

**Datasheet for 600-401-X59****ACE2 Antibody****Overview**

|                      |                                           |
|----------------------|-------------------------------------------|
| <b>Description:</b>  | Anti-ACE2 (RABBIT) Antibody - 600-401-X59 |
| <b>Item No.:</b>     | 600-401-X59                               |
| <b>Size:</b>         | 100 µg                                    |
| <b>Applications:</b> | ELISA, IF, IHC, WB                        |
| <b>Reactivity:</b>   | Human, Mouse, Rat                         |
| <b>Host Species:</b> | Rabbit                                    |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b>   | Angiotensin-converting enzyme 2 (ACE2) plays a central role in vascular, renal, and myocardial physiology. In contrast to its homolog ACE, ACE2 expression is restricted to heart, kidney, and testis. Recently, ACE2 has also been shown to be a functional receptor of the SARS coronavirus. The normal function of ACE2 is to convert the inactive vasoconstrictor angiotensin I (AngI) to Ang1-9 and the active form AngII to Ang1-7, unlike ACE, which converts AngI to AngII. While the role of these vasoactive peptides is not well understood, lack of ACE2 expression in ace2-/ace2- mice leads to severely reduced cardiac contractility, indicating its importance in regulating heart function. |
| <b>Synonyms:</b>     | ACE2 Antibody, ACEH, Angiotensin-converting enzyme 2, ACE-related carboxypeptidase, ACEH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Host Species:</b> | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Clonality:</b>    | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Format:</b>       | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**Target Details**

|                        |                                                                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name:</b>      | ACE2                                                                                                                                                                                |
| <b>Reactivity:</b>     | Human, Mouse, Rat                                                                                                                                                                   |
| <b>Immunogen Type:</b> | Conjugated Peptide                                                                                                                                                                  |
| <b>Immunogen:</b>      | Anti-ACE2 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids near the N terminus of human ACE2. |

**Purity/Specificity:** Anti-ACE2 Antibody was affinity purified from monospecific antiserum by immunoaffinity chromatography. Predicted species reactivity based on immunogen sequence: Bovine: (86%). Anti-ACE2 has no cross response to ACE1.

**Relevant Links:**

- [UniProtKB - Q9BYF1](#)
- [GeneID - 59272](#)
- [NCBI - NP\\_068576](#)

## Application Details

**Tested Applications:** ELISA, IF, IHC, WB

**Application Note:** Anti-ACE2 Antibody has been tested for use in ELISA, Immunofluorescence, Immunohistochemistry and Western Blotting. WB validated in human, mouse, and rat samples. IHC and IF validated in human samples. Expect a band at ~93 kDa in size corresponding to ACE2 protein by Western Blotting in the appropriate cell lysate or extract. Specific conditions for reactivity should be optimized by the end user.

**Assay Dilutions:** All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

**ELISA:** 1:10,000

**IF:** 10µg/mL

**IHC:** 2µg/mL

**WB:** 1 µg/mL

## Formulation

**Physical State:** Liquid (sterile filtered)

**Concentration:** 1.0mg/mL by UV absorbance at 280 nm

**Buffer:** 0.01 M Sodium Phosphate, 0.25 M Sodium Chloride, pH 7.2

**Preservative:** 0.02% (w/v) Sodium Azide

**Stabilizer:** None

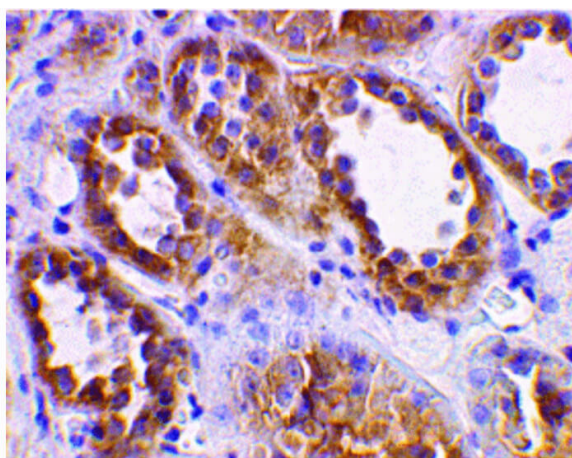
## Shipping & Handling

**Shipping Condition:** Wet Ice

**Storage Condition:** Antibody can be stored at 4°C up to one year. Antibodies should not be exposed to prolonged high temperatures.

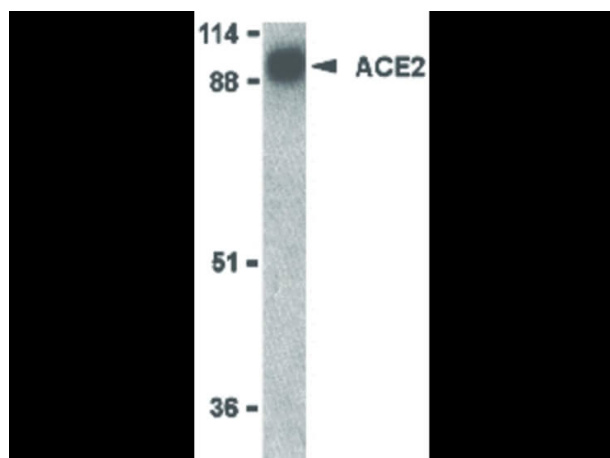
**Expiration:** Expiration date is one (1) year from date of receipt.

## Images



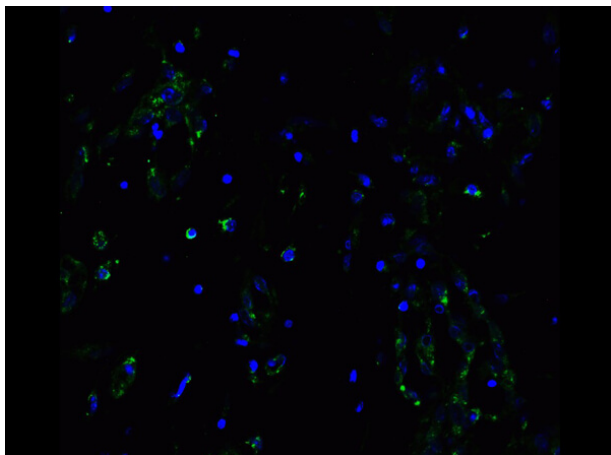
### Immunohistochemistry

Immunocytochemistry of ACE2 antibody. Cell Type: human kidney cells. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: ACE2 antibody at 2 µg/mL for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: ACE2 is located in the cell membrane and cytoplasm. Staining: ACE2 is stained with hematoxylin purple nuclear counterstain.

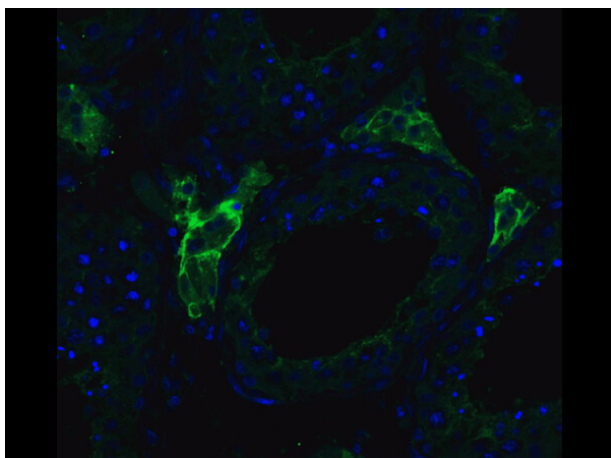


### Western Blot

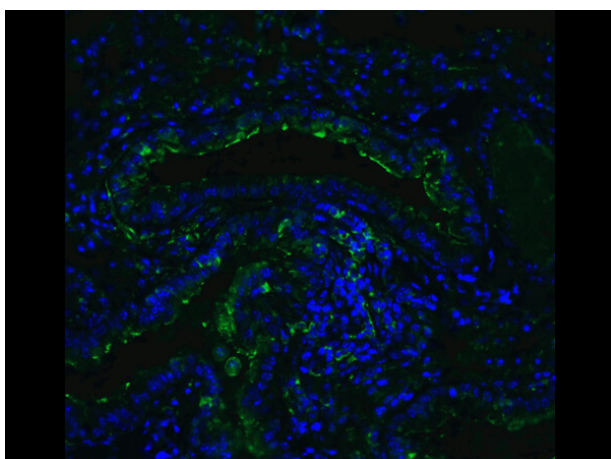
Western Blot of ACE2 antibody. Load: human kidney lysate 35 µg per lane. Primary antibody: ACE2 antibody at 1 µg/ml for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: 92 kDa, 95 kDa for ACE2. Other band(s): ACE2 splice variants and isoforms.

**Immunofluorescence Microscopy**

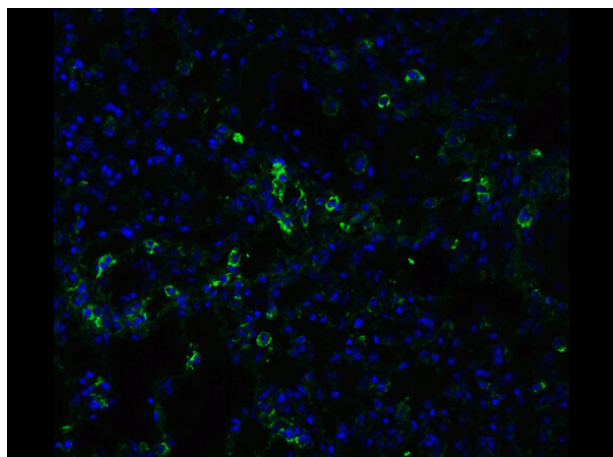
Immunofluorescence of Rabbit Anti-ACE2 Antibody. Tissue: Human Lung Tissue. Fixation: 4% PFA. Primary Antibody: Anti-ACE2 at 20µg/mL. Secondary Antibody: Goat anti-rabbit IgG secondary antibody at 1:500 dilution (green) and DAPI counterstain (blue).

**Immunofluorescence Microscopy**

Immunofluorescence of Rabbit Anti-ACE2 Antibody. Tissue: Human Testis Tissue. Fixation: 4% PFA. Primary Antibody: Anti-ACE2 at 20µg/mL. Secondary Antibody: Goat anti-rabbit IgG secondary antibody at 1:500 dilution (green) and DAPI counterstain (blue).

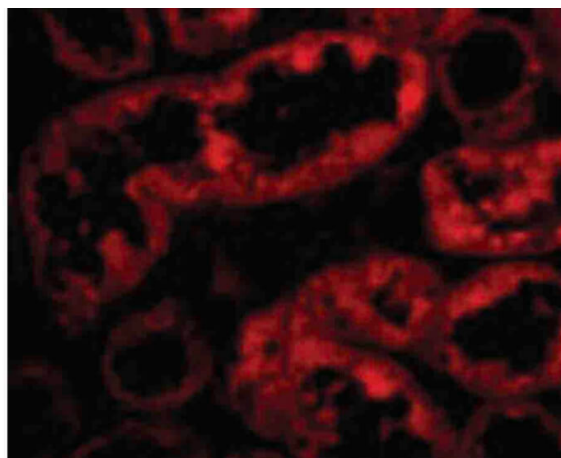
**Immunofluorescence Microscopy**

Immunofluorescence of Rabbit Anti-ACE2 Antibody. Tissue: Mouse Lung Tissue. Fixation: 4% PFA. Primary Antibody: Anti-ACE2 at 20µg/mL. Secondary Antibody: Goat anti-rabbit IgG secondary antibody at 1:500 dilution (green) and DAPI counterstain (blue).



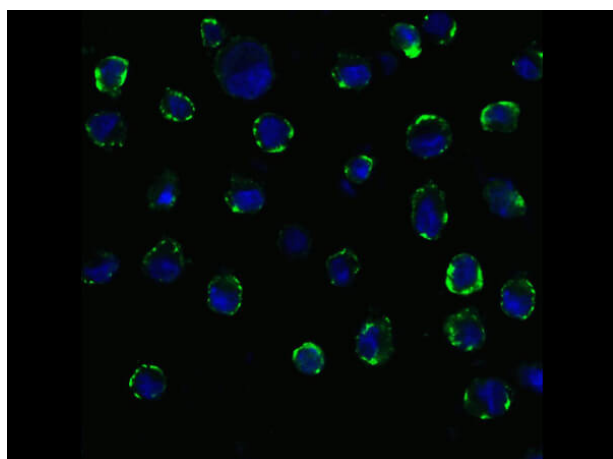
#### Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-ACE2 Antibody. Tissue: Rat Lung Tissue. Fixation: 4% PFA. Primary Antibody: Anti-ACE2 at 20µg/mL. Secondary Antibody: Goat anti-rabbit IgG secondary antibody at 1:500 dilution (green) and DAPI counterstain (blue).



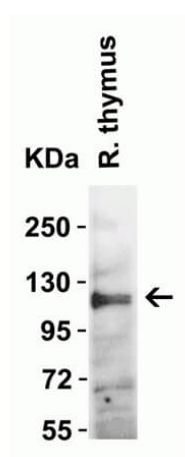
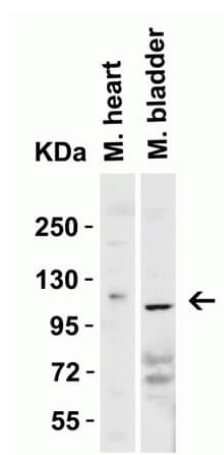
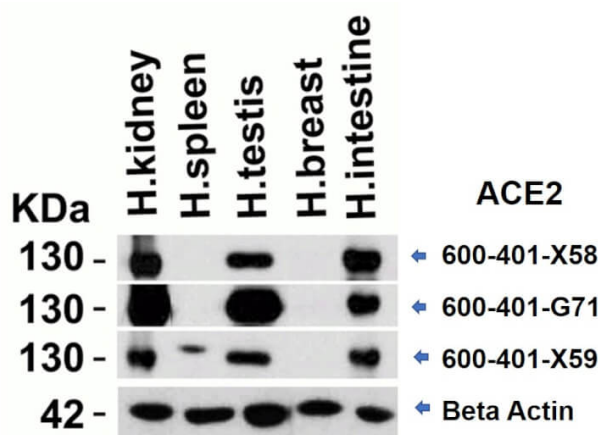
#### Immunofluorescence Microscopy

Immunofluorescence Microscopy of ACE2 antibody. Cell Type: human kidney cells. Fixation: 0.5% PFA. Antigen retrieval: not required. Primary antibody: ACE2 antibody at 10 µg/mL for 1 h at RT. Secondary antibody: Fluorescein rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: ACE2 is located in the cell membrane and cytoplasm. Staining: ACE2 as red fluorescent signal.



#### Immunofluorescence Microscopy

Immunofluorescence of Rabbit Anti-ACE2 Antibody. Tissue: Caco2 Cells. Fixation: 4% PFA. Primary Antibody: Anti-ACE2 at 20µg/mL. Secondary Antibody: Goat anti-rabbit IgG secondary antibody at 1:500 dilution (green) and DAPI counterstain (blue). Image showing membrane staining on Caco2 cells.



#### Western Blot

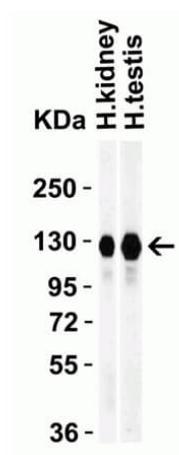
Western Blot of Rabbit Anti-ACE2 Antibody. Lane 1: Human Kidney Lysate. Lane 2: Human Spleen Lysate. Lane 3: Human Testis Lysate. Lane 4: Human Breast Lysate. Lane 5: Human Intestine Lysate. Load: 15µg of lysates per lane. Primary Antibody: ACE2 (600-401-X58, 600-401-G71, 600-401-X59) at 2µg/mL and Beta Actin at 1µg/mL for 1hr at RT in 5% BLOTTO/TBST. Secondary Antibody: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Predicted MW: ~93kDa. Observed MW: ~130kDa.

#### Western Blot

Western Blot of Rabbit Anti-ACE2 Antibody. Lane 1: Mouse Heart Lysate. Lane 2: Mouse Bladder Lysate. Load: 15µg of lysates per lane. Primary Antibody: Anti-ACE2 at 2µg/mL for 1hr at RT in 5% BLOTTO/TBST. Secondary Antibody: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Predicted MW: ~93kDa.

#### Western Blot

Western Blot of Rabbit Anti-ACE2 Antibody. Lane 1: Rat Thymus Lysate. Load: 15µg of lysate. Primary Antibody: Anti-ACE2 at 2µg/mL for 1hr at RT in 5% BLOTTO/TBST. Secondary Antibody: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Predicted MW: ~93kDa.

**Western Blot**

Western Blot of Rabbit Anti-ACE2 Antibody. Lane 1: Human Kidney Lysate. Lane 2: Human Testis Lysate. Load: 15µg of lysates per lane. Primary Antibody: Anti-ACE2 at 2µg/mL for 1hr at RT in 5% BLOTTO/TBST. Secondary Antibody: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Predicted MW: ~93kDa.

**References**

- Zorad S et al. Angiotensin I and II Stimulate Cell Invasion of SARS-CoV-2: Potential Mechanism via Inhibition of ACE2 Arm of RAS. *Physiol Res.* (2024)
- Kovacech B et al. Monoclonal antibodies targeting two immunodominant epitopes on the Spike protein neutralize emerging SARS-CoV-2 variants of concern. *EBioMedicine.* (2022)

**Disclaimer**

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.