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Antibody Datasheet

Product Name:	Mouse anti-Zika virus NS1 biotinylated antibody
Clone number:	D11
Isotype:	Mouse IgG1
Product code:	AbZIKVNS1-D11-Biotin-100
Batch Number:	18052106
Immunogen:	Full length recombinant NS1 protein of Zika virus produced in HEK293 cells (available from the Native Antigen Company, product code ZIKV-NS1-100)
Amount:	100ug
Concentration:	0.5 mg/ml
Buffer:	Phosphate Buffered Saline pH7.4 + 1% Bovine Serum Albumin
Preservative:	0.1% Proclin 950
Fusion partners:	Spleen cells from immunised Balb/c mice were fused with cells from the SP2/0-Ag14 myeloma cell line.
Purification:	Antibody was purified from hybridoma cell culture supernatant by affinity chromatography on Protein G
Specificity:	This antibody is specific for the NS1 protein of Zika virus, detecting NS1 from both the Uganda and Suriname strains. It demonstrates negligible cross-reactivity with NS1 proteins from Dengue virus (all serotypes), Japanese Encephalitis Virus and Yellow Fever Virus. A small amount of cross-reactivity has been observed with the NS1 protein from West Nile Virus in a direct ELISA (see results below).

Applications: Direct ELISA (NS1 antigen bound to plate)

Sandwich ELISA (as detection antibody). This antibody may be used in combination with clone B4 (product code AbZIKVNS1-B4), and has also been shown to effectively pair with itself. For sandwich assay use the recommended pairings are either B4 capture and detection or B4 capture and D11 detection.

This antibody has not been tested directly for use in immunofluorescence assays. However, unconjugated Mouse Anti-Zika Virus NS1 Antibody (AbZIKVNS1-D11) is suitable for use in immunofluorescence applications (see Images).

Antigen background: Zika virus is an emerging disease that is spread by *Aedes* mosquitoes. The virus was first isolated in Central Africa, and has since spread to South Asia and more recently to South America. It is a member of the flavivirus family, and is structurally closely related to viruses such as Dengue Fever Virus. Outbreaks were reported in Micronesia in 2007 and in Brazil in 2015, confirming at least 13 autochthonous infections. The Zika virus outbreak in Brazil in 2016 has gained world-wide attention, and has been linked to an increasing number of microcephaly cases. In April 2016 the Centers for Disease Control, in the USA, confirmed the link between Zika virus infection of the fetus with microcephaly.

Clinically Zika virus can cause mild fever, rash, myalgia, arthralgia and headaches, with one in four infected individuals being asymptomatic. Due to similar symptoms Zika virus infected individuals can easily be mis-diagnosed as a dengue infection and vice-versa. In addition, Zika virus has been implicated in causing microcephaly through transmission *in utero*. There is no vaccine or specific treatment available for Zika virus.

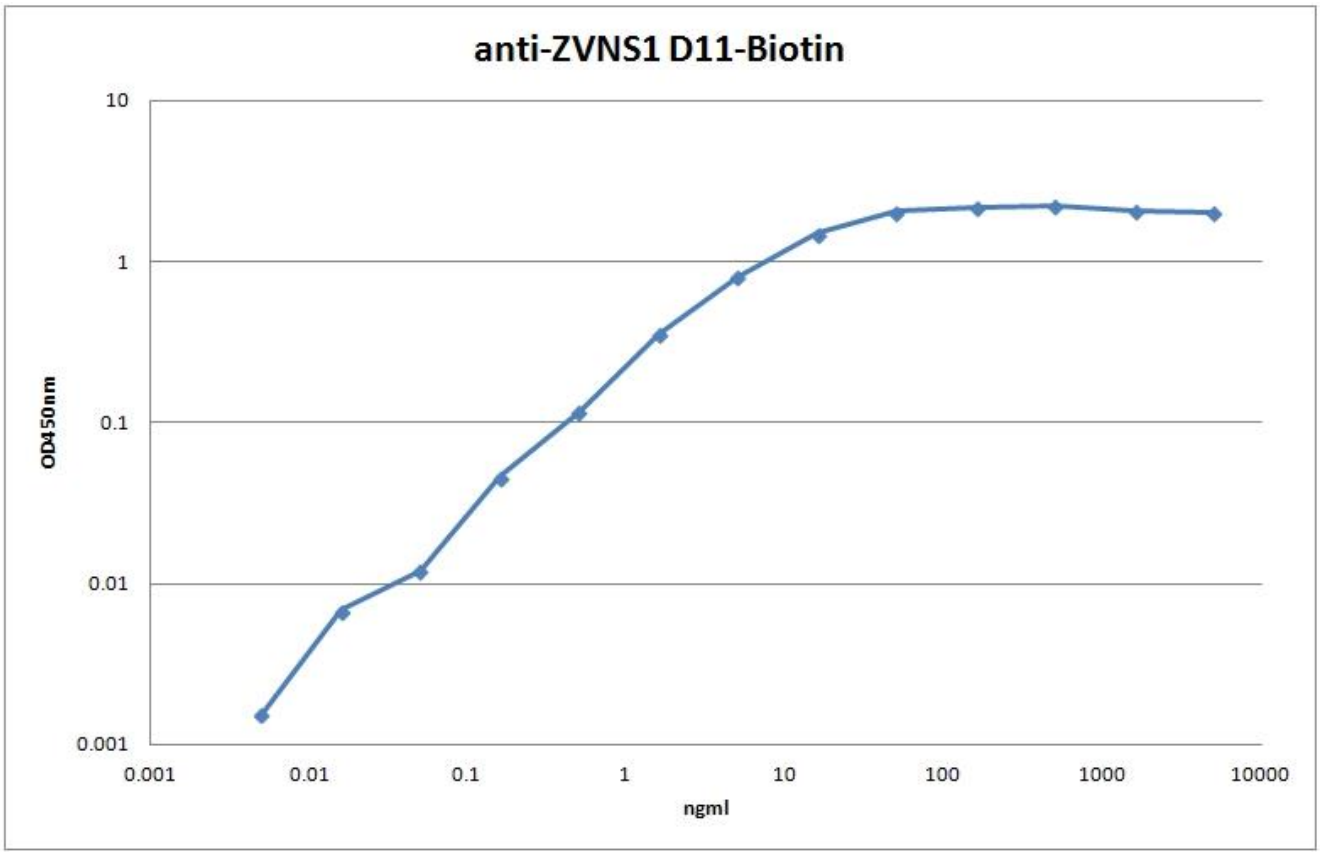
The NS1 protein is a major non-strucutural protein expressed by the Zika Virus. The NS1 monomer is a glycosylated protein of approximately 45kD, which associates with lipids and forms a homodimer inside infected cells. It is necessary for viral replication, and is also secreted into the extracellular space as a hexameric lipoprotein particle, which is involved in immune evasion and pathogenesis by interacting with components from both the innate and adaptive immune systems, as well as other host factors. NS1 is one of the major antigenic markers for viral infection with Zika.

Storage: Store at +4^{0}C until the expiry shown on the label.
The antibody is shipped at ambient temperature.
Avoid repeated freeze/thaw cycles.

Direct ELISA data

An ELISA plate was coated overnight with ZVNS1 100ng per well in D-PBS (Gibco 14190-136) and the following day blocked with 1% BSA (Sigma A7906) in PBS. Biotinylated antibody was diluted in 0.5 log steps from 5000ngml to 0.005ngml in PBS/BSA/0.05% Tween 20 and incubated in the wells, static, for 1 hour.

After washing, the plate was incubated with Streptavidin poly-HRP (Thermo #21140) diluted 1 in 40,000 in PBS/BSA/Tween, static, for 30min. After washing, TMB (KPL Sureblue) was added and the plate developed 15min, stopped with 1M HCl before reading at 450nm. Blanked OD450nm was plotted against antibody concentration ngml.



An ABT50 of 8.2ngml was calculated from the direct antibody ELISA.