SANTA CRUZ BIOTECHNOLOGY, INC.

ACE2 (E-11): sc-390851

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Angiotensin-converting enzyme (ACE) is a carboxyl-terminal dipeptidyl exopeptidase that converts Angiotensin I to the potent vasopressive hormone, Angiotensin II. There are two isoforms of ACE, the pulmonary ACEP and the testicular ACET. ACEP is a glycoprotein expressed in vascular endothelial cells of the lung, liver, adrenal cortex, pancreas, kidney and spleen. The ACET isoform is expressed exclusively in adult testis by developing sperm cells, specifically late pachytene spermatocytes. Additionally, ACE inactivates bradykinin, a vasodepressor peptide, and is involved in blood pressure regulation and fluid/electrolyte homeostasis. ACE2 is the first known human homolog of ACE. Unlike ACE, which is expressed ubiquitously throughout the vasculature, ACE2 is expressed only in cardiac, renal and testicular cells.

CHROMOSOMAL LOCATION

Genetic locus: ACE2 (human) mapping to Xp22.2; Ace2 (mouse) mapping to X F5.

SOURCE

ACE2 (E-11) is a mouse monoclonal antibody raised against amino acids 631-805 of ACE2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACE2 (E-11) is available conjugated to agarose (sc-390851 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390851 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390851 PE), fluorescein (sc-390851 FITC), Alexa Fluor® 488 (sc-390851 AF488), Alexa Fluor® 546 (sc-390851 AF546), Alexa Fluor® 594 (sc-390851 AF594) or Alexa Fluor® 647 (sc-390851 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390851 AF680) or Alexa Fluor® 790 (sc-390851 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ACE2 (E-11) is recommended for detection of ACE2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACE2 siRNA (h): sc-41400, ACE2 siRNA (m): sc-41401, ACE2 shRNA Plasmid (h): sc-41400-SH, ACE2 shRNA Plasmid (m): sc-41401-SH, ACE2 shRNA (h) Lentiviral Particles: sc-41400-V and ACE2 shRNA (m) Lentiviral Particles: sc-41401-V.

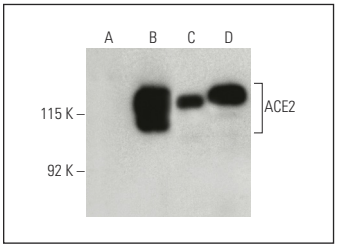
Molecular Weight of ACE2: 90 kDa.

Positive Controls: ACE2 (h): 293T Lysate: sc-112599, human testis extract: sc-363781 or human kidney extract: sc-363764.

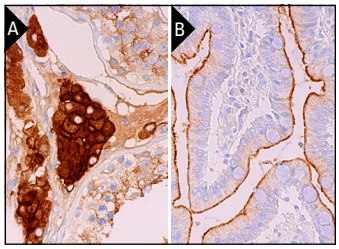
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ACE2 (E-11): sc-390851. Western blot analysis of ACE2 expression in non-transfected: sc-117752 (**A**) and human ACE2 transfected: sc-112599 (**B**) 293T whole cell lysates and human kidney (**C**) and human testis (**D**) tissue extracts.



ACE2 (E-11): sc-390851. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing apical membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Pan, X., et al. 2018. FGF21 prevents Angiotensin II-induced hypertension and vascular dysfunction by activation of ACE2/Angiotensin-(1-7) axis in mice. Cell Metab. 27: 1323-1337.
2. Xiao, H.L., et al. 2018. Association between ACE2/ACE balance and pneumocyte apoptosis in a porcine model of acute pulmonary thromboembolism with cardiac arrest. Mol. Med. Rep. 17: 4221-4228.
3. Chen, C.M. and Chou, H.C. 2018. Human mesenchymal stem cells attenuate hyperoxia-induced lung injury through inhibition of the Renin-Angiotensin system in newborn rats. Am. J. Transl. Res. 10: 2628-2635.
4. Xiao, H.L., et al. 2019. Imbalance of Angiotensin-converting enzymes affects myocardial apoptosis during cardiac arrest induced by acute pulmonary embolism in a porcine model. Int. J. Mol. Med. 43: 1575-1584.
5. He, R., et al. 2019. Rapeseed protein-derived peptides, LY, RALP, and GHS, modulates key enzymes and intermediate products of Renin-Angiotensin system pathway in spontaneously hypertensive rat. NPJ Sci. Food 3: 1.
6. Zhang, B.N., et al. 2019. Protective effect of Angiotensin (1-7) on silicotic fibrosis in rats. Biomed. Environ. Sci. 32: 419-426.
7. La Rosa, M., et al. 2020. Lactation leads to modifications in maternal Renin-angiotensin system in later life. Reprod. Sci. 27: 260-266.
8. Gorshkov, K., et al. 2020. Quantum dot-conjugated SARS-CoV-2 spike pseudo-virions enable tracking of Angiotensin converting enzyme 2 binding and endocytosis. ACS Nano 14: 12234-12247.
9. Ogunlade, B., et al. 2020. The Actin bundling protein Fascin-1 as an ACE2-accessory protein. Cell. Mol. Neurobiol. 42: 255-263.

RESEARCH USE

For research use only, not for use in diagnostic procedures.