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ACE-2

Catalog # PVGS1568

Product Information

Primary Accession	Q9BYF1
Species	Human
Sequence	Gln18-Ser740
Purity	> 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	ACE-2, hFc, Human can bind with S-RBD in functional ELISA assay.
Expression System	Human Cells
Theoretical Molecular Weight	110.5 kDa
Formulation	Supplied as a solution in 20 mM Tris-HCl, 300 mM NaCl, 1 mM ZnCl2, 10% Glycerol, pH 7.4.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -20°C or below. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	59272
Other Names	Angiotensin-converting enzyme 2, 3.4.17.23, Angiotensin-converting enzyme homolog, ACEH, Angiotensin-converting enzyme-related carboxypeptidase, ACE-related carboxypeptidase, 3.4.17.-, Metalloprotease MPROT15 {ECO:0000303|Ref.6}, Processed angiotensin-converting enzyme 2, ACE2 (HGNC:13557)
Target Background	Angiotensin-Converting Enzyme 2 (ACE-2) is an integral membrane protein and a zinc metalloprotease of the ACE family. The ACE family includes somatic and germinal ACE. ACE-2 cleaves angiotensins I and II as a carboxypeptidase. ACE-2 converts angiotensin I to angiotensin 1-9, and angiotensin II to angiotensin 1-7. ACE 2 is also able to hydrolyze apelin-13 and dynorphin-13 with high efficiency. It has high binding affinity to S-RBD.

Protein Information

Name	ACE2 (HGNC:13557)
Function	Essential counter-regulatory carboxypeptidase of the renin- angiotensin hormone system that is a critical regulator of blood volume, systemic vascular

resistance, and thus cardiovascular homeostasis (PubMed:27217402). Converts angiotensin I to angiotensin 1- 9, a nine-amino acid peptide with anti-hypertrophic effects in cardiomyocytes, and angiotensin II to angiotensin 1-7, which then acts as a beneficial vasodilator and anti-proliferation agent, counterbalancing the actions of the vasoconstrictor angiotensin II (PubMed:10924499, PubMed:10969042, PubMed:11815627, PubMed:14504186, PubMed:19021774). Also removes the C-terminal residue from three other vasoactive peptides, neurotensin, kinetensin, and des-Arg bradykinin, but is not active on bradykinin (PubMed:10969042, PubMed:11815627). Also cleaves other biological peptides, such as apelins (apelin-13, [Pyr1]apelin-13, apelin-17, apelin-36), casomorphins (beta-casomorphin- 7, neocasomorphin) and dynorphin A with high efficiency (PubMed:11815627, PubMed:27217402, PubMed:28293165). In addition, ACE2 C-terminus is homologous to collectrin and is responsible for the trafficking of the neutral amino acid transporter SL6A19 to the plasma membrane of gut epithelial cells via direct interaction, regulating its expression on the cell surface and its catalytic activity (PubMed:18424768, PubMed:19185582).

Cellular Location

[Processed angiotensin-converting enzyme 2]: Secreted [Isoform 2]: Apical cell membrane

Tissue Location

Expressed in endothelial cells from small and large arteries, and in arterial smooth muscle cells (at protein level) (PubMed:15141377). Expressed in enterocytes of the small intestine, Leydig cells and Sertoli cells (at protein level) (PubMed:15141377) Expressed in the renal proximal tubule and the small intestine (at protein level) (PubMed:18424768). Expressed in heart, kidney, testis, and gastrointestinal system (at protein level) (PubMed:10924499, PubMed:10969042, PubMed:12459472, PubMed:15231706, PubMed:15671045, PubMed:32170560, PubMed:32715618). In lung, expressed at low levels in some alveolar type 2 cells, the expression seems to be individual- specific (at protein level) (PubMed:15141377, PubMed:32170560, PubMed:32425701, PubMed:32715618, PubMed:33432184). Expressed in nasal epithelial cells (at protein level) (PubMed:32333915, PubMed:33432184) Coexpressed with TMPRSS2 within some lung alveolar type 2 cells, ileal absorptive enterocytes, intestinal epithelial cells, cornea, gallbladder and nasal goblet secretory cells (PubMed:32327758, PubMed:32358202, PubMed:32413319). Coexpressed with TMPRSS4 within mature enterocytes (PubMed:32404436).

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