Leinco Technologies, Inc.
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Anti-Dengue Virus

Purified No Carrier Protein

Recombinant Monoclonal Antibody

Product Information

Product No.:	LT562
Clone:	DENV-2D22
Isotype:	Human IgG1

Product Description

Specificity:
DENV-2D22 activity is DENV-2 specific and directed against the E homodimer at the DIII + glycan loop with serotype specificity on one E protein and DII around the fusion loop on the other E protein.

Antibody clone DENV-2D22 was identified as strongly neutralizing, capable of inhibiting infection of DENV-2, and able to bind intact DENV-2 but not DIII or recombinant E[3,4]. DENV-2D22 also did not bind to E protein by immunoblot[4]. DENV-2D22 is E protein specific based on an escape mutant of DIII at R323G [3] and recognizes a complex quaternary epitope displayed on the intact virus formed by DIII and DII on two different monomers within a single dimer[5]. When the entire DENV-2 DIII region was inserted into the backbone sequence of a DENV-4 molecular clone to create a recombinant virus, DENV-2D22 was capable of binding and neutralization[6]. Only five contact residues differ between DENV-2 and -4 in DIII, and these are likely critical for binding and neutralization[5].

DENV-2D22 had no detectable ability to enhance DENV infection at a typical concentration range in a Ab-dependent enhancement assay[4], was capable of binding and neutralizing chimeric yellow fever-dengue vaccine virus serotype 2[2], and blocked viral infection of viremic blood for *Ae. aegypti*[7].

Background:
Dengue virus (DENV) is the most common insect-transmitted virus to target humans, with an estimated 390 million infections annually[1]. DENVs are members of the Flaviviridae family and can be divided into four closely related but antigenically distinct serotypes[2]. They encode a single-stranded positive sense RNA genome and display 180 copies of envelope (E) glycoprotein and premembrane/membrane (prM/M) proteins. E glycoprotein is comprised of three structural domains, DI, DII, and DIII, and exists as a homodimer in the pre-fusion state on the mature virus particle. E undergoes multiple conformation changes during maturation and fusion.

Known Reactivity Species:
Dengue Virus, Virus

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Sequenced from human survivors of who had experienced a DENV infection during travel to an endemic region.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Formulation
This recombinant 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
≥90% monomer by analytical SEC and SDS-Page

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
Recombinant antibodies are manufactured in an animal free facility using only *in vitro* protein free 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:

ELISA
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Country of Origin
USA

References
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5. Fibriansah G, Ibarra KD, Ng TS, et al. Science. 349(6243):88-91. 2015.
6. Gallichotte EN, Widman DG, Yount BL, et al. mBio. 6(5):e01461-15. 2015.
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