

## ACE2 Protein, Human (Biotinylated, sf9, His-Avi)

<b>Cat. No.:</b>	HY-P72807
<b>Synonyms:</b>	Angiotensin-converting enzyme 2; ACE-2; ACEH; ACE-related carboxypeptidase
<b>Species:</b>	Human
<b>Source:</b>	Sf9 insect cells
<b>Accession:</b>	Q9BYF1-1 (Q18-S740)
<b>Gene ID:</b>	59272
<b>Molecular Weight:</b>	Approximately 86.86 kDa

### PROPERTIES

#### AA Sequence

M S S S S W L L L S	L V A V T A A Q S T	I E E Q A K T F L D	K F N H E A E D L F
Y Q S S L A S W N Y	N T N I T E E N V Q	N M N N A G D K W S	A F L K E Q S T L A
Q M Y P L Q E I Q N	L T V K L Q L Q A L	Q Q N G S S V L S E	D K S K R L N T I L
N T M S T I Y S T G	K V C N P D N P Q E	C L L L E P G L N E	I M A N S L D Y N E
R L W A W E S W R S	E V G K Q L R P L Y	E E Y V V L K N E M	A R A N H Y E D Y G
D Y W R G D Y E V N	G V D G Y D Y S R G	Q L I E D V E H T F	E E I K P L Y E H L
H A Y V R A K L M N	A Y P S Y I S P I G	C L P A H L L G D M	W G R F W T N L Y S
L T V P F G Q K P N	I D V T D A M V D Q	A W D A Q R I F K E	A E K F F V S V G L
P N M T Q G F W E N	S M L T D P G N V Q	K A V C H P T A W D	L G K G D F R I L M
C T K V T M D D F L	T A H H E M G H I Q	Y D M A Y A A Q P F	L L R N G A N E G F
H E A V G E I M S L	S A A T P K H L K S	I G L L S P D F Q E	D N E T E I N F L L
K Q A L T I V G T L	P F T Y M L E K W R	W M V F K G E I P K	D Q W M K K W W E M
K R E I V G V V E P	V P H D E T Y C D P	A S L F H V S N D Y	S F I R Y Y T R T L
Y Q F Q F Q E A L C	Q A A K H E G P L H	K C D I S N S T E A	G Q K L F N M L R L
G K S E P W T L A L	E N V V G A K N M N	V R P L L N Y F E P	L F T W L K D Q N K
N S F V G W S T D W	S P Y A D Q S I K V	R I S L K S A L G D	K A Y E W N D N E M
Y L F R S S V A Y A	M R Q Y F L K V K N	Q M I L F G E E D V	R V A N L K P R I S
F N F F V T A P K N	V S D I I P R T E V	E K A I R M S R S R	I N D A F R L N D N
S L E F L G I Q P T	L G P P N Q P P V S		

#### Biological Activity

Measured by its binding ability in a functional ELISA. Immobilized 2019-nCoV Spike Protein at 2 µg/mL (100 µL/well) can bind Biotinylated ACE2 Protein, Human (sf9, His-Avi) and the EC<sub>50</sub> is 20-40 ng/mL.

#### Appearance

Lyophilized powder.

#### Formulation

Lyophilized from a 0.2 µm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.0, 5% glycerol. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.

#### Endotoxin Level

<1 EU/µg, determined by LAL method.

#### Reconstitution

It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O.

**Storage & Stability**

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.

**Shipping**

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.**

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