10 mice/group. Four weeks post immunization, the animal groups were boosted using the same protocol. Three weeks after boosting, the mice were challenged with influenza virus and monitored for survival.


Details:
ELISA, the IMR-274 recombinant protein was used in ELISA to evaluate antibodies to influenza virus sub-types in human serum samples. Data described but not shown.

Price GE, Soboleski MR, Lo CY et al. Vaccination focusing immunity on conserved antigens protects mice and ferrets against virulent H1N1 and H5N1 influenza A viruses. Vaccine. 2009 Nov 5 [PMID: 19729082]

Details:
ELISA (Fig 1): Detection of immune responses to NP after influenza A plasmid immunization in mice. NP-A (IMR-274) was used to coat ELISA plates. Antibody levels were measured in serum, nasal wash and brochoalveolar lavage. Data was expressed as endpoint titers defined as the highest dilution of sample giving an OD 405 nm reader greater than three SD above the mean of naive samples.

Details:
Epitope-blocking ELISA (bELISA): Tables 1, 2 Fig 1. Detection of antibodies to influenza A virus in taxonomically diverse domestic and wild vertebrate species, and mammalian species. The assay was first developed using raccoon and mallard serum. Serum from both naturally exposed and influenza A virus experimentally challenged animals was evaluated. Then sera from 215 birds and 38 mammals was used for further bELISA studies. For the bELISA studies, wells of 96-well ELISA plates were each coated 100 ul (143 mg/ml) of NP-A (IMR-274) in carbonate-bicarbonate buffer (50 mM sodium carbonate, 50 mM sodium bicarbonate, pH 9.6) and incubated overnight at 4 degrees C. See publication for additional assay details.

Quinn K, Quirion MR, Lo CY et al. Intranasal administration of adeno-associated virus type 12 (AAV12) leads to transduction of the nasal epithelia and can initiate transgene-specific immune response. Mol Ther. 2011 Nov [PMID: 21829176]

Details:
ELISA: Detection of antibody responses to NP-A after virus vaccination in mice (Fig 5). NP-A (IMR-274) was coated onto ELISA plates at 1 ug/ml in PBS buffer, blocked for 2 h with 1% FBS in PBS and the incubated with fourfold serially diluted serum (1/20-1


Details:
ELISA: The IMR-274 NP-A recombinant protein was used to detect antibody responses in the serum of mice immunized with plasmids encoding NP two weeks following the last immunization (Fig 3a). NP-A (IMR-274) was coated onto a Nunc Maxi-Sorp Immuno Plate at


Details:
Products cited for ELISA (Fig 3J): 1. Recombinant Influenza A Nucleoprotein (A/NP-A: IMR-274), Protein Standard 2. Influenza A/NP-A pAb (IMX-5214), Capture antibody 3. Influenza A/NP-A mAb (IMG-5134A), Detection antibody


Details:
Products cited for ELISA in plants and mice: 1. Recombinant Influenza A Nucleoprotein (NP-A, IMR-274), Protein standard (Fig 1A) and ELISA capture (Fig 6) 2. Influenza A/NP-1 mAb, clone 2F205 (IMX-5214), Detection antibody (Fig 1A) Notes: Fig 1A: Leaf ext


Details:
ELISA: Detection of humoral immune responses to NP after DNA vaccination in mice (Fig 2) or ferrets (Fig 4). The recombinant Influenza A nucleoprotein (NP-A) IMR-274 was used to coat ELISA plates.


Details:
ELISA: Detection of antibody responses to NP-A in the serum of immunized in mice at various time points following virus immunization (Fig 1). NP-A (IMR-274) was coated onto ELISA plates at 1 ug/ml in 0.125 saline, 0.007 M borate buffer overnight. at 4 deg
Lin F, Shen X, McCoy JR et al. A novel prototype device for electroporation-enhanced DNA vaccine delivery simultaneously to both skin and muscle. Vaccine. 2011 Sep 9 [PMID: 21199706]

Limitations
This product is for research use only and is not approved for use in humans or in clinical diagnosis. Peptides and proteins are guaranteed for 3 months from date of receipt.

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