

Recombinant Human ACE2 Protein (His Tag)

Catalog No. PKSR030510

Description

Synonyms	Angiotensin-Converting Enzyme 2; ACE-Related Carboxypeptidase; Angiotensin-Converting Enzyme Homolog; ACEH; Metalloprotease MPROT15; ACE2
Species	Human
Expression_host	Baculovirus-Insect Cells
Sequence	Met1-Ser740
Accession	NP_068576.1
Mol_Mass	85.1 kDa
Tag	C-His
Bio_activity	Measured by its binding ability in a functional ELISA. Immobilized Recombinant 2019-nCoV Spike Protein (RBD, mFc Tag)(Cat#PKSR030500) at 2µg/mL (100µL/well) can bind Recombinant Human ACE2 Protein (His Tag) (Cat#PKSR030510), the EC50 of PKSR030510 is 10-35ng/mL.

Properties

Purity	> 93 % as determined by reducing SDS-PAGE. > 95 % as determined by SEC-HPLC.
Endotoxin	< 1.0 EU per µg as determined by the LAL method.
Storage	Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 20 mM PBS, 300 mM NaCl, 10% glycerol, pH 7.0.
Reconstitution	Please refer to the printed manual for detailed information.

Background

Angiotensin-converting enzyme 2 (ACE2), a first homolog of ACE, regulates the renin angiotensin system (RAS) by counterbalancing ACE activity. Accumulating evidence in recent years has demonstrated a physiological and pathological role of ACE2 in the cardiovascular, renal and respiratory systems. ACE2 also has an important role in blood pressure control. This enzyme, an homolog of ACE, hydrolyzes angiotensin (Ang) I to produce Ang-(1-9), which is subsequently converted into Ang-(1-7) by a neutral endopeptidase and ACE. ACE2 releases Ang-(1-7) more efficiently than its catalysis of Ang-(1-9) by cleavage of Pro(7)-Phe(8) bound in Ang II. Thus, the major biologically active product of ACE2 is Ang-(1-7), which is considered to be a beneficial peptide of the RAS cascade in the cardiovascular system. A physiological role for ACE2 has been implicated in hypertension, cardiac function, heart function and diabetes, and as a receptor of the severe acute respiratory syndrome coronavirus. In the acute respiratory distress syndrome (ARDS), ACE, AngII, and AT1R promote the disease pathogenesis, whereas ACE2 and the AT2R protect from ARDS. Importantly, ACE2 has been identified as a key SARS-coronavirus receptor and plays a protective role in severe acute respiratory syndrome (SARS) pathogenesis. Furthermore, the recent explosion of research into the ACE2 homolog, collectrin, has revealed a new physiological function of ACE2 as an amino acid transporter, which explains the pathogenic role of gene mutations in Hartnup disorder. This review summarizes and discusses the recently unveiled roles for ACE2 in disease pathogenesis.

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