



# Recombinant SARS-CoV-2 Spike S1 (HV69-70/Y144 deletion, N501Y, A570D, D614G, P681H) Protein [His] (DAGC488)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

<b>Product Overview</b>	A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Spike S1(HV69-70 deletion, Y144 deletion, N501Y, A570D, D614G, P681H)-His Recombinant Protein (YP_009724390.1) (Met1-Arg685(HV69-70 deletion, Y144 deletion, N501Y, A570D, D614G, P681H)) was expressed with a polyhistidine tag at the C-terminus.
<b>Nature</b>	Recombinant
<b>Expression System</b>	HEK293 Cells
<b>Species</b>	SARS-CoV-2
<b>Purity</b>	> 90 % as determined by SDS-PAGE
<b>Conjugate</b>	His
<b>Applications</b>	ELISA
<b>Molecular Weight</b>	The recombinant SARS-CoV-2 (2019-nCoV) Spike S1(HV69-70 deletion, Y144 deletion, N501Y, A570D, D614G, P681H)-His Recombinant Protein consists of 678 amino acids and predicts a molecular mass of 76.1 kDa. As a result of glycosylation, it migrates as an approximately 112.2 kDa band in SDS-PAGE under reducing conditions.
<b>Procedure</b>	None
<b>Format</b>	Lyophilized
<b>Size</b>	100ug
<b>Buffer</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.
<b>Preservative</b>	None
<b>Storage</b>	Store it under sterile conditions at -20°C to -80°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

# BACKGROUND

## Introduction

In the United Kingdom (UK), a new variant of SARS-CoV-2 (known as 20I/501Y.V1, VOC 202012/01, or B.1.1.7) emerged with an unusually large number of mutations. This variant has a mutation in the receptor binding domain (RBD) of the spike protein at position 501, where amino acid asparagine (N) has been replaced with tyrosine (Y). The shorthand for this mutation is N501Y. This variant also has several other mutations, including 69/70 deletion and P681H. The spike (S) glycoprotein of coronaviruses contains protrusions that will only bind to certain receptors on the host cell: they are essential for both host specificity and viral infectivity. The term 'peplomer' is typically used to refer to a grouping of heterologous proteins on the virus surface that function together. The spike (S) glycoprotein of coronaviruses is known to be essential in the binding of the virus to the host cell at the advent of the infection process. Most notable is severe acute respiratory syndrome (SARS). The severe acute respiratory syndrome-coronavirus (SARS-CoV) spike (S) glycoprotein alone can mediate the membrane fusion required for virus entry and cell fusion. It is also a major immunogen and a target for entry inhibitors. The SARS-CoV spike (S) protein is composed of two subunits; the S1 subunit contains a receptor-binding domain that engages with the host cell receptor angiotensin-converting enzyme 2 and the S2 subunit mediates fusion between the viral and host cell membranes. The S protein plays key parts in the induction of neutralizing-antibody and T-cell responses, as well as protective immunity, during infection with SARS-CoV.

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## Keywords

SARS-CoV-2 Spike S1; SARS-CoV-2; SARS-CoV-2 S1; SARS-CoV-2 Spike

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