

# Influenza A H1N1 (A/California/04/2009) Neuraminidase / NA (Fc Tag)

Catalog Number: 11058-V01H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

NA

### Protein Construction:

A DNA sequence encoding the mature form of Influenza A virus H1N1 (A/California/04/2009) neuraminidase (ACP41107.1) (His 36-Lys 469) was expressed with the fused Fc region of human IgG1 at the N-terminus linked by a peptide linker.

**Source:** H1N1

**Expression Host:** HEK293 Cells

## QC Testing

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

### Bio Activity:

**Inactive**

### Endotoxin:

< 1.0 EU per µg of the 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:** Glu 20

### Molecular Mass:

The secreted recombinant neuraminidase (A/California/04/2009 (H1N1))/Fc chimera is a disulfide-linked homodimer. The reduced monomer comprises 692 amino acids with the predicted molecular mass of 76 kDa. As a result of glycosylation, it migrates as an approximately 95-105 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

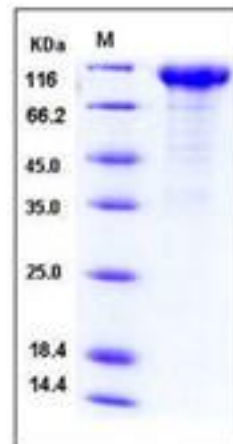
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Neuraminidases are enzymes that cleave sialic acid groups from glycoproteins. Influenza neuraminidase is a type of neuraminidase found on the surface of influenza viruses that enables the virus to be released from the host cell. Influenza neuraminidase is composed of four identical subunits arranged in a square. It is normally attached to the virus surface through a long protein stalk. The active sites are in a deep depression on the upper surface. They bind to polysaccharide chains and clip off the sugars at the end. The surface of neuraminidase is decorated with several polysaccharide chains that are similar to the polysaccharide chains that decorate our own cell surface proteins. Neuraminidase (NA) and hemagglutinin (HA) are major membrane glycoproteins found on the surface of influenza virus. Hemagglutinin binds to the sialic acid-containing receptors on the surface of host cells during initial infection and at the end of an infectious cycle. Neuraminidase, on the other hand, cleaves the HA-sialic acid bondage from the newly formed virions and the host cell receptors during budding. Neuraminidase thus is described as a receptor-destroying enzyme which facilitates virus release and efficient spread of the progeny virus from cell to cell. Influenza antibody and influenza antibodies are very important research tools for influenza diagnosis, influenza vaccine development, and anti-influenza virus therapy development. Monoclonal or polyclonal antibody can be raised with protein based antigen or peptide based antigen. Antibody raised with protein based antigen could have better specificity and/or binding affinity than antibody raised with peptide based antigen, but cost associated with the recombinant protein antigen is usually higher. Anti influenza virus hemagglutinin (HA) monoclonal antibody or polyclonal antibody can be used for ELISA assay, western blotting detection, Immunohistochemistry (IHC), flow cytometry, neutralization assay, hemagglutinin inhibition assay, and early diagnosis of influenza viral infection. Sino Biological has developed state-of-the-art monoclonal antibody development technology platforms: mouse monoclonal antibody and rabbit monoclonal antibody. Our rabbit monoclonal antibody platform is one of a kind and offers some unique advantages over mouse monoclonal antibodies, such as high affinity, low cross-reactivity with rabbit polyclonal antibodies.

## References

- 1.Sardet C., *et al.*,(1989), Molecular cloning, primary structure, and expression of the human growth factor-activatable Na<sup>+</sup>/H<sup>+</sup> antiporter. *Cell* 56:271-280.
- 2.Sardet C., *et al.*, (1990), Growth factors induce phosphorylation of the Na<sup>+</sup>/H<sup>+</sup> antiporter, glycoprotein of 110 kD. *Science* 247:723-726.
- 3.Tse C.-M., *et al.*,(1991), Molecular cloning and expression of a cDNA encoding the rabbit ileal villus cell basolateral membrane Na<sup>+</sup>/H<sup>+</sup> exchanger. *EMBO J.* 10:1957-1967.

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