Mouse ACE-2 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2818I
Catalog Number: MAB34372

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse ACE-2 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2818I
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived mouse ACE-2 Gln18-Thr740 Accession # NP_081562
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

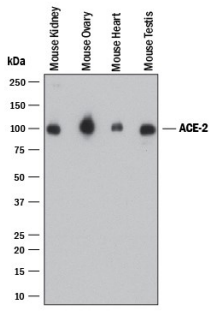
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Mouse kidney, mouse ovary, mouse heart, and mouse testis
Flow Cytometry	10 µg/10^6 cells	HEK293 Human Cell Line Transfected with Mouse ACE-2 and eGFP
Immunocytochemistry	3-25 µg/mL	Immersion fixed HEK293 human embryonic kidney cell line transfected with ACE-2

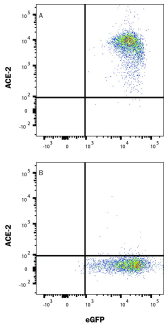
DATA

Western Blot



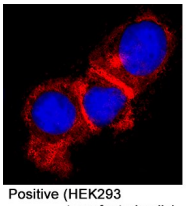
Detection of Mouse ACE-2 by Western Blot. Western blot shows lysates of mouse kidney, mouse ovary, mouse heart, and mouse testis. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Mouse ACE-2 Monoclonal Antibody (Catalog # MAB34372) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for ACE-2 at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using Western Blot Buffer Group 1.

Flow Cytometry

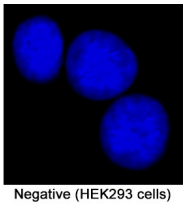


Detection of ACE-2 in HEK293 Human Cell Line Transfected with Mouse ACE-2 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with (A) mouse ACE-2 or (B) irrelevant protein, and eGFP was stained with Rabbit Anti-Mouse ACE-2 Monoclonal Antibody (Catalog # MAB34372) followed by Allophycocyanin-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # F0111). Quadrant markers were set based on Rabbit IgG Isotype Control (Catalog # MAB1050). Staining was performed using our Staining Membrane-associated Proteins protocol.

Immunocytochemistry



Positive (HEK293 transfected cells)



Negative (HEK293 cells)

ACE-2 in HEK293 Human Cell Line transfected with ACE-2. ACE-2 was detected in immersion fixed HEK293 human embryonic kidney cell line transfected with ACE-2 (positive staining) and HEK293 human embryonic kidney cell line (non-transfected, negative staining) using Rabbit Anti-Mouse ACE-2 Monoclonal Antibody (Catalog # MAB34372) at 3 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. Staining was performed using our protocol for Fluorescent ICC Staining of Non-adherent Cells.

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Mouse ACE-2 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2818I
Catalog Number: MAB34372

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ACE-2, also called ACEH (ACE homologue), is an integral membrane protein and a zinc metalloprotease of the ACE family that also includes somatic and germinal ACE (1). Mouse ACE-2 has about 40% amino acid identity to the N- and C-terminal domains of mouse somatic ACE. The predicted mouse ACE-2 protein sequence consists of 798 amino acids, including a N-terminal signal peptide, a single catalytic domain, a C-terminal membrane anchor, and a short cytoplasmic tail. ACE-2 cleaves angiotensins I and II as a carboxypeptidase. ACE-2 mRNA is found at high levels in testis, kidney and heart and at moderate levels in colon, small intestine and ovary. Classical ACE inhibitors such as captopril and lisinopril do not inhibit ACE-2 activity. Novel peptide inhibitors of ACE-2 do not inhibit ACE activity (2). Genetic data from *Drosophila*, mice and rats show that ACE-2 is an essential regulator of heart function *in vivo* (3). In addition, ACE-2 is a key SARS-CoV Spike protein receptor *in vivo* and has a critical function in acute lung injury (4, 5).

References:

1. Tipnis, S.R. *et al.* (2000) J. Biol. Chem. **275**:33238.
2. Crackower, M.A. *et al.* (2002) Nature **417**:822.
3. Huang, L. *et al.* (2003) J. Biol. Chem. **278**:15532.
4. Kuba, K. *et al.* (2005) Nature Med. **11**:875.
5. Ima, Y. *et al.* (2005) Nature **436**:112.

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