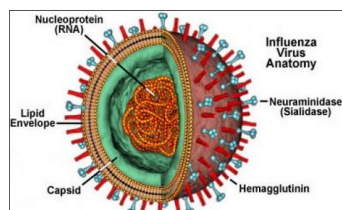


**Influenza A virus Neuraminidase antibodies and controls**

- |   |   |              |
|---|---|--------------|
| <input type="checkbox"/> Cat # H1N1NA11-S | Rabbit Anti Influenza A Neuraminidase (H1N1-NA) antiserum                     | SIZE: 100 ul |
| <input type="checkbox"/> Cat # H1N1NA11-C | Purified Influenza A Neuraminidase (H1N1-NA) protein control for western blot | SIZE: 100 ul |

Influenza A (H1N1) virus is a subtype of influenza A virus and was the most common cause of human influenza (flu) in 2009. 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). 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. Swine influenza (also called swine flu, or pig flu) is an infection by any one of several types of swine influenza virus. Swine influenza virus (SIV) is any strain of the influenza family of viruses that is endemic in pigs. As of 2009, the known SIV strains include influenza C and the subtypes of influenza A known as H1N1, H1N2, H3N1, H3N2, and H2N3.



The Influenza A Virus is a globular particle about 100nm in diameter, sheathed in a lipid bilayer derived from the plasma membrane of its host. Studded in the lipid bilayer are two integral membrane proteins some 500 molecules of hemagglutinin ("H") and some 100 molecules of neuraminidase ("N"). Within the

lipid bilayer are 3000 molecules of matrix protein and 8 pieces of RNA. Each of the 8 RNA molecules is associated with many copies of a nucleoprotein, several molecules of the three subunits of its RNA polymerase some "non-structural" protein molecules of uncertain function.

Viral neuraminidase is a type of neuraminidase found on the surface of influenza viruses that enables the virus to be released from the host cell. Neuraminidases are enzymes that cleave sialic acid groups from glycoproteins and are required for influenza virus replication. When influenza virus replicates, it attaches to the interior cell surface using hemagglutinin, a molecule found on the surface of the virus that binds to sialic acid groups. Sialic acids are found on various glycoproteins at the host cell surface, and the virus exploits these groups to bind the host cell. In order for the virus to be released from the cell, neuraminidase must enzymatically cleave the sialic acid groups from host glycoproteins. A single hemagglutinin-neuraminidase protein can combine neuraminidase and hemagglutinin functions, such as in mumps virus and human parainfluenza virus.

Since the cleavage of the sialic groups is an integral part of influenza replication, blocking the function of neuraminidase with neuraminidase inhibitors is an effective way to treat influenza.

**Source of Antigen and Antibodies**

<b>Antigen</b>	Recombinant purified H1N1 NA protein.(A/California/04/2009(H1N1))
<b>Ab</b>	Rabbit, Polyclonal antiserum (Cat#H1N1NA11-S)
<b>Host/type</b>	supplied in PBS and 40% Glycerol as preservative.
<b>2-Ab</b>	Goat Anti-Rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates)
<b>-ve control IgG</b>	#20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control.

**Cat # H1N1NA11-C, Positive Control**

H1N1 NA protein was expressed in E. Coli as a his-tag fusion protein (full length, >95%, ~44 KDa). Purified protein for Western blot +ve control (Cat#H1N1NA11-C) is supplied in SDS-PAGE. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should re dissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the # H1N1NA11-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or

other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

**Form & Storage of Antibodies/Peptide Control**

**Antiserum**

- 100 ul  solution  lyophilized powder

Buffer: PBS+0.05% azide

**Reconstitute powder** 100 ul of PBS.

**Storage**

**Short-term:** unopened, undiluted vials for less than a week at 4oC.

**Long-term:** at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at –20oC or below.

**Shipping:** 4oC for solutions and room temp for powder.

**Recommended Usage**

**Western Blotting:** An initial dilution of 1:500-2K is recommended for Western. Users must optimize antibody dilution depending upon the nature of samples and other technical conditions.

**ELISA** (1:10-50K; using 50-100 ng antigen/well).

**Histochemistry & Immunofluorescence:** not tested.

**Specificity & Cross-reactivity:** Antibody is specific for H1N1 NA protein and recombinant H1N1NA. Cross reactivity with other proteins has not been established. Recombinant protein is available for control studies.

**References:** Huang IC (2008) J. Virol. 82 (10): 4834–43; Boon (2011). The Journal of Obstetrics and Gynecology 61 (4): 386–393. Dhama, (2012) Pakistan Journal of Biological Science 15 (21): 1001–1009.

\*This product is for In vitro research use only.

**Related material available from ADI**

H1N1-01-A	Anti-Hemagglutinin Influenza A Virus H1N1 H1 (H1N1) (A/New Caledonia/20/99) IgG	
H1N1-01-C	Recombinant Purified Hemagglutinin Influenza A Virus H1N1 H1 (H1N1) (A/New Caledonia/20/99) protein control for Western	
H1N1-01-R-10	Recombinant Purified Hemagglutinin Influenza A Virus H1N1 H1 (H1N1) (A/New Caledonia/20/99) protein	
H1N1-02-A	Anti-Hemagglutinin Influenza A Virus H1N1 H1 (Pan H1N1 reacts with multiple strains of H1N1) IgG	
H1N12-R-10	Recombinant Purified Hemagglutinin HA1 (A/California/06-2009, H1N1) protein	
H1N1NA15-R-10	Recombinant (E.coli, his tag) purified Influenza A Neuraminidase (H1N1-NA) protein (>95%)	
H1N1NA11-S-	H1N1-NA-antiserum	160303SV