

## ACE2 Protein, Human (740a.a, HEK293, His)

Cat. No.:	HY-P73489
Synonyms:	Angiotensin-converting enzyme 2; ACE-2; ACEH; ACE-related carboxypeptidase
Species:	Human
Source:	HEK293
Accession:	Q9BYF1 (Q18-S740)
Gene ID:	59272
Molecular Weight:	Approximately 85.1 kDa

### PROPERTIES

#### AA Sequence

QSTIEEQAKT	FLDKFNHEAE	DLFYQSSLAS	WNYNTNITEE
NVQNMNNAGD	KWSAFLKEQS	TLAQMYPLQE	IQNLTVKLQL
QALQQNGSSV	LSEDKSKRLN	TILNTMSTIY	STGKVCNPDN
PQECLLLEPG	LNEIMANSLD	YNERLWAWES	WRSEVGKQLR
PLYEEYVVLK	NEMARANHYE	DYGDYWRGDY	EVNGVDGYDY
SRGQLIEDVE	HTFEEIKPLY	EHLHAYVRAK	LMNAYPSYIS
PIGCLPAHLL	GDMWGRFWTN	LYSLTVPFGQ	KPNIDVTDAM
VDQAWDAQRI	FKEAEKFFVS	VGLPNMTQGF	WENSMLTDPG
NVQKAVCHPT	AWDLGKGDFR	ILMCTKV TMD	DFLTAAHHEMG
HIQYDMAYAA	QPFLLRNGAN	EGFHEAVGEI	MSLSAATPKH
LKSIGLLSPD	FQEDNETEIN	FLLKQALTIV	GTLPFTYMLE
KWRWMVFKGE	IPKDQWMKKW	WEMKREIVGV	VEPVPHDETY
CDPASLFHVS	NDYSFIRYYT	RTL YQFQFQE	ALCQAAKHEG
PLHKCDISNS	TEAGQKLFNM	LRLGKSEPWT	LALENVVGAK
NMNVRPL LNY	FEPLFTWLKD	QNKNSFVGWS	TDWSPYADQS
IKVRISLKSA	LGDKAYEWN D	NEMYLFRSSV	AYAMRQYFLK
VKNQMILFGE	EDVRVANLKP	RISFNFFVTA	PKNVSDIIPR
TEVEKAIRMS	RSRINDAFRL	NDNSLEFLGI	QPTLGP PNQP
PVS			

#### Biological Activity

1. Measured by its binding ability in a functional ELISA. Immobilized 2019-nCoV Spike Protein (RBD, mFc) at 2 µg/mL (100 µL/well) can bind human ACE2 protein (His) and the EC<sub>50</sub> is 10-30 ng/mL.

2. Measured by its ability to cleave a fluorogenic peptide substrate McaYVADAPK (Dnp)OH and the specific activity is >1000 pmols/min/µg.

#### Appearance

Lyophilized powder

#### Formulation

Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.

#### Endotoxin Level

<1 EU/µg, determined by LAL method.

<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

## DESCRIPTION

### Background

ACE2, an indispensable counter-regulatory carboxypeptidase within the renin-angiotensin hormone system, plays a pivotal role in maintaining cardiovascular homeostasis by intricately regulating blood volume and systemic vascular resistance. Through its enzymatic activity, ACE2 converts angiotensin I to angiotensin 1-9 and angiotensin II to angiotensin 1-7, exerting anti-hypertrophic effects in cardiomyocytes and acting as a vasodilator with anti-proliferative properties. Beyond its central role in the renin-angiotensin system, ACE2 exhibits broad enzymatic activity, cleaving various vasoactive peptides such as neurotensin, kinetensin, and des-Arg bradykinin. Moreover, ACE2 is proficient in cleaving other biological peptides, including apelins, casomorphins, and dynorphin A. Notably, ACE2's C-terminus, homologous to collectrin, orchestrates the trafficking of the neutral amino acid transporter SL6A19 to the gut epithelial cell membrane, thereby regulating its surface expression and catalytic activity. Importantly, ACE2 also serves as a receptor for human coronaviruses SARS-CoV, SARS-CoV-2, and HCoV-NL63, implicating it in microbial infection pathways.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA