



Recombinant Human Angiotensin-converting enzyme 2 (ACE2), partial (Active)

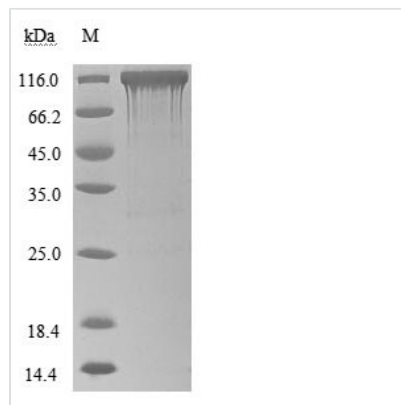
Product Code	CSB-MP866317HU
Abbreviation	Recombinant Human ACE2 protein, partial (Active)
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9BYF1
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 µm filtered PBS, 6% Trehalose, pH 7.4
Product Type	Others
Immunogen Species	Homo sapiens (Human)
Biological Activity	①Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S (CSB-MP3324GMY) at 2 µg/ml can bind human ACE2, the EC₅₀ of human ACE2 protein is 56.64 - 103.6 ng/ml ②Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S1-RBD (CSB-YP3324GMY1) at 5 µg/ml can bind human ACE2, the EC₅₀ of human ACE2 protein is 31.80 - 44.69 ng/ml. ③Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S1-RBD (CSB-MP3324GMY1b1) at 5 µg/ml can bind human ACE2, the EC₅₀ is 2.785-9.139 ng/ml. ④Measured by its binding ability in a functional ELISA. Immobilized human ACE2 at 2 µg/ml can bind SARS-CoV-2-S1-RBD (CSB-MP3324GMY1), the EC₅₀ of human ACE2 protein is 8.363-12.82 ng/ml. ⑤SARS-CoV-2 Spike protein RBD his/sumostar tag (CSB-YP3324GMY1) captured on COOH chip can bind Human ACE2 protein Fc tag (CSB-MP866317HU) with an affinity constant of 100 nM as detected by LSPR Assay. ⑥SARS-CoV-2 Spike protein RBD his/myc tag (CSB-MP3324GMY1b1) captured on COOH chip can bind Human ACE2 protein Fc tag (CSB-MP866317HU) with an affinity constant of 13.8 nM as detected by LSPR Assay.
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QSTIEEQAKTFLDKFNHEAEDLFYQSSLASWNYNTNITEENVQNMNNAGDKW SAFLKEQSTLAQMYPLQEIQNLTVKLQLQALQQNGSSVLSEDKSKRLNTILNTM STIYSTGKVCNPDNPQECLLLEPGLNEIMANSLDYNERLWAWESWRSEVGKQ LRPLYEEYVVLKNEMARANHYEDYGDYWRGDYEVNGVDGYDYSRGQLIEDV EHTFEEIKPLYEHLHAYVRAKLMNAYPSYISPIGCLPAHLLGDMWGRFWTNLY SLTVPGQKPNIDVTDAMVDQAWDAQRIFKEAEKFFVSVGLPNMTQGFWENS MLTDPGNVQKAVCHPTAWDLGKGDFRILMCTKVTMDDFLTAHHEMGHIQYD MAYAAQPFLLRNGANEGFHEAVGEIMSLSAATPKHLKSIGLLSPDFQEDNETEI NFLKQALTIVGTLPTFYMLEKWRWMVFKGEIPKDQWMKKWWEMKREIVGVV



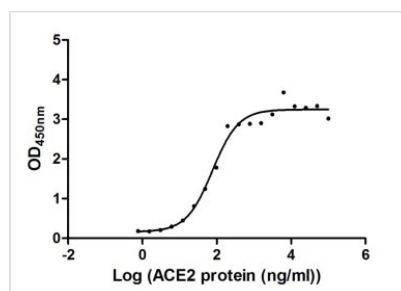
EPVPHDETYCDPASLFHVSNDYSFIRYYTRTLYQFQFQEALCQAAKHEGPLHK
CDISNSTEAGQKLFNMLRLGKSEPWTALENVVGAKNMNVRPLLNYFEPLFT
WLKDQNKNSFVGWSTDWSPYADQSIKVRISLKSALGDKAYEWNNDNEMYLFR
SSVAYAMRQYFLKVKNQMILFGEEDVRVANLKPRIFFVTAPKNVSDIIPRT
EVEKAIRMSRSRINDAFRLNDNSLEFLGIQPTLGPPNQPPVS

Source	Mammalian cell
Target Names	ACE2
Expression Region	18-740aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal hFc1-tagged
Mol. Weight	112.5 kDa
Protein Length	Partial

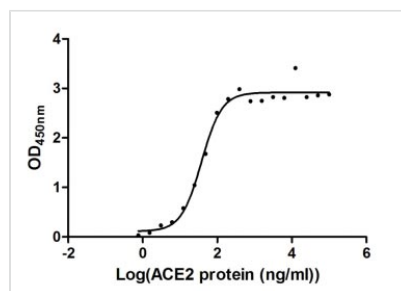
Image



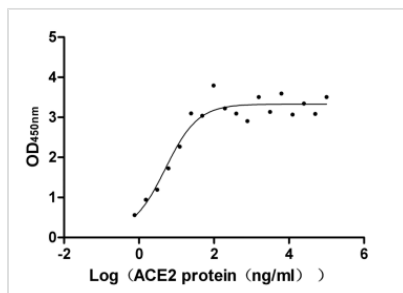
(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.



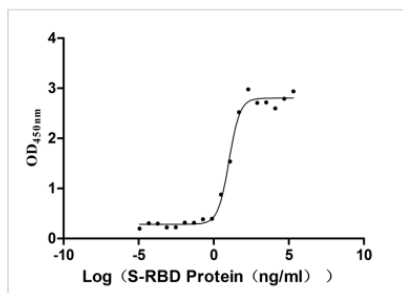
Activity
Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S (CSB-MP3324GMY) at 2 µg/ml can bind human ACE2, the EC₅₀ of SARS-CoV-2-S protein is 56.64 - 103.6 ng/ml.



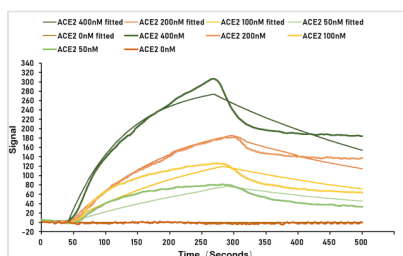
Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S1-RBD (CSB-YP3324GMY1) at 5 µg/ml can bind human ACE2, the EC₅₀ of human ACE2 protein is 31.80 - 44.69 ng/ml.



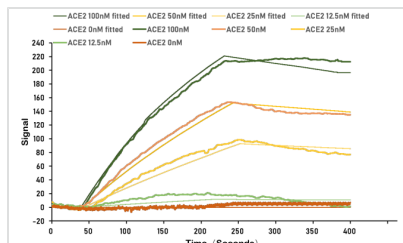
Measured by its binding ability in a functional ELISA. Immobilized SARS-CoV-2-S1-RBD (CSB-MP3324GMY1b1) at 5 µg/ml can bind human ACE2, the EC_{50} is 2.785-9.139 ng/ml.



Measured by its binding ability in a functional ELISA. Immobilized human ACE2 at 2 µg/ml can bind SARS-CoV-2-S1-RBD (CSB-MP3324GMY1), the EC_{50} of human ACE2 protein is 8.363-12.82 ng/ml.



SARS-CoV-2 Spike protein RBD his/sumostar tag (CSB-YP3324GMY1) captured on COOH chip can bind Human ACE2 protein Fc tag (CSB-MP866317HU) with an affinity constant of 100 nM as detected by LSPR Assay.



SARS-CoV-2 Spike protein RBD his/myc tag (CSB-MP3324GMY1b1) captured on COOH chip can bind Human ACE2 protein Fc tag (CSB-MP866317HU) with an affinity constant of 13.8 nM as detected by LSPR Assay.

Description

The recombinant human ACE2 is prepared by the expression of a target fragment corresponding to 18-740aa of the human ACE2 protein with a human Fc tag at the C-terminus in the mammalian expression system.

The monocarboxypeptidase ACE2, a homolog of ACE, is a negative regulator of the renin-angiotensin-aldosterone system (RAAS). It plays a protective role in the cardiovascular system and many organs by balancing multiple functions of ACE. And ACE2 is also the primary target for SARS-CoV-2 and facilitates viral invasion into the host cells. Binding with an amino acid transporter, ACE2 is conducive to the absorption of amino acids in the kidney and intestines.

This human ACE2 contains endotoxin less than 1.0 EU/ug as determined by the LAL method, and its purity is over 90% as measured by SDS-PAGE. It has high reactivity and binding-affinity with SARS-CoV-2-S1 and SARS-CoV-2-S1-RBD, which were verified in the functional ELISA and LSPR assay, respectively. As is



well-known, a recombinant protein tagged with Fc is relatively more stable & productive and efficient to be purified by protein A. And this ACE2 protein carries a hFc-tag, which can bind to the Fc receptor on the surface of immune cells, exerting multiple biological effects.

Endotoxin

Less than 1.0 EU/ug as determined by LAL method.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.