

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

Anti-ACE Antibody - Product Information

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

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

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 Thimerosal, 0.05mg NaN₃.

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: 15615692, PubMed: 20826823, PubMed: 2558109, PubMed: 4322742, PubMed: 7523412, PubMed: 7683654). Composed of two similar catalytic domains, each possessing a functional active site, with different selectivity for substrates (PubMed: 10913258, PubMed: 1320019, PubMed: 1851160, PubMed: 19773553, PubMed: 7683654, PubMed: 7876104). 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: 11432860, PubMed: 1851160, PubMed: 19773553, PubMed: 23056909, PubMed: 4322742). Also able to inactivate bradykinin, a potent vasodilator, and therefore enhance the blood pressure response (PubMed: 15615692, PubMed: 2558109, PubMed: 4322742, PubMed: 6055465, PubMed: 6270633, PubMed: 7683654). Acts as a regulator of synaptic transmission by mediating cleavage of neuropeptide hormones, such as substance P, neurotensin or enkephalins (PubMed: 15615692, PubMed: 6208535, PubMed: 6270633, PubMed: 6270633, PubMed: 6270633).

href="http://www.uniprot.org/citations/656131" target="_blank">656131). Catalyzes degradation of different enkephalin neuropeptides (Met- enkephalin, Leu-enkephalin, Met-enkephalin-Arg-Phe and possibly Met- enkephalin-Arg-Gly-Leu) (PubMed:2982830, PubMed:6270633, PubMed:656131). 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:26403559, PubMed:7876104, PubMed:8257427, PubMed:8609242). 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:10336644, PubMed:2983326, PubMed:7683654, PubMed:9371719). 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:10336644, PubMed:19773553, PubMed:7876104).

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.