

# ACE (2Q2296): sc-69994

## 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.

## REFERENCES

1. Erdos, E.G. and Yang, H.Y. 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.
8. Langford, K.G., et al. 1993. Regulated expression of testis Angiotensin-converting enzyme during spermatogenesis in mice. *Biol. Reprod.* 48: 1210-1218.
9. Donoghue, M., et al. 2000. A novel Angiotensin-converting enzyme-related carboxypeptidase (ACE2) converts Angiotensin I to Angiotensin 1-9. *Circ. Res.* 87: E1-E9.

## CHROMOSOMAL LOCATION

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

## SOURCE

ACE (2Q2296) is a mouse monoclonal antibody raised against denatured ACE from human kidney.

## RESEARCH USE

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

## PRODUCT

Each vial contains 500 µl culture supernatant containing IgG<sub>1</sub> with < 0.1% sodium azide.

## APPLICATIONS

ACE (2Q2296) is recommended for detection of C-terminal domain of denatured ACE of mouse, rat, human, bovine, feline and canine origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

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

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



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