

## Active Recombinant H3N2(A/Babol/36/2005) NA protein

Cat. No. NA-979V Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant H3N2 (A/Babol/36/2005) NA(His 36-Pro 459) was expressed in HEK293 and there is an amino acid change from Arginine to Lysine (R292K mutation) in NA / Neuraminidase.

**Species** H3N2

**Source** HEK293

**ProteinLength** His 36-Pro 459

**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-

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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.

**Form**

Lyophilized from sterile PBS, 0.6% Triton X-100, 7% Trehalose, 6% Mannitol, pH 7.4. Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization.

**Bio-activity**

Measured by its ability to cleave a fluorogenic substrate, 2'-(4-Methylumbelliferyl)- $\alpha$ -D-N-acetylneuraminic acid. The specific activity is > 50 U. One unit is defined as the amount of enzyme required to cleave 1 nmole of 2'-(4-Methylumbelliferyl)- $\alpha$ -D-N-acetylneuraminic acid per minute at pH 7.5 at 37 centigrade.

**Molecular Mass**

The influenza H3N2 virus Neuraminidase comprises 443 amino acids.

**Endotoxin**

< 1.0 EU per  $\mu$ g of the protein as determined by the LAL method

**Stability**

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

**Storage**

Store it under sterile conditions at -20 centigrade to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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**Reconstitution**

It is recommended that 1 ml sterile water be added to the vial to prepare a stock solution.

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