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12-8126: Anti-Dengue Virus (Clone: DENV-1F4)

Clonality :	Monoclonal
Clone Name :	DENV-1F4
Application :	ELISA
Alternative Name :	DENV
Isotype :	Human IgG1
Immunogen Information :	DENV-1F4 was generated as part of a large panel of cross-neutralizing human monoclonal antibodies derived from human subjects who were confirmed to have had DENV infection by testing their serum for the presence of antibodies that neutralized each of the DENV serotypes. All DENV infection occurred naturally and were obtained by screening volunteers with suspected exposure during past travel to regions where DENV is endemic.

Description

Reactivity Species : Dengue·Virus
Expression Host : HEK-293
Endotoxin Level : ≤ 1.0 EU/mg as determined by the LAL method
Specificity : DENV-1F4 activity is DENV-1 specific and directed against one E protein within a homodimer at DI and the DI/DII hinge region in a quaternary structure dependent manner. The quaternary structure epitope is present only on intact E protein assembled on a viral particle.
DENV-1F4 possesses potent DENV-1-specific neutralizing activity, targets a quaternary structure epitope present only on the intact E protein assembled on a viral particle , and is not able to bind or enhance infectivity of other serotypes . Escape mutants of the DENV-1 serotype on or near the hinge region at position G274E in the DI-DII hinge and K47E in DI of the E protein confers loss of neutralization. cryoEM reconstruction shows that DENV-1F4 does not bind across neighboring E proteins. DENV-1F4 binds to the DI and DI-II hinge regions of the E protein monomer in a manner likely sensitive to hinge angle .
Mice given DENV-1F4 prior to infection with a sub-lethal dose of DENV-1 have a significant reduction in viral genomic RNA copy. DENV-1F4 is prevalent in individuals in Asia and the Americas post-infection. DENV-1F4 is modestly able to the block infectivity of DENV-1 in human viremic blood in mosquitoes.
Background : Dengue virus (DENV) is the most common insect-transmitted virus to target humans, with an estimated 390 million infections annually1. DENVs are members of the Flaviviridae family and can be divided into four closely related but antigenically distinct serotypes. 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.

Product Info

Amount :	100 µg
Purification :	â‰¥95% monomer by analytical SEC
Content :	â‰¥ 5.0 mg/ml 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.
Storage condition :	Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one year. For longer term storage, aseptically aliquot in working volumes without diluting and store at â‰¥ -70°C. Avoid Repeated Freeze Thaw Cycles.

For Research Use Only. Not for use in diagnostic/therapeutics procedures.