

Anti-Envelope protein [ZKA78] Standard Size Ab00780-10.6

This is a Fab fragment with a his-tag. Made with Antibody Sequences licensed from Humabs Biomed SA.

This reformatted human antibody was made using the variable domain sequences of the original Human IgG1 format, for improved compatibility with existing reagents, assays and techniques.

Isotype and Format: Human Fab fragment, His-Tagged, Kappa

Clone Number: ZKA78

Alternative Name(s) of Target: ZKV E; E protein

UniProt Accession Number of Target Protein: Q91KX8

Published Application(s): enhance, NTRL, ELISA, FC

Published Species Reactivity: Dengue Virus, Zika Virus

Immunogen: mAb ZKA78 was selected from EBV-immortalized memory B cells derived from ZIKV-infected, DENV-naïve human donors based on its ability to bind Zika virus (ZIKV) Envelope protein and to neutralize ZIKV infection.

Specificity: ZKA78 is specific for EDI/II domain of the ZIKV envelope (E) protein, and cross-reacts with the E protein from Dengue virus (DENV), which is highly homologous (also contains high sequence similarity with other flaviviruses such as yellow fever and west nile). ZKA78 showed significant binding (determined by ELISA) to the E proteins of ZIKV, DENV1-4 and the virus-like particles (VLPs) of DENV1-4. Flavivirus E proteins mediate fusion, with EDI being involved in conformational changes required for viral entry and EDII containing a fusion loop. ZIKV is a flavivirus that can be transmitted sexually, by the Aedes mosquito vector, or vertically to a developing fetus. Most cases of ZIKV infection are asymptomatic or manifest in mild symptoms, but in some cases ZIKV infection can result in Guillain-Barré Syndrome or congenital birth defects in developing fetuses.

Application Notes: ZKA78 is able to partially neutralize ZIKV infectivity (IC₅₀ ~2863 ng/ml), and is capable of enhancing ZIKV/ infection of K526 cells via the antibody-dependent enhancement (ADE) effect. This antibody can also neutralize (IC₅₀~ 266 ng/ml) and enhance (by ADE) DENV infection. Neutralization of ZIKV infection can be measured using a micro-neutralization FC-based assay, and binding/specificity to E protein can be studied by ELISA. DENV2-infected AG129 mice administered with ZKA78 results in death after 5 days.

Antibody First Published in: Stettler et al. Specificity, cross-reactivity and function of antibodies elicited by Zika virus infection. Science. 2016 Jul 14. pii: aaf8505. [PMID:27417494](#)

Note on publication: Describes the isolation of a panel of antibodies derived from ZIKV-infected, DENV-

naïve and ZIKV-infected, DENV-immune human donors. They were tested for their ability to bind to Zika E protein or NS1 as well as their cross-reactivity with the homologs in DENV. The capability to neutralize ZIKV infection was studied as well as the antibody-dependent enhancement effect on infection.

Product Form

Size: 100 µg Purified antibody.

Purification: Purified by Immobilized Metal Affinity Chromatography

Supplied In: PBS with 0.02% Proclin 300.

Storage Recommendation: Store at 4°C for up to 3 months. For longer storage, aliquot and store at -20°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.