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Anti-ACE Picoband Antibody
Catalog # ABO11826

Specification

Anti-ACE Picoband Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P12821
Host	**Rabbit**
Reactivity	**Human, Mouse, Rat**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Angiotensin-converting enzyme(ACE) detection. Tested with WB, IHC-P, IHC-F in Human;Mouse;Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-ACE Picoband Antibody - Additional Information

Gene ID 1636

Other Names
Angiotensin-converting enzyme, ACE, 3.2.1.-, 3.4.15.1, Dipeptidyl carboxypeptidase I, Kininase II, CD143, Angiotensin-converting enzyme, soluble form, ACE, DCP, DCP1

Calculated MW
149715 MW KDa

Application Details
Immunohistochemistry(Frozen Section), 0.5-1 µg/ml, Mouse, -
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse

Subcellular Localization
Angiotensin-converting enzyme, soluble form: Secreted.

Tissue Specificity
Ubiquitously expressed, with highest levels in lung, kidney, heart, gastrointestinal system and prostate. Isoform Testis-specific is expressed in spermatocytes and adult testis. .

Protein Name
Angiotensin-converting enzyme

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
E.coli-derived human ACE recombinant protein (Position: K651-Y864). Human ACE shares 73% and

76% amino acid (aa) sequences identity with mouse and rat ACE, respectively.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage

At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities
Belongs to the peptidase M2 family.

Anti-ACE Picoband Antibody - Protein Information

Name ACE {ECO:0000303|PubMed:2849100, ECO:0000312|HGNC:HGNC:2707}

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:2558109, PubMed:4322742, PubMed:7683654, PubMed:7523412, PubMed:15615692, PubMed:20826823). Composed of two similar catalytic domains, each possessing a functional active site, with different selectivity for substrates (PubMed:1851160, PubMed:1320019, PubMed:7683654, PubMed:7876104, PubMed:10913258, PubMed:19773553). 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:4322742, PubMed:1851160, PubMed:11432860, PubMed:19773553, PubMed:23056909). Also able to inactivate bradykinin, a potent vasodilator, and therefore enhance the blood pressure response (PubMed:2558109, PubMed:6055465, PubMed:4322742, PubMed:6270633, PubMed:7683654, PubMed:15615692). Acts as a regulator of synaptic transmission by mediating cleavage of neuropeptide hormones, such as substance P, neurotensin or enkephalins (PubMed:656131, PubMed:<a

href="http://www.uniprot.org/citations/6270633" target="_blank">6270633, PubMed:6208535, PubMed:15615692). Catalyzes degradation of different enkephalin neuropeptides (Met- enkephalin, Leu-enkephalin, Met-enkephalin-Arg-Phe and possibly Met- enkephalin-Arg-Gly-Leu) (PubMed:656131, PubMed:6270633, PubMed:2982830). 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 (By similarity). Met-enkephalin-Arg-Phe cleavage by ACE decreases activation of OPRM1, leading to long-term synaptic potentiation of glutamate release (By similarity). Also acts as a regulator of hematopoietic stem cell differentiation by mediating degradation of hemoregulatory peptide N-acetyl-SDKP (AcSDKP) (PubMed:8257427, PubMed:7876104, PubMed:8609242, PubMed:26403559). Acts as a regulator of cannabinoid signaling pathway by mediating degradation of hemopressin, an antagonist peptide of the cannabinoid receptor CNR1 (PubMed:18077343). Involved in amyloid-beta metabolism by catalyzing degradation of Amyloid-beta protein 40 and Amyloid-beta protein 42 peptides, thereby preventing plaque formation (PubMed:11604391, PubMed:16154999, PubMed:19773553). Catalyzes cleavage of cholecystokinin (maturation of Cholecystokinin-8 and Cholecystokinin-5) and Gonadoliberin-1 (both maturation and degradation) hormones (PubMed:2983326, PubMed:7683654, PubMed:9371719, PubMed:10336644). 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:7876104, PubMed:10336644, PubMed:19773553).

Cellular Location
Cell membrane; Single-pass type I membrane protein. Cytoplasm {ECO:0000250|UniProtKB:P09470}. Note=Detected in both cell membrane and cytoplasm in neurons. {ECO:0000250|UniProtKB:P09470} [Isoform Testis-specific]: Cell membrane; Single-pass type I membrane protein. Secreted. Note=The testis-specific isoform can be cleaved before the transmembrane region, releasing a soluble form

Tissue Location
Ubiquitously expressed, with highest levels in lung, kidney, heart, gastrointestinal system and prostate

Anti-ACE Picoband Antibody - Protocols

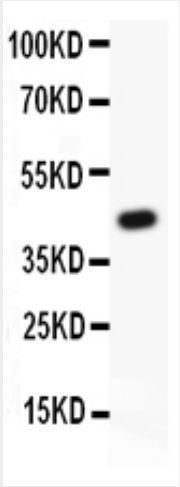
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides

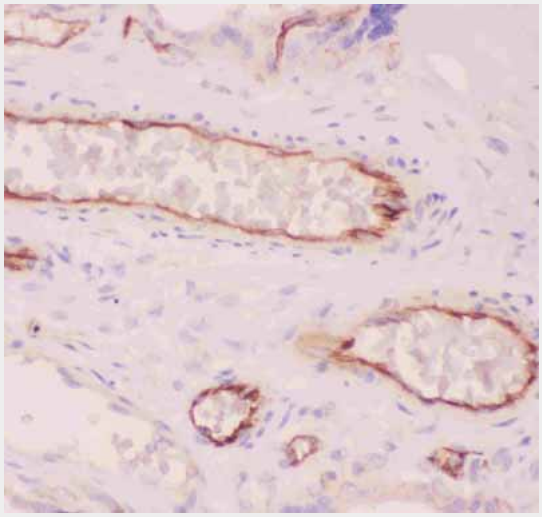
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- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-ACE Picoband Antibody - Images

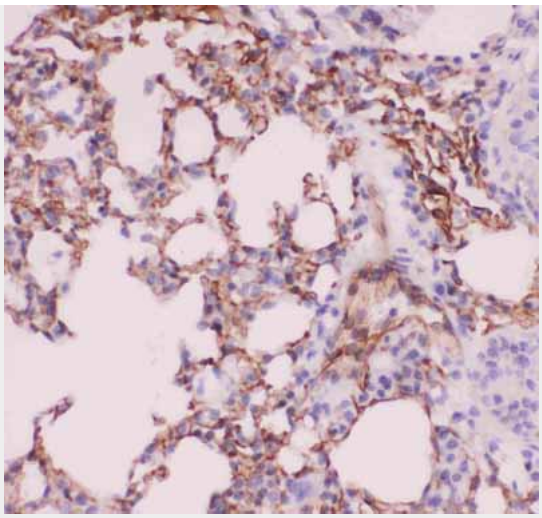


Anti-ACE Picoband antibody, ABO11826-1.jpgAll lanes: Anti ACE (ABO11826) at 0.5ug/mlWB: Recombinant Human ACE Protein 0.5ngPredicted bind size: 47KDObserved bind size: 47KD

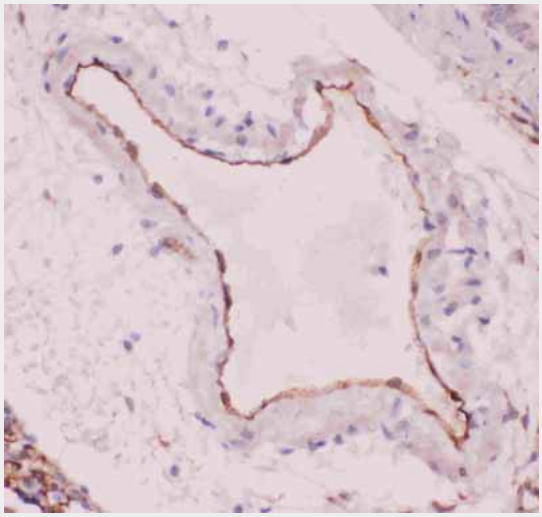


Anti-ACE Picoband antibody, ABO11826-2.JPGIHC(P): Human Placenta Tissue

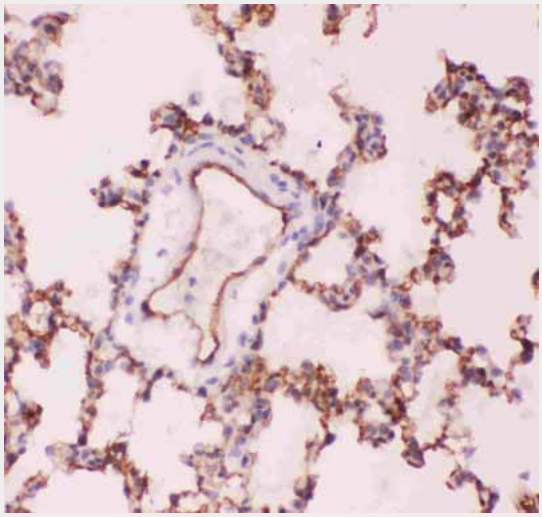
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Anti-ACE Picoband antibody, ABO11826-3.JPGIHC(P): Mouse Lung Tissue



Anti-ACE Picoband antibody, ABO11826-4.JPGIHC(P): Rat Lung Tissue



Anti-ACE Picoband antibody, ABO11826-5.JPGIHC(P): Rat Lung Tissue

Anti-ACE Picoband Antibody - Background

Angiotensin-converting enzyme (ACE), an exopeptidase, is a circulating enzyme that participates in the body's renin-angiotensin system(RAS), which mediates extracellular volume (i.e. that of the blood plasma, lymph and interstitial fluid), and arterial vasoconstriction. It is secreted by pulmonary and renal endothelial cells and catalyzes the conversion of decapeptide angiotensin I to octapeptide angiotensin II. Using a DNA marker at the growth hormone gene locus, which they characterized as 'extremely polymorphic' and which showed no recombination with ACE, ACE was mapped to 17q22-q24, consistent with the in situ hybridization mapping to 17q23. ACE, or kininase II, is a dipeptidyl carboxypeptidase that plays an important role in blood pressure regulation and electrolyte balance by hydrolyzing angiotensin I into angiotensin II, a potent vasopressor, and aldosterone-stimulating peptide. The enzyme is also able to inactivate bradykinin, a potent vasodilator.