Human ACE2 / Angiotensin-Converting Enzyme 2 Protein (His Tag) (HPLC-verified)

Catalog Number: 10108-H08B

General Information

Gene Name Synonym:

ACEH

Protein Construction:

A DNA sequence encoding the human ACE2 (NP_068576.1) (Met1-Ser740) was expressed with a polyhistidine tag at the C-terminus.

Source: Human

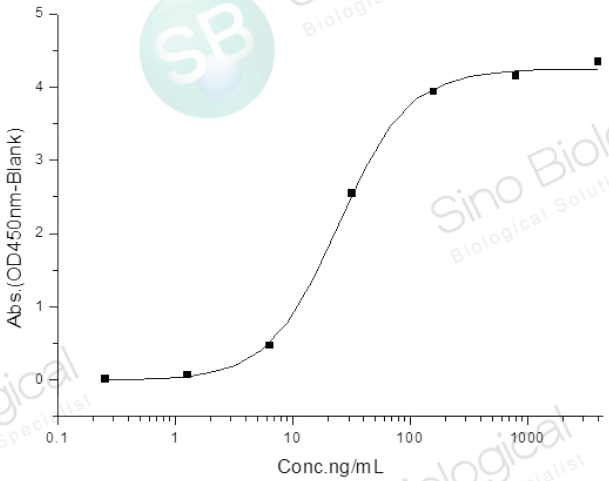
Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE.
> 95 % as determined by SEC-HPLC.

Bio-activity:

Measured by its binding ability in a functional ELISA. Immobilized 2019-nCoV Spike Protein (RBD, mFc Tag)(40592-V05H) at 2μg/mL (100μL/well) can bind human ACE2 protein (10108-H08B),the EC_{50} of human ACE2 protein (10108-H08B)is 10-35 ng/mL.



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

Predicted N terminal: Gln 18

Molecular Mass:

The recombinant human ACE2 consists of 734 amino acids and predicts a molecular mass of 85.1 kDa.

Formulation:

Lyophilized from sterile 20mM PB, 300mM NaCl, 10% glycerol, pH 7.0.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 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

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20℃ to -80℃.

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

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:

Protein Description

Angiotensin-converting enzyme 2 (ACE2), a first homolog of ACE, regulates the renin angiotensin system (RAS) by counterbalancing ACE activity. Accumulating evidence in recent years has demonstrated a physiological and pathological role of ACE2 in the cardiovascular, renal and respiratory systems. ACE2 also has an important role in blood pressure control. This enzyme, an homolog of ACE, hydrolyzes angiotensin (Ang) I to produce Ang-(1-9), which is subsequently converted into Ang-(1-7) by a neutral endopeptidase and ACE. ACE2 releases Ang-(1-7) more efficiently than its catalysis of Ang-(1-9) by cleavage of Pro(7)-Phe(8) bound in Ang II. Thus, the major biologically active product of ACE2 is Ang-(1-7), which is considered to be a beneficial peptide of the RAS cascade in the cardiovascular system. A physiological role for ACE2 has been implicated in hypertension, cardiac function, heart function and diabetes, and as a receptor of the severe acute respiratory syndrome coronavirus. 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. Furthermore, the recent explosion of research into the ACE2 homolog, collectrin, has revealed a new physiological function of ACE2 as an amino acid transporter, which explains the pathogenic role of gene mutations in Hartnup disorder. This review summarizes and discusses the recently unveiled roles for ACE2 in disease pathogenesis.

References

1.Koitka A, *et al.* (2008) Angiotensin converting enzyme 2 in the kidney. Clin Exp Pharmacol Physiol. 35(4): 420-5.
2.Raizada MK, *et al.* (2007) ACE2: a new target for cardiovascular disease therapeutics. J Cardiovasc Pharmacol. 50(2): 112-9.
3.Imai Y, *et al.* (2007) Angiotensin-converting enzyme 2 (ACE2) in disease pathogenesis. Circ J. 74(3): 405-10.