Data Sheet (Cat.No.TMPY-04848)

TargetMol

Influenza B (B/Brisbane/60/2008) Neuraminidase/NA Protein

General Information

Protein Construction:	A DNA sequence encoding Influenza B (B/Brisbane/60/2008) Neuraminidase (4CPL_A) (Met1-Leu466), termed as NA, was expressed.
Species:	Influenza B
Expression Host:	HEK293 Cells
Accession:	4CPL_A
Molecular Weight:	51.1 kDa (predicted)

QC Testing

Biological Activity:	Measured by its ability to cleave a fluorogenic substrate, 2'-(4-Methylumbelliferyl)-α-D-N-acetylneuraminic acid. The specific activity is > 100 U. The specific activity is > 1000 U.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, 1%Triton X-100 pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

It is recommended that 1 ml sterile water be added to the vial to prepare a stock solution. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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 cell surface proteins. Neuraminidase (NA) and hemagglutinin (HA) are major membrane glycoproteins found on the surface of the 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 that 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. The monoclonal or polyclonal antibody can be raised with protein based antigen or peptide-based antigen. Antibodies raised with protein-based antigen could have better specificity and/or binding affinity than antibodies raised with peptide based antigen, but the 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.

Reference

Sardet C.,et al.,(1989), Molecular cloning, primary structure, and expression of the human growth factor-activatable Na+/H+ antiporter. Cell 56:271-280.

Sardet C.,et al., (1990), Growth factors induce phosphorylation of the Na+/H+ antiporter, glycoprotein of 110 kD. Science 247:723-726.

Tse C.-M.,et al.,(1991), Molecular cloning and expression of a cDNA encoding the rabbit ileal villus cell basolateral membrane Na+/H+ exchanger.EMBO J. 10:1957-1967.

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