

**Anti-ACE Antibody**  
Catalog # ABO11506**Specification**

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**Anti-ACE Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">P12821</a>
Host	<b>Rabbit</b>
Reactivity	<b>Human, Mouse</b>
Clonality	<b>Polyclonal</b>
Format	<b>Lyophilized</b>

**Description**

Rabbit IgG polyclonal antibody for Angiotensin-converting enzyme(ACE) detection. Tested with WB in Human;Mouse.

**Reconstitution**

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

**Anti-ACE 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**

Western blot, 0.1-0.5 µg/ml, Human, Mouse<br>

**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 Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Thimerosal, 0.05mg NaN<sub>3</sub>.

**Immunogen**

A synthetic peptide corresponding to a sequence at the N-terminus of human Angiotensin Converting Enzyme 1(130-144aa ANLPLAKRQQYNALL), different from the related mouse sequence by two amino acids, and from the related rat sequence by four amino acids.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage****At -20°C for one year. After reconstitution, 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 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: <a href="http://www.uniprot.org/citations/15615692" target="\_blank">15615692</a>, PubMed: <a href="http://www.uniprot.org/citations/20826823" target="\_blank">20826823</a>, PubMed: <a href="http://www.uniprot.org/citations/2558109" target="\_blank">2558109</a>, PubMed: <a href="http://www.uniprot.org/citations/4322742" target="\_blank">4322742</a>, PubMed: <a href="http://www.uniprot.org/citations/7523412" target="\_blank">7523412</a>, PubMed: <a href="http://www.uniprot.org/citations/7683654" target="\_blank">7683654</a>). Composed of two similar catalytic domains, each possessing a functional active site, with different selectivity for substrates (PubMed: <a href="http://www.uniprot.org/citations/10913258" target="\_blank">10913258</a>, PubMed: <a href="http://www.uniprot.org/citations/1320019" target="\_blank">1320019</a>, PubMed: <a href="http://www.uniprot.org/citations/1851160" target="\_blank">1851160</a>, PubMed: <a href="http://www.uniprot.org/citations/19773553" target="\_blank">19773553</a>, PubMed: <a href="http://www.uniprot.org/citations/7683654" target="\_blank">7683654</a>, PubMed: <a href="http://www.uniprot.org/citations/7876104" target="\_blank">7876104</a>). 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: <a href="http://www.uniprot.org/citations/11432860" target="\_blank">11432860</a>, PubMed: <a href="http://www.uniprot.org/citations/1851160" target="\_blank">1851160</a>, PubMed: <a href="http://www.uniprot.org/citations/19773553" target="\_blank">19773553</a>, PubMed: <a href="http://www.uniprot.org/citations/23056909" target="\_blank">23056909</a>, PubMed: <a href="http://www.uniprot.org/citations/4322742" target="\_blank">4322742</a>). Also able to inactivate bradykinin, a potent vasodilator, and therefore enhance the blood pressure response (PubMed: <a href="http://www.uniprot.org/citations/15615692" target="\_blank">15615692</a>, PubMed: <a href="http://www.uniprot.org/citations/2558109" target="\_blank">2558109</a>, PubMed: <a href="http://www.uniprot.org/citations/4322742" target="\_blank">4322742</a>, PubMed: <a href="http://www.uniprot.org/citations/6055465" target="\_blank">6055465</a>, PubMed: <a href="http://www.uniprot.org/citations/6270633" target="\_blank">6270633</a>, PubMed: <a href="http://www.uniprot.org/citations/7683654" target="\_blank">7683654</a>). Acts as a regulator of synaptic transmission by mediating cleavage of neuropeptide hormones, such as substance P, neurotensin or enkephalins (PubMed: <a href="http://www.uniprot.org/citations/15615692" target="\_blank">15615692</a>, PubMed: <a href="http://www.uniprot.org/citations/6208535" target="\_blank">6208535</a>, PubMed: <a href="http://www.uniprot.org/citations/6270633" target="\_blank">6270633</a>, PubMed: <a href="http://www.uniprot.org/citations/6270633" target="\_blank">6270633</a>, PubMed: <a href="http://www.uniprot.org/citations/6270633" target="\_blank">6270633</a>).

href="http://www.uniprot.org/citations/656131" target="\_blank">656131</a>). Catalyzes degradation of different enkephalin neuropeptides (Met- enkephalin, Leu-enkephalin, Met-enkephalin-Arg-Phe and possibly Met- enkephalin-Arg-Gly-Leu) (PubMed:<a href="http://www.uniprot.org/citations/2982830" target="\_blank">2982830</a>, PubMed:<a href="http://www.uniprot.org/citations/6270633" target="\_blank">6270633</a>, PubMed:<a href="http://www.uniprot.org/citations/656131" target="\_blank">656131</a>). 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:<a href="http://www.uniprot.org/citations/26403559" target="\_blank">26403559</a>, PubMed:<a href="http://www.uniprot.org/citations/7876104" target="\_blank">7876104</a>, PubMed:<a href="http://www.uniprot.org/citations/8257427" target="\_blank">8257427</a>, PubMed:<a href="http://www.uniprot.org/citations/8609242" target="\_blank">8609242</a>). Acts as a regulator of cannabinoid signaling pathway by mediating degradation of hemopressin, an antagonist peptide of the cannabinoid receptor CNR1 (PubMed:<a href="http://www.uniprot.org/citations/18077343" target="\_blank">18077343</a>). Involved in amyloid-beta metabolism by catalyzing degradation of Amyloid-beta protein 40 and Amyloid-beta protein 42 peptides, thereby preventing plaque formation (PubMed:<a href="http://www.uniprot.org/citations/11604391" target="\_blank">11604391</a>, PubMed:<a href="http://www.uniprot.org/citations/16154999" target="\_blank">16154999</a>, PubMed:<a href="http://www.uniprot.org/citations/19773553" target="\_blank">19773553</a>). Catalyzes cleavage of cholecystokinin (maturation of Cholecystokinin-8 and Cholecystokinin-5) and Gonadoliberin-1 (both maturation and degradation) hormones (PubMed:<a href="http://www.uniprot.org/citations/10336644" target="\_blank">10336644</a>, PubMed:<a href="http://www.uniprot.org/citations/2983326" target="\_blank">2983326</a>, PubMed:<a href="http://www.uniprot.org/citations/7683654" target="\_blank">7683654</a>, PubMed:<a href="http://www.uniprot.org/citations/9371719" target="\_blank">9371719</a>). 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:<a href="http://www.uniprot.org/citations/10336644" target="\_blank">10336644</a>, PubMed:<a href="http://www.uniprot.org/citations/19773553" target="\_blank">19773553</a>, PubMed:<a href="http://www.uniprot.org/citations/7876104" target="\_blank">7876104</a>).

### 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 Antibody - 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](#)

### Anti-ACE Antibody - Images



Anti- ACE antibody, ABO11506, Western blotting All lanes: Anti ACE (ABO11506) at 0.5ug/ml  
Lane 1: A549 Whole Cell Lysate at 40ug  
Lane 2: HELA Whole Cell Lysate at 40ug  
Lane 3: 22RV1 Whole Cell Lysate at 40ug  
Predicted bind size: 150KD  
Observed bind size: 150KD

### Anti-ACE Antibody - Background

Angiotensin I converting enzyme(ACE), also called DCP or CD143 is a zinc-containing dipeptidyl carboxypeptidase widely distributed in mammalian tissues and is thought to play a critical role in blood pressure regulation. This gene is mapped to 17q23.3. This gene encodes an enzyme involved in catalyzing the conversion of angiotensin I into a physiologically active peptide angiotensin II. Angiotensin II is a potent vasopressor and aldosterone-stimulating peptide that controls blood pressure and fluid-electrolyte balance. This enzyme plays a key role in the renin-angiotensin system. Many studies have associated the presence or absence of a 287 bp Alu repeat element in this gene with the levels of circulating enzyme or cardiovascular pathophysiology.