Anti-Envelope protein DIII [E111] Standard Size Ab00917-10.3

This antibody was created using our proprietary Fc Silent™ engineered Fc domain containing key point mutations that abrogate binding to Fc gamma receptors.

This chimeric human antibody was made using the variable domain sequences of the original Mouse IgG2a format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Human IgG1, Fc Silent™, Kappa
Clone Number: E111
Alternative Name(s) of Target: DENV1 DIII; Dengue virus 1 envelope protein DIII domain; DENV-1 envelope protein DIII domain; DENV-1 E protein DIII domain; DENV-1 E protein DIII
UniProt Accession Number of Target Protein:
Published Application(s): IP, NTRL, WB, FC, IF, IHC
Published Species Reactivity: DENV-1
Immunogen: Immunodeficient C57BL/6 background mice were infected with DENV-1 (genotype 2). In some cases, mice were boosted by injection of recombinantly produced DENV-1 E protein DIII. Splenocytes obtained from immunised mice were then fused with P3X63Ag8.53 myeloma cells to generate a hybridoma.
Specificity: DENV1-E111 was shown to bind the E protein DIII using yeast which specifically expressed each E protein domain (Shrestha et al, 2010). It was further shown that DENV1-E111 was specific for the type 1 DENV serotype, as well as genotype 2 of this serotype. Forward genetic screens could not identify DENV-1 DIII mutations which abrogated DENV1-E111 binding, however a crystal structure of a DENV1-E111 scFv comprising the VH and VL domains showed that the mAb bound the CC' loop of DIII (Austin et al, 2012). In the same study, the authors used SPR to elucidate an affinity of 18 nM for the DENV1-E111-DIII interaction.
Application Notes: DENV1-E111 has been shown to bind strongly to DENV-1 E protein DIII by immunostaining and flow cytometry (Shrestha et al, 2010). The mAb is a strong serotype- and genotype-specific binding agent, and so can be applied as a reliable diagnostic tool.
Antibody First Published in: Shrestha et al. The development of therapeutic antibodies that neutralize homologous and heterologous genotypes of dengue virus type 1. PLoS Pathog. 2010 Apr 1;6(4):e1000823 PMID:20369024
Note on publication: Describes the generation of anti-DENV-1 mAbs by infecting mice with DENV-1 and

boosting some with recombinant E protein DIII. mAb DENV1-E111 showed strong neutralisation activity specifically for the DENV type 1 serotype.

Product Form

Size: 200 µg Purified antibody.
Purification: Protein A affinity purified
Supplied In: PBS with 0.02% Proclin 300.
Storage Recommendation: Store at 4^{o}C for up to 3 months. For longer storage, aliquot and store at -20^{o}C.
Concentration: 1 mg/ml.

Important note – This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.