

Anti-ACE2 [h11B11] Bulk Size Ab03703-13.0-BT

Isotype and Format: Human IgG4, Kappa

Clone Number: h11B11

Alternative Name(s) of Target: Angiotensin-converting enzyme 2; Angiotensin-converting enzyme homolog; ACEH; Angiotensin-converting enzyme-related carboxypeptidase; ACE-related carboxypeptidase; Metalloprotease MPROT15; 11B11

UniProt Accession Number of Target Protein: Q9BYF1; G7Q2A0

Published Application(s): inhibit, neutralize, ELISA, FC

Published Species Reactivity: Human, Cynomolgus Monkey

Immunogen: The original antibody was generated by immunizing BALB/c mice with recombinant protein containing the extracellular domain of the human ACE2 protein. The humanized version of the antibody was generated by grafting CDRs onto human framework regions.

Specificity: This antibody binds the extracellular domain of the human ACE2 protein and cross reacts with cynomolgus monkey ACE2 protein. Angiotensin-converting enzyme 2 (ACE2) is a carboxypeptidase enzyme which catalyzes the cleavage of angiotensin I to angiotensin 1-9 and angiotensin II into the vasodilator angiotensin 1-7. This enzyme is a transmembrane protein found on the surface of arteries, heart, kidneys, testis and epithelia of the lung and small intestine. The protein acts as a receptor for spike protein of human coronaviruses SARS-CoV and SARS-CoV-2/2019-nCoV (COVID-19), as well as human coronavirus NL63/HCoV-NL63 and plays a role in virus entry into target cells. Some strategies to treat COVID-19 include blockade of ACE2 receptor and delivery of excess soluble form of ACE2.

Application Notes: This antibody can bind purified human ACE2 recombinant protein in an ELISA. The ability of this antibody to bind ACE2 and block its interaction with SARS-CoV-RBD and SARS-CoV-2-RBD was determined using flow cytometry. The binding affinity of the IgG1 version of this antibody to wild type human ACE2 was found to be $K_d = 1.95$ nM. This antibody was also capable of binding mutated versions of human ACE2 like I21T, K26R, N33D and D38E. This antibody does not inhibit the carboxypeptidase activity of hACE2 in vitro. This antibody showed strong inhibitory activity against SARS-CoV, SARS-CoV-2, and epidemic SARS-CoV-2 variant pseudo virus in vitro. When administered therapeutically or prophylactically in the hACE2 mouse model, this antibody alleviates and prevents SARS-CoV-2 replication and virus-induced pathological syndromes. This antibody also didn't exhibit any significant toxicity to cynomolgus monkey when administered in high doses (PMID: 34404805).

Antibody First Published in: Du et al. A broadly neutralizing humanized ACE2-targeting antibody against SARS-CoV-2 variants. Nat Commun . 2021 Aug 17;12(1):5000. [PMID:34404805](#)

Note on publication: Describes the generation of a humanized antibody that binds hACE2 and exhibits

potent inhibitory activity against SARS-CoV and circulating global SARS-CoV-2 lineages.

Product Form

Size: 1 mg Purified antibody in bulk size.

Purification: Protein A affinity purified

Supplied In: PBS only.

Storage Recommendation: Store at 4°C for up to 3 months. Note, this antibody is provided without added preservatives, it is therefore recommended this antibody be handled under sterile conditions. 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.