Leinco Technologies, Inc.
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Zika Virus (ZIKV) E Protein Antibody

Purified in vivo Gold™ Functional Grade

Hybridoma Monoclonal Antibody

Product Information

Product No.:	Z200
Clone:	ZV67
Isotype:	Mouse IgG2c κ
Storage:	Sterile 2 to 8°C

Product Description

Specificity:
Clone ZV-67 binds to the Zika virus envelope (E) protein at domain III (DIII, LR). 1

Antigen Distribution:
The Envelope (E) protein expressed on the Zika Virus

Background:
Zika virus (ZIKV) infection during pregnancy is a global public health problem 1, linked causally to severe fetal abnormalities 2. Prophylactic antibodies may prove useful in treating pregnant patients or for designing epitope-specific vaccines 1. The mouse monoclonal antibody (MAb) ZV-67 specifically targets ZIKV and neutralizes infection of the American, Asian, and African strains to varying degrees 1.

ZIKV is a mosquito-transmitted flavivirus that encodes a single polyprotein with an ~11 kb positive-sense RNA open reading frame 1. The polyprotein is cleaved into seven non-structural (NS) proteins and three structural proteins (capsid (C), premembrane (prM), and envelope (E)). C forms a nucleocapsid. prM complexes with E to facilitate folding and prevent premature fusion to host membranes. E is responsible for viral assembly, attachment, entry, and fusion 1,3 and is a major target of neutralizing antibody research 3. Mature ZIKV virions incorporate 180 copies each of the E and M proteins 4,5. E is divided into three domains, DI, DII, and DIII 3. DI is a central β-barrel, DII is an extended dimerization domain, and DIII is an immunoglobulin-like segment. The lateral ridge of DIII is targeted by the ZV-67 MAb 1. ZV-67 was generated by priming a lethal mouse model with ZIKV (MR-766 and H/PF/2013) and DIII domain. ZV-67 is of the IgG2c isotype and has been shown to neutralize the MR-766, Uganda 1947, Dakar 41519, and Senegal 1982 African strains as well as the American Paraiba 2015, Brazil strain. It has no cross-reactivity with Japanese Encephalitis or Dengue. Analysis of antibody contact residues by X-ray crystallography shows that ZV-67 binds to the heavy chain complementarity determining region of DIII. A total of 21 residues are contacted by ZV-67, representing four discrete secondary structure elements of the A-strand, B-C, D-E, and F-G loops.

Known Reactivity Species:
Mouse

Format:
Purified in vivo Gold™ Functional Grade

Immunogen:
Injection of a Mouse with ZIKV MR-766, ZIKV H/PF/2013, and ZIKV DIII. 1

Formulation
This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin
<1.0 EU/µg as determined by the LAL method

Storage and Stability
This antibody may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.

Avoid Repeated Freeze Thaw Cycles.

Product Preparation
Functional grade preclinical antibodies are manufactured in an animal free facility using in vitro cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Other Applications Reported in Literature:
N
ELISA
WB

Country of Origin
USA

References
1) Zhao H, Fernandez E, Dowd KA. et al. (2016). Cell. 166(4):1016-1027.
2) Brasil P, Pereira Jr JP, Moreira ME. et al. (2016). N Engl J Med. 375(24):2321-2334.