

APB886Ra61 100µg
Active Angiotensin I Converting Enzyme 2 (ACE2)
Organism Species: *Rattus norvegicus (Rat)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.

Host: 293F cell

Residues: Met1~Thr740

Tags: N-terminal His-tag

Purity: >95%

Endotoxin Level: <1.0EU per 1µg (determined by the LAL method).

Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .

Original Concentration: 200µg/mL

Applications: Cell culture; Activity Assays.

(May be suitable for use in other assays to be determined by the end user.)

Predicted isoelectric point: 5.0

Predicted Molecular Mass: 86.9kDa

Accurate Molecular Mass: 87kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.

Store at 2-8°C for one month.

Aliquot and store at -80°C for 12 months.

Stability Test: 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°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.

[SEQUENCE]

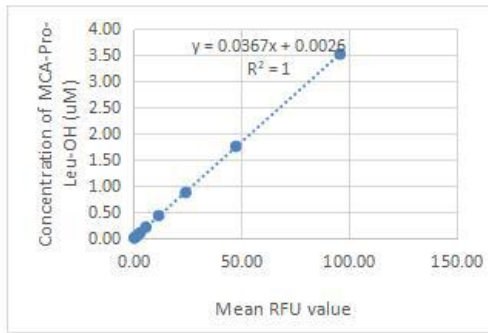
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QQSGSSALSP DKNKQLNTIL NTMSTIYSTG KVCNSMNPQE CFLLEPGLDE
IMATSTDYNR RLWAWEGWRA EVGKQLRPLY EEYVVLKNEM ARANNYEDYG
DYWRGDYEA E GVEGYNYNRN QLIEDVENTF KEIKPLYEQL HAYVRTKLME
VYPSYISPTG CLPAHLLGDM WGRFWTNLYP LTTPFLQKPN IDVTDAMVNO
SWDAERIFKE AEKFFVSVGL PQMTPGFWTN SMLTEPGDDR KVVCHPTAWD
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GQKLLNMLSL GNSGPWTLAL ENNVGSRNMD VKPLLNYFQP LFWWLKEQNR
NSTVGWSTDW SPYADQSIKV RISLKSALGK NAYEWDNEM YLFRSSVAYA
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EEAIRMSRGR INDIFGLNDN SLEFLGIYPT LKPPYEPPVT
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[ACTIVITY]

Angiotensin I Converting Enzyme 2 (ACE2), as a transmembrane protein, serves as the main entry point into cells for some coronaviruses. 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.

The activity of recombinant rat ACE2 is measured by its ability to cleave a fluorogenic peptide substrate MCA-Tyr-Val-Ala-Asp-Ala-Pro-Lys(DNP)-OH in the assay buffer 50 mM Tris, 1 M NaCl, pH 7.5. The rrACE2 is diluted to 0.5 ug/mL in assay buffer. Loading into a black well plate 50 µL of 0.5 ug/mL rrACE2 and start the reaction by adding 50 µL of 20 µM substrate, with a substrate blank containing 50 µL assay buffer, 50 µL substrate, and no rrACE2. Then read at excitation and emission wavelengths of 320 nm and 405 nm, respectively, in kinetic mode for 5

minutes. The specific activity of recombinant rat ACE2 is > 2200 pmol/min/μg.



RFU (320/405)	MCA-Pro-Leu-OH (product) uM
95.78	3.52
47.46	1.76
24.20	0.88
11.63	0.44
5.71	0.22
3.05	0.11
1.52	0.05
0.77	0.03

Figure 1. The standard curve of MCA-Pro-Leu-OH

Specific Activity (pmol/min/μg) =

$$\frac{\text{Adjusted Vmax} * (\text{RFU}/\text{min}) \times \text{Conversion Factor} ** (\text{pmol}/\text{RFU})}{\text{amount of enzyme} (\mu\text{g})}$$

*Adjusted for Substrate Blank

**Derived using calibration standard MCA-Pro-Leu-OH

[IDENTIFICATION]

1G2TAACATGATGGCCACTACAGAAATGGATCTCGAATTCCGACGCTGGGAGACTTCTGATATCTGTGCTTGGACTCAGCCGCTCGAAGCTTACCTTGGAAATGGTGGTGGATCGAGGAATATGATGAAACCCCTCCGATTCCTCCACCATTCTTTGTGGCTGAAAGAGAGAGAGAGAGATTCGCTGGGGTGGGCTGCTGAGCCCATATCCG

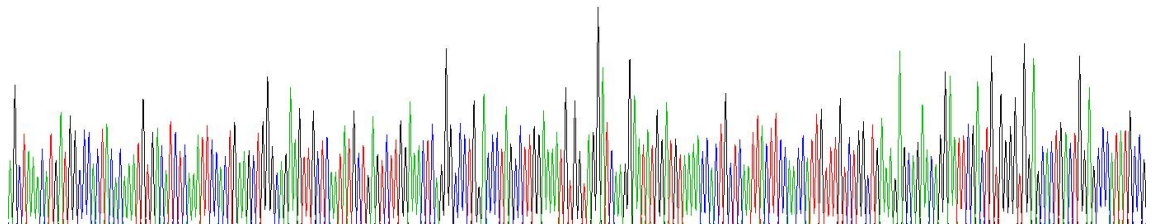


Figure 2. Gene Sequencing (extract)

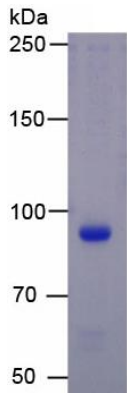


Figure 3. SDS-PAGE

Sample: Active recombinant ACE2, Rat

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.