Recombinant Human ACE2 Protein (Fc Tag)

Catalog Number: PKSH030457

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

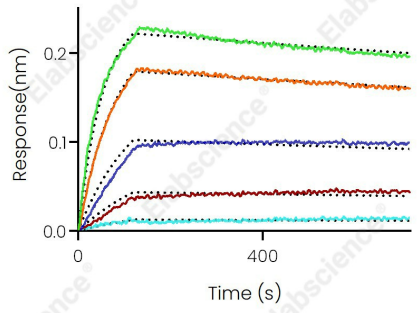
Description

Species	Human
Source	HEK293 Cells-derived Human ACE2 protein Met 1-Ser 740, with an C-terminal hFc
Calculated MW	110.3 kDa
Observed MW	145-150 kDa
Accession	NP_068576.1
Bio-activity	1. Using the Octet RED System, the affinity constant (Kd) of human AEC2-Fc bound to Spike (HCoV-EMC/2012) was 6 nM. 2. Using the Octet RED System, the affinity constant (Kd) of human AEC2-Fc bound to Spike (HCoV-EMC/2012) was 30 nM. 3. Using the Octet RED System, the affinity constant (Kd) of human AEC2-Fc bound to Spike (HCoV-EMC/2012) (ECD, aa 1-1297) was 30 nM. 4. Using the Octet RED System, the affinity constant (Kd) of human AEC2-Fc bound to Spike-His (aa 1-760) was 10 nM.

Properties

Purity	> 95% 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 100 mM Glycine, 10 mM NaCl, 50 mM Tris, pH 7.5 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 , hFc Tag (Cat: PKSH030457) with an affinity constant of 7.34 nM as determined in BLI assay (Sartorius Octet RED384) .

Background

Toll-free: 1-888-852-8623
Tel: 1-832-243-6086
Fax: 1-832-243-6017
Web: www.elabscience.com
Email: techsupport@elabscience.com

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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