

Alexa Fluor® 647 anti-human ACE2 Antibody

Catalog# / Size	375803 / 25 µg 375804 / 100 µg
Clone	A20069I
Regulatory Status	RUO
Other Names	Angiotensin-converting enzyme 2, ACE-related carboxypeptidase, ACE-2, ACEH
Isotype	Rat IgG2a, κ
Description	Angiotensin-converting enzyme 2 (ACE2) is a type one transmembrane protein, which shares approximately 60% homology with ACE. The predicted human ACE2 protein sequence consists of 805 amino acids, including an N-terminal signal peptide, a single catalytic domain, a C-terminal membrane anchor, and a short cytoplasmic tail. ACE2 catalyzes the cleavage of angiotensin I into angiotensin 1-9, and angiotensin II into the vasodilator angiotensin 1-7 involved in vasoconstriction. Recently, ACE2 has been shown to be a functional receptor for the spike glycoprotein of the human coronavirus HCoV-NL63 and the human severe acute respiratory syndrome coronaviruses, SARS-CoV and SARS-CoV-2 (COVID-19 virus). Based on recent single-cell RNA sequencing (scRNA-Seq) database, high ACE2 RNA expression was identified in type II alveolar cells (AT2) of lung, esophagus upper and stratified epithelial cells, kidney proximal tubule cells, enterocytes in ileum and colon, cholangiocyte in bile duct, myocardial cells in heart, and endothelium and vascular smooth muscle cells.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Recombinant protein cover extracellular domain of ACE2 (Gln 18-Ser740)
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	IHC-P - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 5 - 10 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application. * Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633 nm / 635 nm. Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Product Citations	1. Li T, <i>et al.</i> 2022. J Clin Invest. 132:. PubMed
RRID	AB_2890824 (BioLegend Cat. No. 375803) AB_2890824 (BioLegend Cat. No. 375804)

Antigen Details

Structure	Type one transmembrane protein. Protein sequence consistent extracellular domain (Gln 18-Ser740) contain cytalitic domain, transmembrane domain (AA741-AA761) and cytoplasmic domain (AA762-AA805).
Distribution	Type II alveolar cells (AT2) of lung, esophagus upper and stratified epithelial cells, kidney proximal tubule cells, enterocytes in ileum and colon, cholangiocyte in bile duct, myocardial cells in heart, endothelium and vascular smooth muscle cells
Function	Catalyzes the cleavage of angiotensin I into angiotensin 1-9, and angiotensin II into the vasodilator angiotensin 1-7 involved in vasoconstriction
Interaction	Angiotensin II, ADAM17, TMPRSS2
Ligand/Receptor	Functional receptor for the spike glycoprotein of the human coronavirus HCoV-NL63 and the human severe acute respiratory syndrome coronaviruses, SARS-CoV and SARS-CoV-2 (COVID-19 virus)
Cell Type	Monocytes
Biology Area	Angiogenesis, COVID-19, Immunology
Molecular Family	Enzymes and Regulators
Antigen References	<ol style="list-style-type: none">1. South AM, <i>et al.</i> 2020. <i>Nat Rev Nephrol.</i> 16:305-7.2. Hoffmann M, <i>et al.</i> 2020. <i>Cell.</i> 181:271-80.3. Sungnak W, <i>et al.</i> 2020. <i>Nat Med.</i> 26:681-7.4. Li W, <i>et al.</i> 2003. <i>Nature.</i> 426:450-4.5. Heurich A, <i>et al.</i> 2014. <i>J Virol.</i> 88:1293-30.6. Hamming I, <i>et al.</i> 2004. <i>J Pathol.</i> 203:631-7.
Gene ID	59272

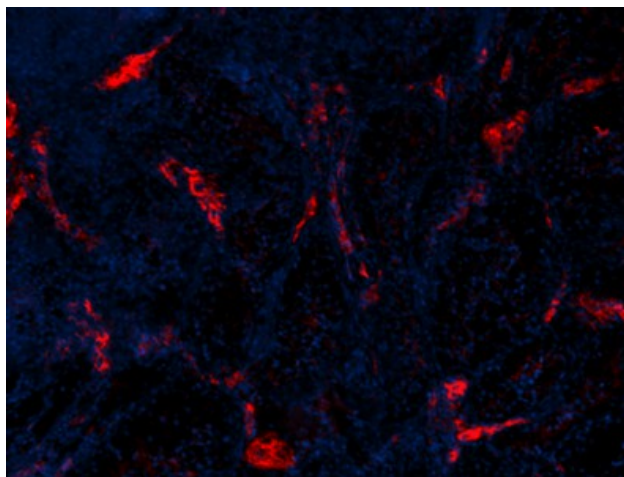
Related Protocols

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

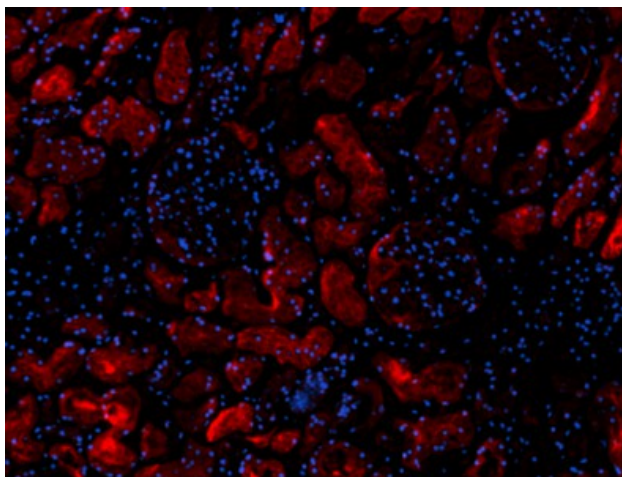
Other Formats

Purified anti-human ACE2, Alexa Fluor® 647 anti-human ACE2 Antibody, Alexa Fluor® 594 anti-human ACE2

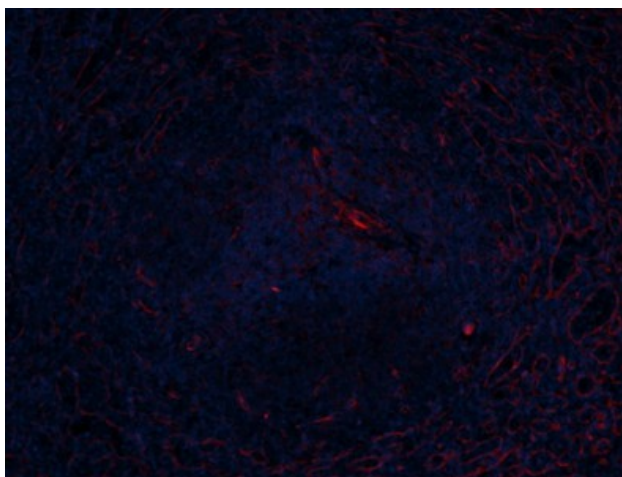
Product Data



Human paraffin-embedded testis tissue slices were prepared with a standard protocol of deparaffinization and rehydration. Antigen retrieval was done with Tris-Buffered Saline 1X (1.0M, pH 7.4) at 95°C for 40 minutes. Tissue was washed with PBS/0.05% Tween 20 twice for five minutes and blocked with 5% FBS and 0.2% gelatin for 30 minutes. Then, the tissue was stained with 10 µg/mL anti-human ACE2 (clone A200691) Alexa Fluor® 647 (red) at 4°C overnight. Nuclei were counterstained with DAPI (green). The image was captured with a 10X objective.



Human paraffin-embedded kidney tissue slices were prepared with a standard protocol of deparaffinization and rehydration. Antigen retrieval was done with Tris-Buffered Saline 1X (1.0M, pH 7.4) at 95°C for 40 minutes. Tissue was washed with PBS/0.05% Tween 20 twice for five minutes and blocked with 5% FBS and 0.2% gelatin for 30 minutes. Then, the tissue was stained with 10 µg/mL anti-human ACE2 (clone A200691) Alexa Fluor® 647 (red) at 4°C overnight. Nuclei were counterstained with DAPI (green). The image was captured with a 10X objective.



Human paraffin-embedded spleen tissue slices were prepared with a standard protocol of deparaffinization and rehydration. Antigen retrieval was done with Tris-Buffered Saline 1X (1.0M, pH 7.4) at 95°C for 40 minutes. Tissue was washed with PBS/0.05% Tween 20 twice for five minutes and blocked with 5% FBS and 0.2% gelatin for 30 minutes. Then, the tissue was stained with 10 µg/mL anti-human ACE2 (clone A200691) Alexa Fluor® 647 (red) at 4°C overnight. Nuclei were counterstained with DAPI (green). The image was captured with a 10X objective.

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