

Angiotensin-converting enzyme 2 (ACE2), human, Recombinant (Fc Tag)

Origin:	Recombinant
Source:	CHO
Species:	Human
Tag:	Fc at C-terminus
Cat No.	41A266
Size:	0.1 mg
Purity:	>95% as determined by SDS-PAGE
Endotoxin:	<5 EU/mg, determined by the LAL method

Background information

Angiotensin converting enzyme 2 (ACE-2) consists of 805 amino acids, including a N-terminal signal peptide a single catalytic domain, a C-terminal membrane anchor, and a short cytoplasmic tail.

ACE2 can serve as the receptor for SARS-CoV and SARS-CoV-2 viruses. Binding of the S1 subunit of the SARS-CoV-2 Spike protein to the ACE2 triggers viral entry into the host cell. Therefore, the interaction between SARS-CoV-2 and ACE2 has become an area of interest to develop therapeutic treatments to fight against COVID-19.

Product information

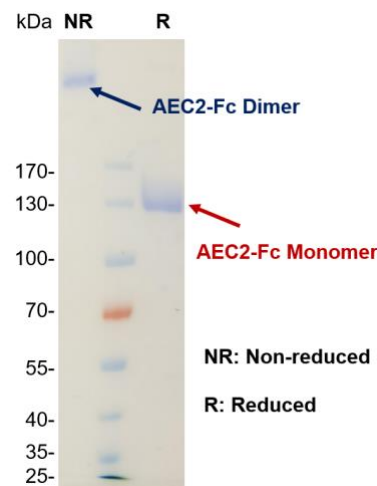
A DNA sequence encoding the signal peptide (Met1-Ala17) and extracellular domain of human ACE2 (Gln18-Ser740) (Uniprot No. Q9BYF1) was expressed with a human IgG1 Fc tag at the C-terminus linked by a flexible linker (GGGGS)². The predicted molecular mass of ACE2 is 112 kDa for monomer and 224 kDa for dimer. The concentration of protein was determined by BCA.

Amino Acid Sequence

MSSSSWLLLSLVAVTAAQSTIEEQAKTFLDKFN
HEAEDLFYQSSLASWNYNTNITEENVQNMNN
AGDKWSAFLKEQSTLAQMYPLQEIQLNTVVKLQ
LQALQNGSSVLSSEDKSKRLNLTNTMSTIYST
GKVCNPDNPQECLELLLEPGLNEIMANSLDYNER
LWAWESWRSEVQKLRPLYEEYVVLKNEMA
RANHVEDYGDYWRGDYEVNGVDGYDYSRQ
LIEDVEHTFEEIKPLYEHLHAYVRAKLMNAYPS
YISPIGCLPAHLLGDMWGRFWTNLYSLTVPFG
QKPNIDVTDAMVDQAWDAQRIFKEAEKFFVS
VGLPNMTQGFWENSMLTDPGNVQKAVCHPTA
WDLGKGDFRILMCTKVTMDDFLTAHHEMGGHI

QYDMAYAAQPFLLRNGANEGFHEAVGEIMSL
SAATPKHLKSIGLLSPDFQEDNETEINFLKQAL
TIVGTLPTFTYMLEKWRWMVFKGEIPKDQWMK
KWWEMKREIVGVVEPVPHEDETYCDPASLFHV
SNDYSFIRYYTRTLYQFQFQEALCQAAKHEGP
LHKCDISNTEAGQKLFNMLRLGKSEPWTAL
ENNVGAKNMNVRPLLNYFEPLFTWLKDQNK
SFVWGSTDWSPYADQSIKVRISLKSALGDKAY
EWNDNEMYLFRSSVAYAMRQYFLKVKNQMIL
FGEEDVRVANLKPRI SFNFVTAPKNVSDIIPRT
EVEKAIRMSRSRINDAFRLNDNSLEFLGIQPTLG
PPNQPPVSGGGGSGGGGSEPKSCDKTHTCPPCP
APELLGGPSVFLFPPKPKDTLMISRTPEVTCVV
VDVSHEDPEVKFNWYVDGVEVHNAKTKPREE
QYNSTYRVVSVLTVLHQDWLNGKEYKCKVSN
KALPAPIEKTISKAKGQPREPQVYTLPPSRDEL
KNQVSLTCLVKGFYPSDIAVEWESNGQPENNY
KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVF
SCSVMHEALHNHYTQKSLSLSPGK

SDS-PAGE gel



Formulation, Reconstitution and Storage

Lyophilized from sterile PBS, pH 7.4. Lyophilized protein can be stored at 2°C to 8°C for short-term, and at -20°C to -80°C for long term store. For reconstitution, add 100 µl of deionized water, mix gently and incubate the reconstituted product for 10 minutes at room temperature prior to use. Reconstituted protein should be kept at -20°C to -80°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

Reference

- Scialo F, et al. (2021). ACE2: The Major Cell Entry Receptor for SARS-CoV-2. *Lung*. 198(6):867-877.
- Lan J, et al. (2020). Structure of the SARS-CoV-2 spike receptor-binding domain bound to the ACE2 receptor. *Nature*. 581(7807):215-220.