

Cynomolgus ACE2 / Angiotensin-Converting Enzyme 2 Protein (His Tag)

Catalog Number: 90211-C08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

ACE2

Protein Construction:

A DNA sequence encoding the cynomolgus ACE2 (B6DUF3) (Met1-Val739) was expressed with a polyhistidine tag at the C-terminus.

Source: Cynomolgus

Expression Host: Human Cells

QC Testing

Purity: (80.8±16.6) % as determined by SDS-PAGE

Bio-Activity

Measured by its ability to cleave a fluorogenic peptide substrate, Mca-YVADAPK (Dnp)-OH (Catalog # ES007).
The specific activity is >800 pmol/min/μg.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gln 18

Molecular Mass:

The recombinant cynomolgus ACE2 comprises 733 amino acids and has a calculated molecular mass of 85.1 KDa. The apparent molecular mass of it is approximately 108 and 66 KDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 25mM Tris, 150mM NaCl, 1mM ZnCl₂, pH 7.5.

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

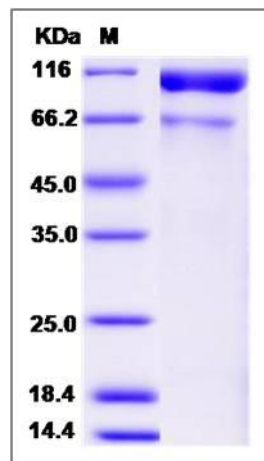
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Angiotensin-converting enzyme 2, also known as ACE-related carboxypeptidase, Angiotensin-converting enzyme homolog, Metalloprotease MPROT15, ACEH and ACE2, is a single-pass type I membrane protein which belongs to the peptidase M2 family. ACEH / ACE2 is identified as a zinc metalloprotease structurally consisting of a N-terminal signal peptide, a single catalytic domain, a C-terminal membrane anchor, and a short cytoplasmic tail. ACEH / ACE2 is expressed in endothelial cells from small and large arteries, and in arterial smooth muscle cells. It is expressed in lung alveolar epithelial cells, enterocytes of the small intestine, Leydig cells and Sertoli cells (at protein level). It is expressed in heart, kidney, testis, and gastrointestinal system. ACEH / ACE2 is a carboxypeptidase which converts angiotensin I to angiotensin 1-9, a peptide of unknown function, and angiotensin II to angiotensin 1-7, a vasodilator. It is also able to hydrolyze apelin-13 and dynorphin-13 with high efficiency. ACEH / ACE2 may be an important regulator of heart function. It may also serve as functional receptor for the spike glycoprotein of both coronaviruses. Coronaviruses primarily cause respiratory and enteric diseases in mammals and birds. Coronavirus symptoms include rhinorrhea, sneezing, cough, nasal obstruction, bronchitis and so on. 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. Novel coronavirus 2012 (hCoV-EMC) does not use the human receptor protein ACE2. The receptor used by hCoV-EMC has not been identified. Increased expression of ACE2 increases infection rate.

References

1. Donoghue M. et al., 2000, Circ Res. 87: E1-E9.
2. Carey RM. et al., 2004, Hypertension. 43: 943-4.
3. Crackower MA. et al., 2002, Nature. 417: 822-8.
4. Tipnis SR. et al., 2000, J Biol Chem. 275: 33238-43.
5. Oudit GY. et al., 2003, Trends Cardiovasc Med. 13: 93-101.
6. Wang S. et al., 2008, Virus Res. 136: 8-15.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>