RD SYSTEMS a biotechne brand

Human/Rat/Hamster ACE-2 Antibody

Monoclonal Mouse IgG_{2A} Clone # 171608 Catalog Number: MAB9331

DESCRIPTION	
Species Reactivity	Human/Rat/Hamster
Specificity	Detects recombinant human ACE-2 in direct ELISAs and Western blots. In Western blots, no cross-reactivity with recombinant human ACE-1 or recombinant mouse ACE-1 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 171608
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ACE-2 Gln18-Ser740 (predicted) 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. General Protocols are available in the Technical Information section on our website.				
	Recommended Concentration	Sample		
Western Blot	2 µg/mL	See Below		
Immunohistochemistry	1-25 μg/mL	Frozen sections of rat kidney and paraffin-embedded sections of hamster lung.		
Immunoprecipitation	25 μg/mL	Conditioned cell culture medium spiked with Recombinant Human ACE-2 (Catalog # 933-ZN), see our available Western blot detection antibodies		

DATA

Western Blot

Detection of Human ACE-2 by Western Blot. Western blot shows lysates of NS0 mouse myeloma cell line and human kidney tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB9331) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # Catalog # HAF007). A specific band was detected for ACE-2 at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



ACE-2 in Rat Kidney. ACE-2 was detected in immersion fixed frozen sections of rat kidney using Mouse Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB9331) at 1 µg/mL overnight at 4 °C. 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 the NorthernLights™ 557conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007). Specific staining was performed using our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

Immunohistochemistry



ACE-2 in Hamster Lung. ACE-2 was detected in immersion fixed paraffinembedded sections of hamster lung using Mouse Anti-Human ACE-2 Monoclonal Antibody (Catalog # MAB9331) at 10 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heatinduced 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 respiratory bronchioles. Staining was performed using our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

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Human/Rat/Hamster ACE-2 Antibody



Monoclonal Mouse IgG_{2A} Clone # 171608 Catalog Number: MAB9331

PREPARATION AND S	TORAGE	
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

Angiogensin I Converting Enzyme-2 (ACE-2) is a type I transmembrane zinc protease that cleaves angiotensins I and II to produce vasodilatory and anti-proliferative peptides. The balance between ACE-1 and ACE-2 activity is critical for maintaining cardiovascular, renal, and pulmonary function. ACE-2 isoforms of 75 kDa and 120 kDa are differentially expressed between lung and kidney, respectively, and a shed soluble form is generated by TACE/ADAM17 mediated cleavage. ACE-2 also functions as the cellular uptake receptor for the SARS coronoavirus. Within the extracellular domain, human ACE-2 shares 83% as sequence identity with mouse and rat ACE-2.

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