Active Angiotensin I Converting Enzyme 2 (ACE2)

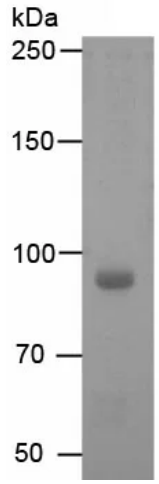
Catalog#:PHR12766

概述（Summary）

别称（Alternative Names）	ACEH; ACEII; ACE-II; Peptidyl-Dipeptidase A; ACE-related carboxypeptidase; Angiotensin-converting enzyme homolog; Metalloprotease MPROT15
纯度（Purity）	Greater than 95% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Met1-Thr740】
Accession #	Q5EGZ1
表达宿主（Host）	293F
种属（Species）	Rattus norvegicus (Rat)
预测分子量（Predicted MW）	86.9 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Essential counter-regulatory carboxypeptidase of the renin-angiotensin hormone system that is a critical regulator of blood volume, systemic vascular resistance, and thus cardiovascular homeostasis. Converts angiotensin I to angiotensin 1-9, a nine-amino acid peptide with anti-hypertrophic effects in cardiomyocytes, and angiotensin II to angiotensin 1-7, which then acts as a beneficial vasodilator and anti-proliferation agent, counterbalancing the actions of the vasoconstrictor angiotensin II. Also removes the C-terminal residue from three other vasoactive peptides, neurotensin, kinetensin, and des-Arg bradykinin, but is not active on

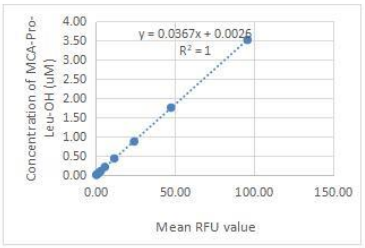
bradykinin. Also cleaves other biological peptides, such as apelins, casomorphins and dynorphin A. Plays an important role in amino acid transport by acting as binding partner of amino acid transporter SLC6A19 in intestine, regulating trafficking, expression on the cell surface, and its catalytic activity.

电泳图（SDS-PAGE image）



Greater than 95% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）



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) =

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

*Adjusted for Substrate Blank

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

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 virusand 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 excitiation 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.

注意事项（Note）

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