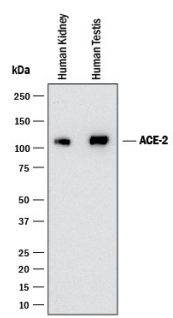


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human ACE-2 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2817M
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived human ACE-2 Gln18-Ser740 Accession # Q9BYF1
Formulation	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. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	1 µg/mL	Human kidney and human testis
Flow Cytometry	0.25 µg/10 ⁶ cells	HEK293 Human Cell Line Transfected with Human ACE-2 and eGFP
Immunohistochemistry	0.3-25 µg/mL	Immersion fixed paraffin-embedded sections of human kidney

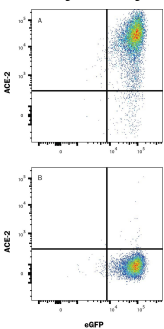
DATA

Western Blot



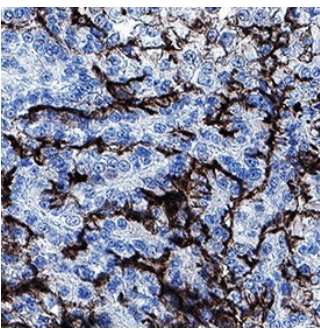
Detection of Human ACE-2 by Western Blot. Western blot shows lysates of human kidney and human testis. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB10823) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for ACE-2 at approximately 120 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 Human ACE-2 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with (A) human ACE-2 or (B) irrelevant protein, and eGFP was stained with Rabbit Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB10823) 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.

Immunohistochemistry



ACE-2 in Human Kidney. ACE-2 was detected in immersion fixed paraffin-embedded sections of human kidney using Rabbit Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB10823) at 0.3 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC003). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membrane in convoluted tubules. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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. <ul style="list-style-type: none"> • 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

Angiotensin I Converting Enzyme (ACE-2), also called ACEH (ACE homologue), is a dimeric, zinc-dependent metalloprotease of the ACE family that also includes somatic and germinal ACE (1, 2). ACE-2 mRNA is found at high levels in heart, testis, and kidney and at lower levels in a wide variety of tissues (1, 3). ACE-2 is the SARS-CoV and SARS-CoV2 Spike protein receptor *in vivo* (4-6), functions catalytically as a carboxypeptidase to cleave several substrates including angiotensins I and II, and acts as a partner for B0AT1-family amino acid transporters (1, 2). Through these functions, ACE-2 has been shown to be involved in several diseases including SARS, COVID19, acute lung injury (4, 7), heart disease (8), liver and lung fibrosis (9), inflammatory lung disease (10), and cardiopulmonary disease (11). Full length ACE-2 protein includes an extracellular region composed of a single N-terminal peptidase domain and C-terminal collectrin-like domain (CLD), a transmembrane domain, and a short cytoplasmic tail (12). The N-terminal peptidase region is required for binding to SARS-CoV and SARSCoV2 spike proteins, while the CLD contains a region that promotes dimerization and association with amino acid transporters (2). The peptidase domain contains a long deep cleft that undergoes a large hinge-bending movement at substrate and inhibitor binding (12). Classical ACE inhibitors such as captopril and lisinopril do not inhibit ACE-2 activity and inhibitors of ACE-2 do not inhibit ACE activity (13).

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