SANTA CRUZ BIOTECHNOLOGY, INC.

ACE2 (AC18Z): sc-73668

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.

REFERENCES

1. Erdos, E.G., et al. 1967. An enzyme in microsomal fraction of kidney that inactivates bradykinin. Life Sci. 6: 569-574.
2. Soffer, R.L. 1976. Angiotensin-converting enzyme and the regulation of vasoactive peptides. Annu. Rev. Biochem. 45: 73-94.
3. Caldwell, P.R., et al. 1976. Angiotensin-converting enzyme: vascular endothelial localization. Science 191: 1050-1051.
4. Soffer, R.L. 1981. Biochemical Regulation of Blood Pressure. New York: Wiley-Interscience, 123-164.

CHROMOSOMAL LOCATION

Genetic locus: ACE2 (human) mapping to Xp22.2.

SOURCE

ACE2 (AC18Z) is a mouse monoclonal antibody raised against amino acids 18-740 of ACE2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

APPLICATIONS

ACE2 (AC18Z) is recommended for detection of ACE2 of human origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

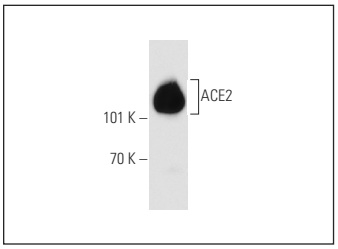
Molecular Weight of ACE2: 90 kDa.

Positive Controls: OV-90 whole cell lysate: sc-364191 or Hs 181 Tes whole cell lysate: sc-364779.

STORAGE

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

DATA



ACE2 (AC18Z): sc-73668. Western blot analysis of ACE2 expression in OV-90 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Cao, L., et al. 2012. Propofol increases angiotensin-converting enzyme 2 expression in human pulmonary artery endothelial cells. Pharmacology 90: 342-347.
2. Zhang, H., et al. 2013. Endothelin-1 downregulates angiotensin-converting enzyme-2 expression in human bronchial epithelial cells. Pharmacology 91: 297-304.
3. Errarte, P., et al. 2017. Expression and activity of angiotensin-regulating enzymes is associated with prognostic outcome in clear cell renal cell carcinoma patients. PLoS ONE 12: e0181711.
4. Carvalho-Galvão, A., et al. 2018. Central administration of TRV027 improves baroreflex sensitivity and vascular reactivity in spontaneously hypertensive rats. Clin. Sci. 132: 1513-1527.
5. Prelli Bozzo, C., et al. 2021. IFITM proteins promote SARS-CoV-2 infection and are targets for virus inhibition *in vitro*. Nat. Commun. 12: 4584.
6. Sherman, E.J. and Emmer, B.T. 2021. ACE2 protein expression within isogenic cell lines is heterogeneous and associated with distinct transcriptomes. Sci. Rep. 11: 15900.
7. Diomede, L., et al. 2021. Doxycycline inhibition of a pseudotyped virus transduction does not translate to inhibition of SARS-CoV-2 infectivity. Viruses 13: 1745.
8. Filice, M., et al. 2022. An ACE2-alamandine axis modulates the cardiac performance of the goldfish *Carassius auratus* via the NOS/NO system. Antioxidants 11: 764.
9. Louise, R., et al. 2023. Higher Angiotensin I converting enzyme 2 (ACE2) levels in the brain of individuals with Alzheimer's disease. bioRxiv. E-published.

RESEARCH USE

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