

# Recombinant Influenza A Virus H2N2 Nucleoprotein / NP

Catalog Number: 40033-V08B



**Sino Biological Inc.**  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

NP

### Protein Construction:

A DNA sequence encoding the Influenza A virus (A/Ann Arbor/6/1960(H2N2)) nucleoprotein (AAM75159.1) (Met 1-Asn 498) was fused with a polyhistidine tag at the C-terminus.

**Source:** Influenza A Virus H2N2

**Expression Host:** Baculovirus-Insect cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE.

### Endotoxin:

<1.0 EU per µg protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met 1

### Molecular Mass:

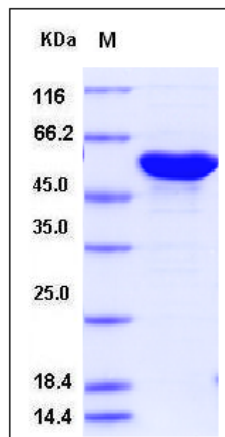
The recombinant Influenza A virus (A/Ann Arbor/6/1960(H2N2)) nucleoprotein comprises 508 amino acids and has a predicted molecular mass of 57 kDa. It migrates as an approximately 52 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from 0.2µm filtered solution of 20mM Tris, 500mM NaCl, pH 8.0, 20%gly, 1mM DTT

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

### SDS-PAGE:



## Usage Guide

### Storage:

Store it under sterile conditions at -70°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## Protein Description

The viral particles of all influenza viruses are similar in composition. These are made of a viral envelope containing two main types of glycoproteins, wrapped around a central core. The central core contains the viral RNA genome and other viral proteins that package and protect it from nucleases. The influenza A genome contains 11 genes on eight pieces of RNA, encoding for 11 proteins: Hemagglutinin (HA), Neuraminidase (NA), Nucleoprotein (NP), M1, M2, NS1, NS2(NEP), PA, PB1, PB1-F2 and PB2. Influenza A virus nucleoprotein (NP) forms homooligomers and wrap around genomic RNA, along with a trimeric polymerase making up ribonucleoprotein (RNP) complex which serves as template for transcription and replication. NP is composed of a head and a body domain and a tail loop/ linker region. The head domain is more conserved than the body domain. NP oligomerization is mediated by the insertion of the non-polymorphic and structurally conserved tail loop of one NP molecule to a groove of another NP. The different form of NP oligomers is due to the flexibility of the polymorphic linkers that join the tail loop to the rest of the protein. NP comprises at least 2 nuclear localization signals and is responsible of the active RNP import into the nucleus through the cellular importin alpha/beta pathway. Viral proteins NEP, M1, M2 may be involved in the process of nucleus export of RNP in the infection cycle.

### References

1. Li KS et al., 2004, Nature. 430: 209-13.
2. Epstein SL. et al., 2005, Vaccine. 23 (46-47): 5404-10.
3. Christophe F. et al., 2009, Science. 324: 1557-61.
4. Guan Y. et al., 2009, Revue scientifique et technique. 23 (2): 453-65.
5. Ng AK. et al., 2009, Sci China C Life Sci. 52 (5): 439-49.

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