

Angiotensin-converting enzyme 2 (ACE2)

Homo sapiens, extracellular domain (ECD)

Cat. no. P2020-016

Product Information

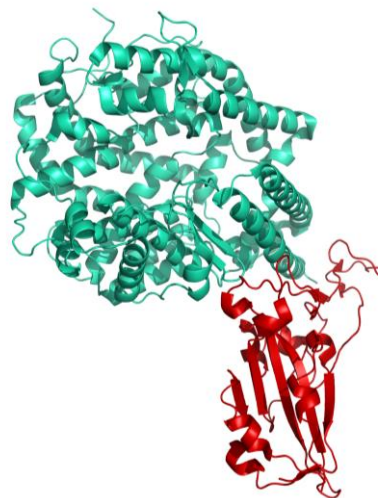
Protein:	hACE2(ECD, processed), tag-free (~ 80.0 kDa)
Sequence:	<pre>MTIEEQAKTFLDKFNHEAEDLFYQSSLASWNYNTNITEENVQNMNAGDKWSAFLKEQST LAQMYPLQEIQNLTVKLQALQONGSSVLSSEDKSKRLNLTNTMSTIYSTGKVCNPDNP QECLLLPLQEIQNLTVKLQALQONGSSVLSSEDKSKRLNLTNTMSTIYSTGKVCNPDNP QECLLLPLQEIQNLTVKLQALQONGSSVLSSEDKSKRLNLTNTMSTIYSTGKVCNPDNP YGDYWRGDYEVNGVDGYDYSRGLIEDVEHTFEEIKPLYEHLHAYVRAKLMNAYPSYISP IGCLPAHLLGDMWGRFWTNLYSLVTFPGQKPNIDVTDAMVDQAWDAQRFKEAEKFFVSV GLPNMTQGFWENSMLTDPGNVQKAVCHPTAWDLGKGFRLMCTKVTMDDFLTAHHMGMH IQYDMAYAAQPFLLRNGANEGFHEAVGEIMSLSAATPKHLKSIGLLSPDFQEDNETEINF LLKQALTIVGTLPTFTYMLEKWRWMVFKEIPKQDQWMKKWVEMKREIVGVVPEVPHDETYC DPASLFHVSNDYSFIRYYTRTYLQFQFQEQALCQAAKHEGPHKCDISNSTEAGQKLFNML RLGKSEPWTALENNVGAKNMNVRPLLNYFEPLFTWLKQDNKNSFVGVSTDWSPYADQSI KVRISLKSALGDKAYEWNDEMFLFRSSVAYAMROYFLKVKNQMLFGVEEDVRVANLKPR ISFNFFVTAPKNVSDIIPRTEVEKAIRMSR</pre>
	Methionine at pos. 1 present due to cloning constraints.
Source:	Recombinantly expressed in HEK293 cells.
Tag(s):	tag-free
Purification:	Purified by ion exchange chromatography.
Formulation:	PBS; pH 7.4 Liquid, stored and shipped at -80 °C.
Purity:	> 80 % (will be determined by densitometry of Coomassie stained gel, example next page)
Concentration:	Will be determined by BCA-Assay.
Long-term storage:	No recommendations.
Comment:	Protein migrates at higher molecular weight during SDS-PAGE due to posttranslational modifications.

Background Information:

The human Angiotensin-Converting Enzyme 2 (hACE2) is a type I transmembrane metalloprotease with homology to ACE, an regulator in the Renin-Angiotensin system (RAS) and long-known as a target for the treatment of hypertension.

hACE2 is expressed at the surface of cells of the human lungs, arteries, kidneys, heart and intestine – all tissues shown to harbor SARS-CoV. The function of ACE-2 is known as controlling blood pressure. This is accomplished by the hydrolysis of a small peptide hormone called Angiotensin II into angiotensin 1-7 by ACE and other endopeptidases. Angiotensin 1-7 acts in a vasoconstricting manner and is therefore involved in diabetes, hypertension and cardiac function in general.

Recently it became known, that the new Coronavirus SARS-CoV-2 uses ACE2 as the entry point into alveolar cells of the lungs, where it replicates and causes the Coronavirus disease (COVID-19).



Structural model of the human ACE2 protein (amino acids 1-597, green) bound to the SARS-CoV-2 Spike S1 RBD domain (red).

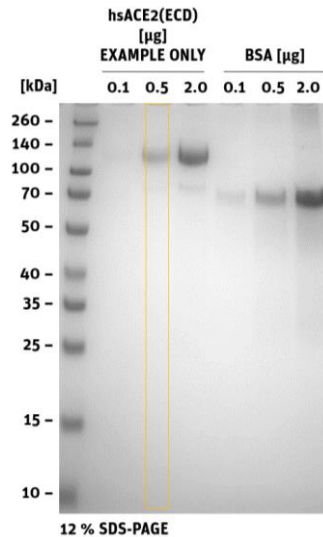
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Quality Information (provided for each lot):



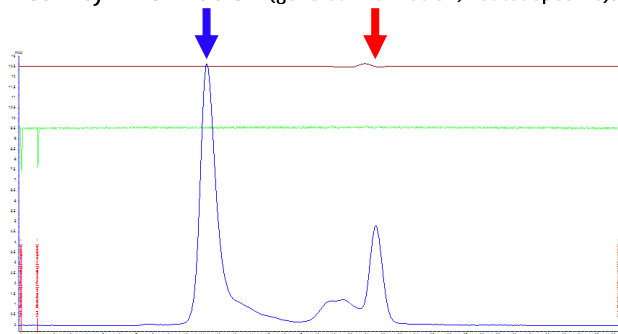
SDS-PAGE/Coll.Coomassie



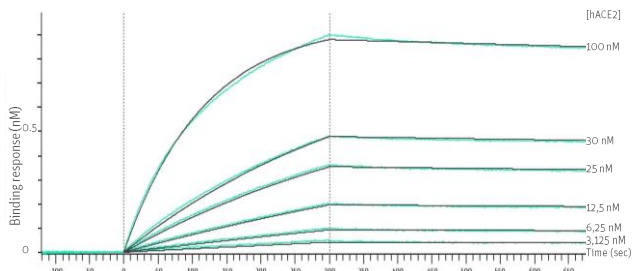
	Area	Percent
1	15733.761	94.584
2	900.991	5.416

Histogram (of marked lane in gel picture)

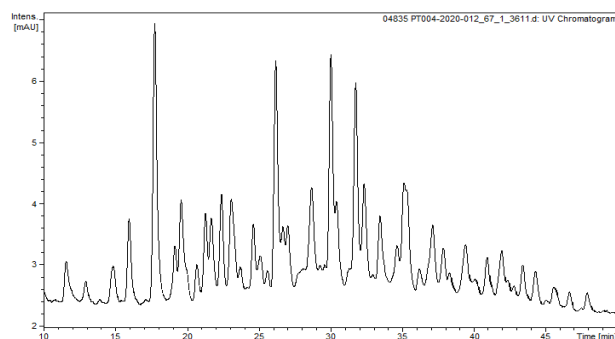
Activity Information (general information, not lot specific):



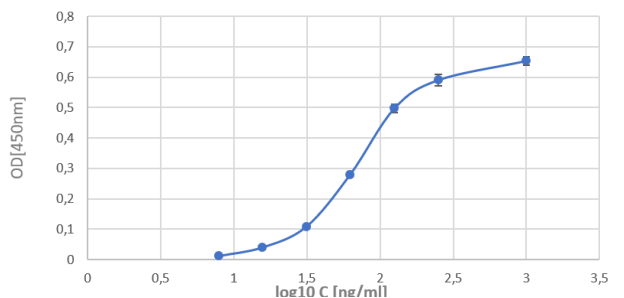
Analytic size exclusion chromatography (SEC) of the purified protein indicates an at least dimeric running behavior (blue arrow).



Bi-layer interferometry binding analysis, binding of hACE2 (ECD) to SARS-CoV-2 Spike S1 (RBD), His-tag, Cat# P2020-001.



Analysis of released N-glycans by HILIC (example data). More and lot specific analytical data available on request (provided by our partner Biofidus AG).



RBD (tag-free) binds ACE2 (detected by monoclonal antibody CR3022).