

# SARS-CoV-2 S protein, trimer

Full length protein

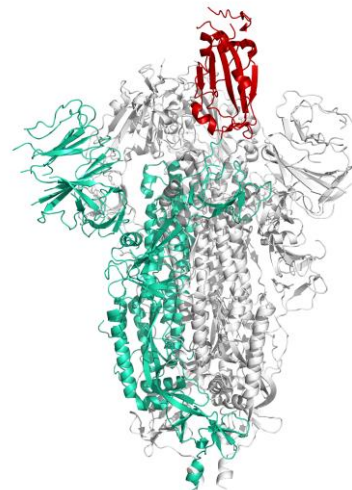
Cat. no. P2020-029

## Product Information

Protein:	SARS-CoV-2 S protein, trimer, tag removed (~ 136.4 kDa per monomer)
Sequence:	<pre>MVNLTRRTQLPPAYTNSFTRGVYYPDKVFRSSVLHSTQDLFLPFFSNVTFWFHAIHVSGTNGTKRFDNPVLPFN GVYFASTTEKSNIIRGWIFGTTLDSKTQSLLVNANNATNVVIVKVEFCFQCNDFPLGVYVYHKNNKSWMESEFRVYSS ANNCTFEYVSQPFLMDLEGKQGNFKNLREFVFNIDGYFKIYSKHTPINLVRDLPQGFSALEPLVDLPIGINITRF QTLALHRSYLTGPDSSSGWTAGAAAYVGYLQPRFTLLKYNENGTITDAVDCALDPLSETKCTLSFTVEKGIY QTSNFRVQPTESIVRFPNITNLCPFGEVFNATRFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLN DLCFNTVYADSFVIRGDEVQRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNLLDSKVGNGNYLYLFRKSNLK PFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPYRVVLSFELLHAPATVCGPKKSTNLVKN KCVNFNFNGLTGTGVLTESNKKFLPFQQFGRDIADTTDAVRDPQTLEILDITPCSFGGVSVITPGTNTSNQVAVL YQDVNCTEVPVAIHADQLTPTWRVYVSTGNSVNFQTRAGCLIGAEHVNNSEYCDIPIGAGICASYQTQTNTPGASV ASQSIAYTMSLGAENSVAYSNSIAIPTNFTISVTTEILPVSMTKTSDVCTMYICGDSTECNLLLQYGSFCTQL NRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQILPDPSPKSRFSIEDLLFNKVTLDAGFIKQYGD CLGDIAARDLCAQKFNGLTVLPPLLTDEMIQAQYTSALLAGTITSGWTFGAGAALQIPFAMQMAYRFNGIGVTVQ NVLYENQKLIANQFNSAIGKIQDLSSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAISSVLNDILSRLDPP EAEVQIDRLITGRLQSLQTYVTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYHLSFPQSAPHGVV FLHVTYVPAQEKNFTTAPAICHGDKAHFPRREGVFSNGTHWFVTQRNFYEPQIITDNTFVSGNCDVVIGIVNN TVYDPLQPELDSFKEELDKYFKNHTSPDVLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKYEYQIK</pre>
	C-terminal Strep- / His-Tag removed, trimerization domain not shown in sequence.
Source:	Recombinantly expressed in HEK293 cells.
Tag(s):	tag-free; His-Tag removed by proteolytic digest
Purification:	Purified by affinity chromatography and size exclusion chromatography. Purified after cleavage reaction by inverse affinity chromatography.
Formulation:	PBS, 5 % (w/v) Trehalose; pH 7.4 / Liquid, stored and shipped at -80 °C.
Purity:	> 85 % (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 SARS-CoV-2 spike is presented as a trimeric structure on the surface of the virus. It consists of three identical transmembrane proteins, called spike proteins, each containing two subunits: the S1 containing the receptor binding domain (RBD) and the S2 subunit. Upon binding of the host receptor hACE2 via RBD, the distal S1 domain is cleaved. This reveals the fusion machinery of the S2 subunit, which mediates the entry into the cell. Moreover, the Spike protein is heavily glycosylated by N-linked glycans that are important for the proper folding of the protein and the recognition by neutralizing antibodies. The engineered recombinant Spike protein contains specific amino acid substitutions to stabilize the prefusion conformation (2P). Furthermore, the furin cleavage site at the boundary between the S1/S2 subunits was deleted and an artificial trimerization domain was added to the C-terminal end of the monomer. Above all, the spike is a major immunogen and an interesting target for vaccine development as well as for serological assays.



*Structural model of the spike protein of SARS-CoV-2 as trimer, one monomer colored. The receptor binding domain (RBD) is in the 'up position' and highlighted in red.*

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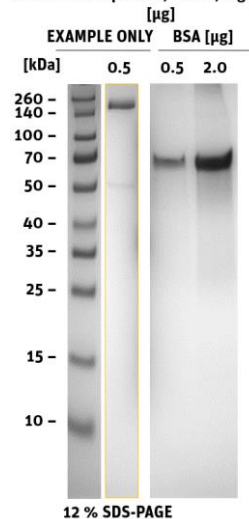
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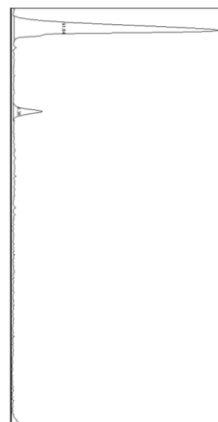
## Product Information

Quality Information (provided for each lot):

SARS-CoV-2 S protein, trimer, tag removed



SDS-PAGE/Coll.Coomassie



	Area	Percent
1	8192.770	91.638
2	747.627	8.362

Histogram (of marked lane in gel picture)