

## Anti-E2 [10B5 (RS10B5huFc) ] Standard Size Ab03729-1.1

**Isotype and Format:** Mouse IgG1, Kappa

**Clone Number:** 10B5 (RS10B5huFc)

**Alternative Name(s) of Target:** WEEV E2; Envelope glycoprotein; E2 envelope glycoprotein; Structural polyprotein; Spike glycoprotein E2; p130; Alphavirus; 10B5 E7E2

**UniProt Accession Number of Target Protein:** P13897

**Published Application(s):** ELISA

**Published Species Reactivity:** Western equine encephalitis virus (WEEV)

**Immunogen:** The original antibody was generated by sequencing the total mRNA obtained from murine 10B5 E7E2 hybridoma. Recombinant 10B5 scFv-M13 phage were rescued from the clones and panned against WEE antigen immobilized on PVC 96-well plates. Later on mouse/human IgG1 chimeric version of the antibody was generated by using variable regions derived from the mouse 10B5 hybridoma and human Fc regions.

**Specificity:** This antibody binds the E2 envelope polyprotein of the Western equine encephalitis virus (WEEV), which is a mosquito-borne arbovirus (arthropod-borne virus) and the causative agent of western equine encephalitis (WEE). WEEV belongs to the genus Alphavirus in the family Togaviridae. The virus is transmitted to people and horses by bites from infected mosquitoes (*Culex tarsalis* and *Aedes taeniorhynchus*) and birds during wet, summer months. Infections of humans and horses can be fatal, and survivors often suffer permanent neurological sequelae. Most of the infections are subclinical, presenting as fever, chills, malaise, and myalgias, but some can progress to an acute inflammation of the meninges and brain parenchyma.

**Application Notes:** This antibody can bind the WEEV E2 envelope glycoprotein in an ELISA. The human Fc domain of the antibody was capable of effector functions, such as binding to protein G and human complement (PMID: 10768836). This antibody was found to possess a binding affinity to a WEE virus epitope ( $K[D] = 9.14 \times (10)^{-6} \text{ M}$ ). This antibody was also reported to not cross react with other alphaviruses like Sindbis virus [SIN], Venezuelan equine encephalitis [VEE] virus, and eastern equine encephalitis [EEE] virus. Pharmacokinetics studies showed that the RS10B5huFc antibody (free and encapsulated) was found to be retained in the lungs of mice for greater than 48 h when administered intranasally. In contrast, when administered intramuscularly to mice, the RS10B5huFc antibody was not detected in the lungs and only found in the liver and kidneys (PMID: 11289221).

**Antibody First Published in:** Long et al. Construction and characterization of a novel recombinant single-chain variable fragment antibody against Western equine encephalitis virus. Hybridoma. 2000 Feb;19(1):1-13.

[PMID:10768836](#)

**Note on publication:** This paper describes generation and characterization of this recombinant antibody.

## Product Form

**Size:** 100 µg Purified antibody.

**Purification:** Protein A affinity purified

**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.