

COVID 19 Spike protein RBD (K417N, E484K, N501Y) Coronavirus Active Protein | COVID-19 active protein

2019-nCoV Spike protein RBD (K417N, E484K, N501Y)

CATALOG # AAA73185	HOST CHO Cells
------------------------------	--------------------------

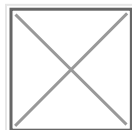
PRODUCT SYNONYMS

COVID 19 Spike protein RBD (K417N; E484K; N501Y) Coronavirus; 2019-nCoV Spike protein RBD (K417N; N501Y); 2019 Novel Coronavirus; Coronavirus; CoV; COVID-19 virus; HCoV-2; Human Coronavirus 2019; SARS2; SARS-CoV-2; Severe acute respiratory syndrome coronavirus 2; Spike protein RBD (K417N; COVID-19 active protein

PRODUCT SPECIFICATIONS

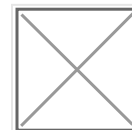
Host	CHO Cells
Purity/Purification	>90%
Form/Format	Recombinant protein stored in 50mM sodium phosphate, pH 7.5, 300mM NaCl, 150mM imidazole.
Concentration	1.0 ug/ul (varies by lot)
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Store product at -70 degree C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

IMAGES



Bioactivity

Figure 2. Binding ability measured in a functional ELISA. 2019-nCoV spike protein RBD (K417N, E484K, N501Y) binds to immobilized human ACE2 (19-740) protein



SDS-PAGE

Figure 1. SDS-PAGE gel image. The purity of nCoV-RBD (K417N, E484K, N501Y) was determined to be >90% by densitometry, approx. MW 39 kDa.

ADDITIONAL INFORMATION

Related Product Information for COVID-19 active protein	Recombinant viral protein expressed in CHO cells.
	Recombinant 2019-nCoV Spike protein S1 subunit, RBD (K417N, E484K, N501Y) (319-541) was expressed in CHO cells using a C-terminal his tag. The gene accession number is MN908947.
	The receptor binding domain (RBD) of the SARS-CoV-2 spike glycoprotein recognizes the host ACE2 receptor and is a major determinant of viral entry and neutralization (1). SARS-CoV-2 (501Y.V2 variant) with mutations at the key sites in RBD (K417N, E484K and N501Y) has severely affected regions of South Africa (2). MD simulation indicates that the combination of E484K, K417N and N501Y results in the highest degree of conformational modifications of RBD when bound to hACE2, compared to either E484K or N501Y alone. E484K and N501Y increase affinity of RBD for hACE2 and the charge switch due to E484K leads to the formation of favorable contacts. As new variants displace the first-wave virus, it is pivotal to evaluate their transmissibility, virulence and their possible tendency to escape antibody neutralization (3).

References

1. Lan J, et al: Crystal structure of the 2019-nCov spike receptor-binding domain bound with the ACE2 receptor. bioRxiv.
2. Houriiyah T, et al: Emergence and rapid spread of a new severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) lineage with multiple spike mutations in South Africa. medRxiv 2020
3. Starr TN, et al: Molecular dynamic simulation reveals E484K mutation enhances spike RBD-ACE2 affinity and the combination of E484K, K417N and N501Y mutations (501Y.V2 variant) induces conformational change greater than N501Y mutant alone, potentially resulting in an escape mutant. Cell. 2020, 182(5):1295-1310.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/cho-cells-covid-19-active-protein/covid-19-spike-protein-rbd-k417n-e484k-n501y-coronavirus/73185>