

PRODUCT INFORMATION

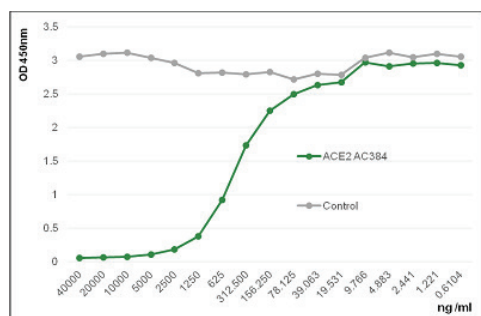


ACE2 (human) Monoclonal Antibody (Clone AC384; preservative free) Item No. 32028

Overview and Properties

Contents:	This vial contains 100 or 500 µg of protein G-purified monoclonal antibody.
Synonyms:	ACE-related Carboxypeptidase, ACEH, Angiotensin-converting Enzyme 2, Angiotensin-converting Enzyme Homolog, Metalloprotease MPROT15
Immunogen:	Recombinant human ACE2
Species Reactivity:	(+) Human; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied); avoid freeze/thaw cycles
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.4
Concentration:	1 mg/ml
Clone:	AC384
Host:	Mouse
Isotype:	IgG1
Applications:	ELISA (direct or indirect) and Western blot (WB; using ECL); the recommended starting dilution is 1:2,000-1:10,000 for ELISA and WB. The suggested blocking and dilution buffer for WB is PBST with 0.05% Tween 20 and 5% skim milk. The suggested incubation time for WB is 1 hour at room temperature. Blocks the binding of human ACE2 to the spike protein of SARS-CoV-2. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Binding of ACE2 (human) to the spike protein. SARS-CoV-2 is inhibited by ACE2 (human) Monoclonal Antibody (Clone AC384; preservative free) (Item No. 32028).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Angiotensin-converting enzyme 2 (ACE2) is a carboxypeptidase and homolog of ACE1 that is encoded by ACE2 in humans.^{1,2} It is a type I transmembrane protein composed of a cytoplasmic tail and an extracellular domain containing a HEMGH motif, characteristic of zinc-metallopeptidases, which exhibits carboxymonopeptidase activity.¹ ACE2 is expressed in vascular endothelial cells where it catalyzes the conversion of angiotensin I to angiotensin 1-9, a peptide of unknown function, and angiotensin II to the vasodilatory peptide angiotensin 1-7 to regulate systemic blood pressure.^{1,2} It is also expressed in the epithelial cells of the kidney, heart, lung, small intestine, and liver and has roles in fluid homeostasis, cardiac contractility, and amino acid absorption, as well as the prevention of pulmonary fibrosis and hypertension. ACE2 also acts as a functional receptor for severe acute respiratory syndrome coronavirus (SARS-CoV) and SARS-CoV-2 to facilitate viral entry into host cells.^{3,4} Cayman's ACE2 (human) Monoclonal Antibody (Clone AC384; preservative free) can be used for ELISA and Western blot (WB) applications.

References

1. Perlot, T. and Penninger, J.M. ACE2 - From the renin-angiotensin system to gut microbiota and malnutrition. *Microbes Infect.* **15(13)**, 866-873 (2013).
2. Santos, R.A.S., Sampaio, W.O., Alzamora, A.C., *et al.* The ACE2/angiotensin-(1-7)/MAS axis of the renin-angiotensin system: Focus on angiotensin-(1-7). *Physiol. Rev.* **98(1)**, 505-553 (2018).
3. Hoffmann, M., Kleine-Weber, H., Schroeder, S., *et al.* SARS-CoV-2 cell entry depends on ACE2 and TMPRSS2 and is blocked by clinically proven protease inhibitor. *Cell* **181**, 1-10 (2020).
4. Gurwitz, D. Angiotensin receptor blockers as tentative SARS-CoV-2 therapeutics. *Drug Dev. Res.* (2020).