ALPHA DIAGNOSTIC INTERNATIONAL

## Product Data Sheet

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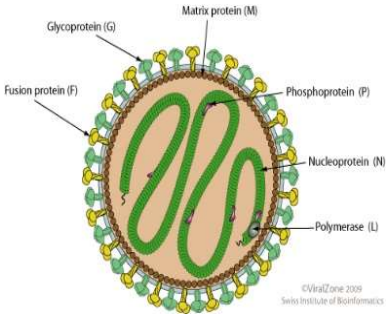
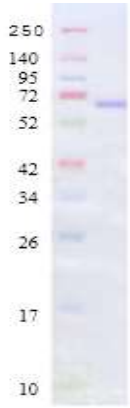
|---|---|---|
| ☐ Cat # NIV21-C | Purified Nipah virus Nucleoprotein control for Western Blotting | Size: 100 ul |
| ☐ Cat # NIV21-S | Rabbit anti-Nipah virus Nucleoprotein (anti-Niv N) antiserum | Size: 100 ul |




Nipah virus (NiV) is a single stranded RNA virus belonging to the family Paramyxoviridae, genus Heniparvirus. The virus consists of 6 proteins; Glycoprotein (G), Fusion (F), Matrix (M), Phosphoprotein (P), Nucleoprotein (N), and Polymerase (L). It was first discovered in Malaysia in 1998. There are two lineages of NiV, a Malaysian strain (mNiv) and a Bangladesh strain (bNiV). The reservoir for Nipah is the flying fox, a fruit bat. The virus is capable of jumping from bats to pigs and transmission to humans has been shown to be caused by consumption of food contaminated by saliva or urine from infected flying foxes. Pigs are considered an amplifying host for NiV. Pig to human transmission is possible through direct contact or aerosol transmission. Outbreaks of Nipah occur annually in India and Bangladesh with fatality rates up to 75%. An outbreak of Nipah in Malaysia in 1999 led to over one million pigs being killed to stamp out the disease.

NiV is a BSL4 pathogen which makes diagnostic testing and research difficult, especially since it primarily occurs in countries which can lack the resources to perform the testing. Use of recombinant DNA technology can allow testing to be performed in BSL2 laboratories. Diagnosis is primarily performed by virus neutraliziation tests and indirect ELISAs. NiV vaccines against the glycoprotein and fusion protein have shown promising results. A Hendra virus vaccine, which is closely related to Nipah, has been licensed for use in horses in Australia and shown cross-protection against NiV as well. The nucleocapsid (N) protein is also a common target for diagnosis. It is produced in large quantities during infection, post-mortem samples are diagnosed by the presence of nucleocapsid by Immunohistochemistry.

### Form of recombinant protein




Nipah virus nucleoprotein (N) (Uniprot: Q9IK92) was expressed as a soluble protein in *E. coli*. It contains a c-terminal His-tag. The Nucleoprotein corresponds to the full length protein. It migrates as a band of approximately 60 kDa in reducing conditions. Purified Nipah virus nucleoprotein (**cat# NIV21-C)** Western Blot control is supplied in Laemmli buffer at a concentration of 20 ng/ul. Heat the sample then load 1-5 ul for good visibility with appropriate antibody. Buffer contains SDS which may crystalize in cold conditions. It can be re-dissolved by warming. This preparation is not biologically active. Do not free, thaw, or heat repeatedly.

**Antiserum (unpurified)**
☐ 100 ul solution
Contains 0.05% sodium azide

☐ Lyophilized Reconstitute powder in 100 ul distilled water

**Storage**
**Short-term**: unopened, undiluted vials for 3 months at 4°C.
**Long-term**: at –20°C or below in suitable aliquots after reconstitution. Can be frozen, but avoid multiple freeze/thaw cycles

**Stability**: 24 months at –20°C or below.

**Recommended Usage:**

**QC:** The titer was tested in an Indirect ELISA. Nipah nucleoprotein was coated at 1 ug/ml. The $OD_{450}$ is greater than 1.0 at a dilution of 1:100,000.

**Western Blotting:** 1:25,000 to 1:50,000.

**ELISA**: Assay dependent concentration

**IHC/ICC:** Has not been tested, suggested starting dilution may be from 1:1,000 to 1:10,000. User must optimize conditions

*The antibody may be suitable for other uses. These applications have not been tested. Above concentrations are a suggestion, user's must dilutions based on their own assay.

**Protein homology:** Nipah nucleoprotein is 92% identical to Hendra virus Nucleoprotein, 84% with Mojiang virus, and 62% with Cedar virus nucleocapsid

This product is for in vitro research use only.

**Related Material available for ADI**

| Catalog# | Description |
|---|---|
| NIV11-R-10 | Recombinant (HEK) Nipah virus (NiV) Glycoprotein (aa: 71-602, >95% Pure, His-tag) |
| NIV21-R-25 | Recombinant (E. coli) Nipah virus (NiV) Nucleoprotein (full length, >95% Pure, His-tag) |
| NIV11-S | Rabbit anti-Nipah virus (anti-NiV) Glycoprotein antiserum |
| NIV11-C | Purified Nipah virus Glycoprotein control for Western Blotting |
| NIV21-C | Purified Nipah virus Nucleoprotein control for Western Blotting |

ELISA kits for the detection of anti-Nucleoprotein and Glycoprotein are also available from ADI.

NIV21-S 180105IA

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