

Angiotensin Converting Enzyme 1 Rabbit mAb
Catalog # AP75075**Specification****Angiotensin Converting Enzyme 1 Rabbit mAb - Product Information**

Application	WB, IHC-P
Primary Accession	P09470
Reactivity	Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	150918

Angiotensin Converting Enzyme 1 Rabbit mAb - Additional Information**Gene ID** 11421**Other Names**

Ace

Dilution

WB~~1/500-1/1000

IHC-P~~N/A

Format

50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.

Storage

Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Angiotensin Converting Enzyme 1 Rabbit mAb - Protein Information**Name** Ace {ECO:0000303|PubMed:2545691, ECO:0000312|MGI:MGI:87874}**Function**

Dipeptidyl carboxypeptidase that removes dipeptides from the C-terminus of a variety of circulating hormones, such as angiotensin I, bradykinin or enkephalins, thereby playing a key role in the regulation of blood pressure, electrolyte homeostasis or synaptic plasticity (PubMed:11723129, PubMed:12777443, PubMed:14757757, PubMed:16270063, PubMed:35201898, PubMed:7753170, PubMed:8642790, PubMed:9231832). Composed of two similar catalytic domains, each possessing a functional active site, with different selectivity for substrates (PubMed:11303049). Plays a major role in the angiotensin-renin system that

regulates blood pressure and sodium retention by the kidney by converting angiotensin I to angiotensin II, resulting in an increase of the vasoconstrictor activity of angiotensin (PubMed:11303049, PubMed:14757757, PubMed:9231832). Also able to inactivate bradykinin, a potent vasodilator, and therefore enhance the blood pressure response (By similarity). Acts as a regulator of synaptic transmission by mediating cleavage of neuropeptide hormones, such as substance P, neurotensin or enkephalins (By similarity). Catalyzes degradation of different enkephalin neuropeptides (Met-enkephalin, Leu-enkephalin, Met-enkephalin-Arg-Phe and possibly Met-enkephalin-Arg-Gly-Leu) (PubMed:35201898). Acts as a regulator of synaptic plasticity in the nucleus accumbens of the brain by mediating cleavage of Met-enkephalin-Arg-Phe, a strong ligand of Mu-type opioid receptor OPRM1, into Met-enkephalin (PubMed:35201898). Met-enkephalin-Arg-Phe cleavage by ACE decreases activation of OPRM1, leading to long-term synaptic potentiation of glutamate release (PubMed:35201898). Also acts as a regulator of hematopoietic stem cell differentiation by mediating degradation of hemoregulatory peptide N-acetyl-SDKP (AcSDKP) (PubMed:11303049). Acts as a regulator of cannabinoid signaling pathway by mediating degradation of hemopressin, an antagonist peptide of the cannabinoid receptor CNR1 (By similarity). Involved in amyloid-beta metabolism by catalyzing degradation of Amyloid-beta protein 40 and Amyloid-beta protein 42 peptides, thereby preventing plaque formation (By similarity). Catalyzes cleavage of cholecystokinin (maturation and degradation) hormones (By similarity). Degradation of hemoregulatory peptide N-acetyl-SDKP (AcSDKP) and amyloid-beta proteins is mediated by the N-terminal catalytic domain, while angiotensin I and cholecystokinin cleavage is mediated by the C-terminal catalytic region (PubMed:11303049).

Cellular Location

[Isoform Somatic]: Cell membrane; Single-pass type I membrane protein. Cytoplasm. Note=Detected in both cell membrane and cytoplasm in neurons [Isoform Testis-specific]: Cell membrane {ECO:0000250|UniProtKB:P12821}; Single-pass type I membrane protein. Secreted {ECO:0000250|UniProtKB:P12821}. Note=The testis-specific isoform can be cleaved before the transmembrane region, releasing a soluble form. {ECO:0000250|UniProtKB:P12821}

Tissue Location

[Isoform Somatic]: Highly expressed in kidney and lung; not expressed in the liver (PubMed:16154999). In the brain, expressed in the cerebral cortex, hippocampus, cerebellum and basal ganglia/brainstem (PubMed:16154999). Highly expressed in dopamine receptor DRD1-expressing neurons in the dorsal striatum and the nucleus accumbens of the brain (PubMed:35201898).

Angiotensin Converting Enzyme 1 Rabbit mAb - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)

- [Cell Culture](#)

Angiotensin Converting Enzyme 1 Rabbit mAb - Images

