

Recombinant Human ACE2 Protein (His Tag)

Catalog Number: PKSR030510

Note: Centrifuge before opening to ensure complete recovery of vial contents.

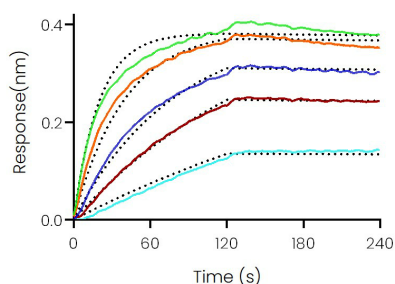
Description

Species	Human
Source	Baculovirus-Insect Cells-derived Human ACE2 protein Met1-Ser740, with an C-terminal His
Calculated MW	85.1 kDa
Accession	NP_068576.1
Bio-activity	Measured by its binding ability in a functional ELISA. Immobilized Recombinant 2019-nCoV Spike Protein (RBD, mFc Tag)(PKSR030500) at 2µg/mL (100µL/well) can bind human ACE2 protein (PKSR030510), the EC ₅₀ of Recombinant Human ACE2 Protein (His Tag) (PKSR030510) is 10-35ng/mL.

Properties

Purity	> 93 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Storage	Generally, 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. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



Loaded SARS-CoV-2 (2019-nCoV) Spike RBD-mFc Recombinant Protein (Cat: PKSR030500) on AMC Biosensor, can bind Recombinant Human ACE2 Protein, His Tag (Cat: PKSR030510)) with an affinity constant of 8.61 nM as determined in BLI assay (Sartorius Octet RED384) .

Background

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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.

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