Influenza A H3N2 Neuraminidase / NA (R292K mutation) (Active)

Catalog Number: 40017-VNAHC3

Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

Neuraminidase, NA

Protein Construction:

A DNA sequence encoding the Influenza A virus (A/Babol/36/2005 (H3N2)) neuraminidase (ACN50232.1) (His 36-Pro 459) was expressed, Collected cell lysates are validated for neuraminidase activity. There is an amino acid change from Arginine to Lysine (R292K mutation) in NA / Neuraminidase.

Source: H3N2

Expression Host: HEK293 Cells

QC Testing

Bio-Activity:

Measured by its ability to cleave a fluorogenic substrate, 2'-(4-Methylumbelliferyl)-α-D-N-acetylneuraminic acid. One unit is defined as the amount of enzyme required to cleave 1 nmole of 2'-(4-Methylumbelliferyl)-α-D-N-acetylneuraminic acid per minute at pH 7.5 at 37°C.

Endotoxin:

Please contact us for more information.

Stability:

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

Molecular Mass:

The influenza H3N2 virus Neuraminidase comprises 424 amino acids.

Formulation:

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. 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℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

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

Protein Description

Neuraminidase (NA) is a major membrane glycoproteins found on the surface of influenza virus. NA specifically catalyzes the hydrolysis removal of terminal sialic acid residues from viral and cellular glycoconjugates. It is known that HA binds to the sialic acid-containing receptors on the surface of host cells during initial infection, and at the end of an infectious cycle, NA cleaves the HA-sialic acid bondage from the newly formed virions and the host cell receptors during budding. NA thus is described as a receptor-destroying enzyme which facilitates virus release and efficient spread of the progeny virus from cell to cell. NA is a single-pass type I I membrane protein which exists as a homotetramer, and the transmembrane domain is involved in lipid raft association during intracellular transport. NA is suggested to play a role in the determination of host range restriction on replication and virulence. Nine subtypes of NA have been identified, and subtypes N1 and N2 have been positively linked to epidemics in man.
Influenza A H1N1 virus is a subtype of influenza A virus. Some strains of H1N1 are endemic in humans and cause a small fraction of all influenza-like illness and a small fraction of all seasonal influenza. H1N1 strains caused a few percent of all human flu infections in 2004-2005. Other strains of H1N1 are endemic in pigs (swine influenza) and in birds (avian influenza). H1N1 was the most common cause of human influenza (flu) in 2009. In June 2009, the World Health Organization declared the new strain of swine-origin H1N1 as a pandemic. This strain is often called swine flu by the public media. This novel virus spread worldwide and had caused about 17,000 deaths by the start of 2010.

References

1. Barman, S. et al., 2000, J. Virol. 74: 6538-6545.
2. Colman, PM. et al., 1983, Nature. 303: 41-44.
3. Suzuki, T. et al., 2005, J. Virol. 79: 11705-11715.
4. von, Itzstein, M. 2007, Nat. Rev. Drug. Discov. 6: 967-974.