

Anti-ACE Antibody
Catalog # ABO11505

Specification

Anti-ACE Antibody - Product Information

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

Description

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

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

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Western blot, 0.1-0.5 µg/ml, Human

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 in the middle region of human Angiotensin Converting Enzyme 1(702-715aa TQARKFDVNQLQNT).

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).

<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

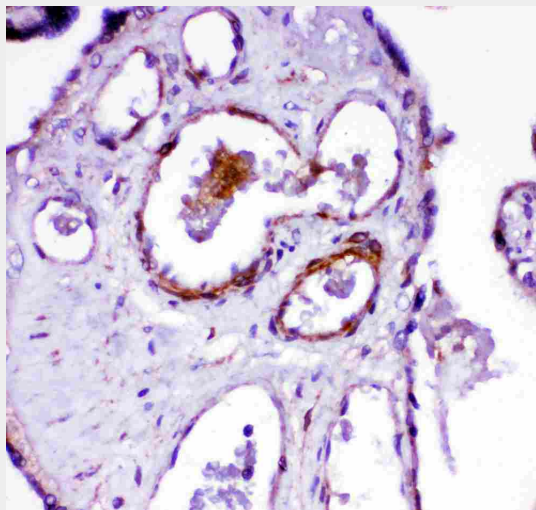
Anti-ACE Antibody - Protocols

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

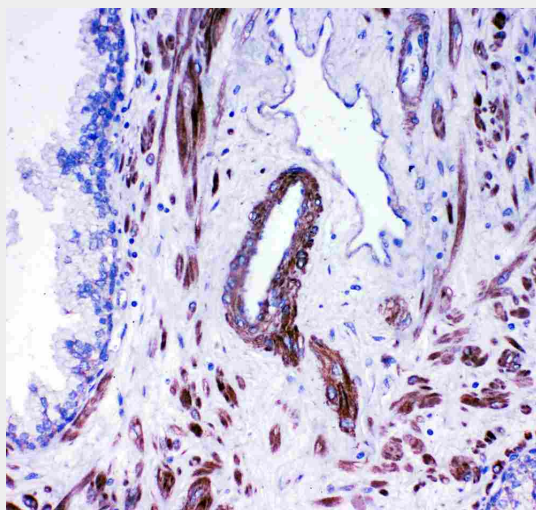
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

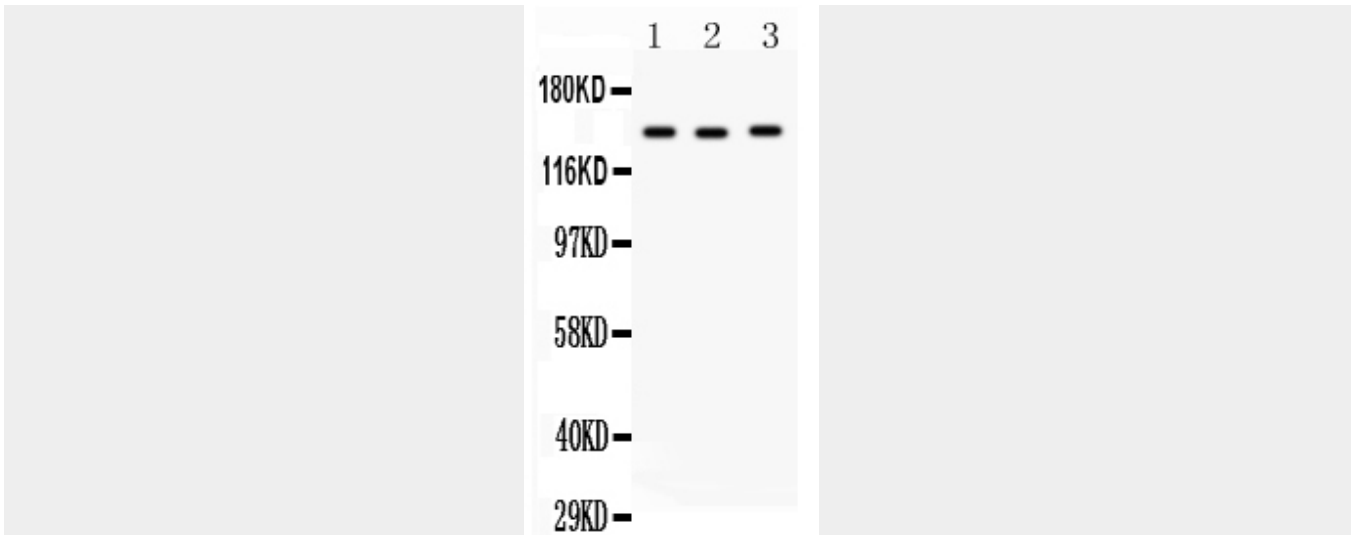
Anti-ACE Antibody - Images



Anti- ACE antibody, ABO11505, IHC(P)IHC(P): Human Placenta Tissue



Anti- ACE antibody, ABO11505, IHC(P)IHC(P): Human Prostatic Cancer Tissue



Anti- ACE antibody, ABO11505, Western blotting All lanes: Anti Angiotensin Converting Enzyme 1 (ABO11505) at 0.5ug/ml Lane 1: HELA Whole Cell Lysate at 40ug Lane 2: A549 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. ACE 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.