

# ACE (E-9): sc-271860

## BACKGROUND

Angiotensin-converting enzyme (ACE) is a carboxyl-terminal dipeptidyl exopeptidase that converts Angiotensin I to the potent vasopressor 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: 569-754.
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.
5. El-Dorry, H.A., et al. 1982. Molecular and catalytic properties of rabbit testicular dipeptidyl carboxypeptidase. *J. Biol. Chem.* 257: 14128-14133.
6. Kumar, R.S., et al. 1991. The mRNAs encoding the two Angiotensin-converting isozymes are transcribed from the same gene by a tissue-specific choice of alternative transcription initiation sites. *J. Biol. Chem.* 266: 3854-3862.
7. Thekkumkara, T.J., et al. 1992. Use of alternative polyadenylation sites for tissue-specific transcription of two Angiotensin-converting enzyme mRNAs. *Nucleic Acids Res.* 20: 683-687.

## CHROMOSOMAL LOCATION

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

## SOURCE

ACE (E-9) is a mouse monoclonal antibody raised against amino acids 1-170 of ACE of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

ACE (E-9) is recommended for detection of ACE somatic isoform 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ACE (E-9) is also recommended for detection of ACE somatic isoform in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ACE siRNA (h): sc-29626, ACE siRNA (m): sc-29627, ACE shRNA Plasmid (h): sc-29626-SH, ACE shRNA Plasmid (m): sc-29627-SH, ACE shRNA (h) Lentiviral Particles: sc-29626-V and ACE shRNA (m) Lentiviral Particles: sc-29627-V.

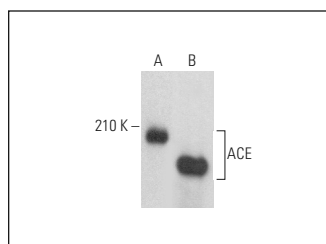
Molecular Weight of ACE: 195 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, human kidney extract: sc-363764 or mouse small intestine extract: sc-364252.

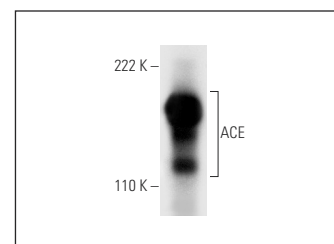
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



ACE (E-9): sc-271860. Western blot analysis of ACE expression in HEL 92.1.7 whole cell lysate (A) and mouse small intestine tissue extract (B).



ACE (E-9): sc-271860. Western blot analysis of ACE expression in human kidney tissue extract.

## RESEARCH USE

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



See **ACE (2E2): sc-23908** for ACE antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.