SANTA CRUZ BIOTECHNOLOGY, INC.

ACE (2E2): sc-23908

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Angiotensin-converting enzyme (ACE) is a carboxy-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 fluid/electrolyte homeostasis. Although it bears significant sequence homology to ACE, ACE2 shows a more restricted pattern of expression. ACE is expressed ubiquitously throughout the vasculature while ACE2 is expressed only in cardiac, renal and testicular cells.

CHROMOSOMAL LOCATION

Genetic locus: ACE (human) mapping to 17q23.3; Ace (mouse) mapping to 11 E1.

SOURCE

ACE (2E2) is a mouse monoclonal antibody raised against angiotensin-converting enzyme from human kidney.

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.

ACE (2E2) is available conjugated to agarose (sc-23908 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23908 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23908 PE), fluorescein (sc-23908 FITC), Alexa Fluor® 488 (sc-23908 AF488), Alexa Fluor® 546 (sc-23908 AF546), Alexa Fluor® 594 (sc-23908 AF594) or Alexa Fluor® 647 (sc-23908 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23908 AF680) or Alexa Fluor® 790 (sc-23908 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

ACE (2E2) is recommended for detection of ACE of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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 ACE siRNA (h2): sc-270350, ACE siRNA (m): sc-29627, ACE shRNA Plasmid (h2): sc-270350-SH, ACE shRNA Plasmid (m): sc-29627-SH, ACE shRNA (h2) Lentiviral Particles: sc-270350-V and ACE shRNA (m) Lentiviral Particles: sc-29627-V.

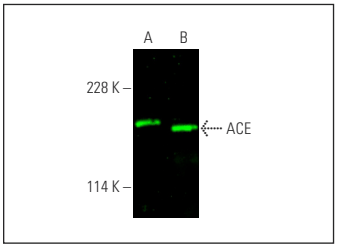
Molecular Weight of ACE: 195 kDa.

Positive Controls: mouse kidney extract: sc-2255, IB4 whole cell lysate: sc-364780 or human kidney extract: sc-363764.

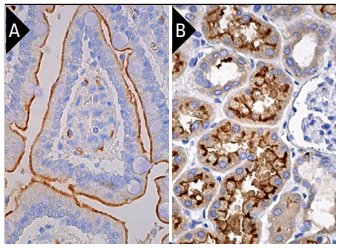
STORAGE

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

DATA



ACE (2E2): sc-23908. Near-infrared western blot analysis of ACE expression in human kidney (**A**) and mouse kidney (**B**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



ACE (2E2): sc-23908. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing apical membrane staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Kelly, B., et al. 2008. Nephrogenic systemic fibrosis is associated with transforming growth factor β and Smad without evidence of renin-angiotensin system involvement. J. Am. Acad. Dermatol. 58: 1025-1030.
2. Wösten-van Asperen, R.M., et al. 2010. Ventilator-induced inflammatory response in lipopolysaccharide-exposed rat lung is mediated by angiotensin-converting enzyme. Am. J. Pathol. 176: 2219-2227.
3. Wösten-van Asperen, R.M., et al. 2011. Acute respiratory distress syndrome leads to reduced ratio of ACE/ACE2 activities and is prevented by angiotensin-(1-7) or an angiotensin II receptor antagonist. J. Pathol. 225: 618-627.
4. Demurtas, P., et al. 2013. Immunohistochemical analysis of angiotensin converting enzyme in Sardinian pterygium. Histol. Histopathol. 28: 759-766.
5. Zou, Z., et al. 2014. Angiotensin-converting enzyme 2 protects from lethal avian influenza A H5N1 infections. Nat. Commun. 5: 3594.
6. Li, C., et al. 2015. High-fat diet amplifies renal renin angiotensin system expression, blood pressure elevation, and renal dysfunction caused by Ceacam1 null deletion. Am. J. Physiol. Endocrinol. Metab. 309: E802-E810.
7. Bromfield, E.G., et al. 2016. Heat shock protein member A_2 forms a stable complex with angiotensin converting enzyme and protein disulfide isomerase A6 in human spermatozoa. Mol. Hum. Reprod. 22: 93-109.
8. Wang, M., et al. 2018. Novel Ras inhibitors poricoic acid ZG and poricoic acid ZH attenuate renal fibrosis via a Wnt/β-catenin pathway and targeted phosphorylation of Smad3 signaling. J. Agric. Food Chem. 66: 1828-1842.
9. Wang, M., et al. 2018. Novel inhibitors of the cellular RAS components, poricoic acids, target Smad3 phosphorylation and Wnt/β-catenin pathway against renal fibrosis. Br. J. Pharmacol. 175: 2689-2708.

RESEARCH USE

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