

## Angiotensin I Converting Enzyme 2 (ACE2) Active Protein | ACE2 active protein

Active Angiotensin I Converting Enzyme 2 (ACE2)

|                               |                          |                                                     |
|-------------------------------|--------------------------|-----------------------------------------------------|
| CATALOG #<br><b>AAA150976</b> | HOST<br><b>293F Cell</b> | APPLICATIONS<br><b>Activity Assay, Cell Culture</b> |
|-------------------------------|--------------------------|-----------------------------------------------------|

### PRODUCT SYNONYMS

Angiotensin I Converting Enzyme 2 (ACE2); Active Angiotensin I Converting Enzyme 2 (ACE2); ACE2/Angiotensin I Converting Enzyme 2; ACEH; ACEII; ACE-II; Peptidyl-Dipeptidase A; ACE-related carboxypeptidase; Angiotensin-converting enzyme homolog; Metalloprotease MPROT15; ACE2 active protein

### PRODUCT SPECIFICATIONS

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                            | 293F Cell                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Purity/Purification                             | Greater than 95% by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Form/Format                                     | Freeze-dried powder<br>20mM Tris, 150mM NaCl, pH8.0, containing 1mM EDTA, 1mM DTT, 0.01% SKL, 5% Trehalose and Proclin300.                                                                                                                                                                                                                                                                                                                                 |
| Sequence                                        | Gln18~Ser7 40                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Applicable Applications for ACE2 active protein | Activity Assay, Cell Culture                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Endotoxin                                       | <1.0EU per 1ug (determined by the LAL method)                                                                                                                                                                                                                                                                                                                                                                                                              |
| Tag                                             | N-terminal His Tag                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Biological Activity                             | Active                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Expression System                               | Prokaryotic expression                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Organism Species                                | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Isoelectric Point                               | 5.1                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Subcellular Location                            | Secreted                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Reconstitution                                  | Reconstitute in 20mM Tris, 150mM NaCl (pH8.0) to a concentration of 0.1-1.0mg/mL. Do not vortex.                                                                                                                                                                                                                                                                                                                                                           |
| Preparation and Storage                         | Store at 2-8 degree C for one month, -80 degree C for 12 months<br>Stable for 12 months if correctly stored.<br>The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37 degree C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition. |

QST IEEQAKTFLD KFNHEAEDLF YQSSLASWNY  
NTNITEENVQ NMNAGDKWS AFLKEQSTLA QMYPLQEIQN LTVKLQQLAL  
QQNGSSVLSE DKSKRLNTIL NTMSTIYSTG KVCNPDNPQE CLLLEPGLNE  
IMANSLDYNE RLWAWESWRS EVGKQLRPLY EEYVVLKNEM ARANHYEDYG  
DYWRGDYEVN GVDGYDYSRG QLIEDVEHTF EEIKPLYEHL HAYVRAKLMN  
AYPSYISPIG CLPAHLLGDM WGRFWNLYS LTVPFQKPN IDVTAMVDQ  
AWDAQRIFKE AEKFFVSVGL PNMTQGFWMN SMLTDPGNVQ KAVCHPTAHD  
LGKGDFRILM CTKVTMDDFL TAHHEMGHIQ YDMAYAAQPF LLRNGANEGF  
HEAVGEIMSL SAATPKHLKS IGLLSPDFQE DNETEINFLL KQALTIIVGTL  
PFTYMLEKWR WMVFKEIPK DQWMMKWMEM KREIVGVVEP VPHDETYCDP  
ASLFHVSNDY SFIRYYTRL YQFQFQALC QAAKHEGPLH KCDISNSTEA  
GQKLFNMLRL GKSEPTLAL ENVVGAKNMN VRPLLNYFEP LFTWLKDQNK  
NSFVGWSTDW SPYADQSIKV RISLKSALGD KAYEWNDEM YLFRSSVAYA  
MRQYFLVKVN QMILFGEDV RVANLKPRIS FNFFVTAPKN VSDIIPRTEV  
EKAIRMSRSR INDAFRLNDN SLEFLGIQPT LGPPNPQPPVS

Sequence

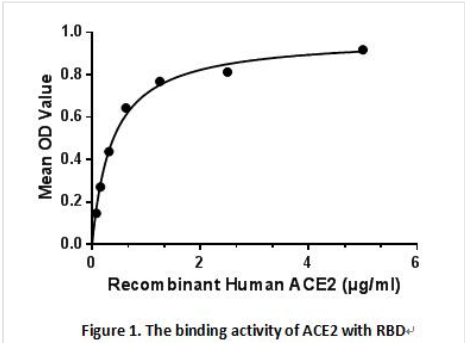
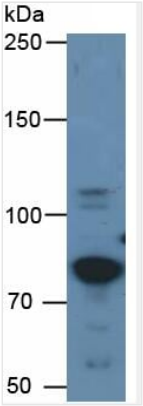


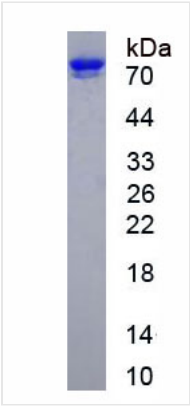
Figure 1. The binding activity of ACE2 with RBD

Bioactivity

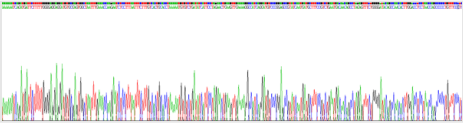
Angiotensin-converting enzyme 2 (ACE2), as a transmembrane protein, serves as the main entry point into cells for some coronaviruses, including HCoV-NL63, SARS-CoV , and SARS-CoV-2 . More specifically, the binding of the spike S1 protein of SARS-CoV and SARS-CoV-2 to the enzymatic domain of ACE2 on the surface of cells results in endocytosis and translocation of both the virus and the enzyme into endosomes located within cells. Besides, recent studies show that spike (S) proteins of 2019-nCoV and SARS-CoV may use the same host cell receptor called angiotensin-converting enzyme 2 (ACE2) for entering into host cells, thus a binding ELISA assay was conducted to detect the interaction of recombinant human ACE2 and recombinant Spike glycoprotein RBD. Briefly, biotin-linked ACE2 were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100µl were then transferred to RBD-coated microtiter wells and incubated for 2h at 37?. Wells were washed with PBST 3 times and incubation with HRP conjugate for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37?. Finally, add 50ul stop solution to the wells and read at 450nm immediately. The binding activity of ACE2 and RBD was shown in Figure 1, and this effect was in a dose dependent manner.



WB (Western Blot)  
WB Image



SDS-PAGE  
SDS-PAGE



Sequence  
Gene Sequencing (extract)

## ADDITIONAL INFORMATION

|                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Related Product Information for ACE2 active protein</b> | Angiotensin-converting-enzyme-2(ACE2),as a transmembrane protein, serves as the main entry point into cells for some coronaviruses,including HCoV-NL63, SARS-CoV , and SARS-CoV-2 .More specifically, the binding of the spike S1 protein of SARS-CoV and SARS-CoV-2 to theenzymatic domain of ACE2 on the surface of cells results in endocytosis and translocation of both the virusand the enzyme into endosomes located within cells. Besides, recent studies show that spike (S) proteins of 2019-nCoV andSARS-CoV may use the same host cell receptor called angiotensin-convertingenzyme 2 (ACE2) for entering into host cells, thus a binding ELISA assay wasconducted to detect the interaction of recombinant human ACE2 andrecombinant Spike glycoprotein RBD. Briefly, biotin-linked ACE2 were dilutedserially in PBS, with 0.01% BSA (pH7.4). Duplicate samples of 100ul were then transferred to RBD-coated microtiter wells and incubated for 2h at 37 degree C. Wellswere washed with PBST 3 times and incubation with HRP conjugage for 30min, then wells were aspirated and washed 5 times. With the addition of substratesolution, wells were incubated 15-25 minutes at 37 degree C. Finally, add 50ul stopsolution to the wells and read at 450nm immediately. The binding activity of ACE2 and RBD was shown in Figure 1, and this effect was in a dose dependent manner. |
| <b>Product Categories/Family for ACE2 active protein</b>   | Enzyme & Kinase; Metabolic pathway; Endocrinology; Cardiovascular biology; Neuro science; Hepatology; Active, eukaryotic recombinant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## NCBI AND UNIPROT INFORMATION

|                                         |                                                                                                                                                                                                                   |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NCBI GI #</b>                        | 11225609                                                                                                                                                                                                          |
| <b>NCBI GeneID</b>                      | 59272                                                                                                                                                                                                             |
| <b>NCBI Accession #</b>                 | NP_068576.1                                                                                                                                                                                                       |
| <b>NCBI GenBank Nucleotide #</b>        | NM_021804.2                                                                                                                                                                                                       |
| <b>UniProt Accession #</b>              | Q9BYF1; Q6UWP0; Q86WT0; Q9NRA7; Q9UFZ6; C7ECU1                                                                                                                                                                    |
| <b>Molecular Weight</b>                 | 92,463 Da                                                                                                                                                                                                         |
| <b>NCBI Official Full Name</b>          | angiotensin-converting enzyme 2                                                                                                                                                                                   |
| <b>NCBI Official Synonym Full Names</b> | angiotensin I converting enzyme 2                                                                                                                                                                                 |
| <b>NCBI Official Symbol</b>             | ACE2                                                                                                                                                                                                              |
| <b>NCBI Official Synonym Symbols</b>    | ACEH                                                                                                                                                                                                              |
| <b>NCBI Protein Information</b>         | angiotensin-converting enzyme 2; peptidyl-dipeptidase A; metalloprotease MPROT15; ACE-related carboxypeptidase; angiotensin-converting enzyme homolog; angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 |
| <b>UniProt Protein Name</b>             | Angiotensin-converting enzyme 2                                                                                                                                                                                   |
| <b>UniProt Gene Name</b>                | <b>ACE2</b>                                                                                                                                                                                                       |
| <b>UniProt Synonym Gene Names</b>       | ACEH                                                                                                                                                                                                              |
| <b>UniProt Entry Name</b>               | ACE2_HUMAN                                                                                                                                                                                                        |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/293f-cell-active-protein/angiotensin-i-converting-enzyme-2-ace2/150976>