SARS-CoV-2 Spike Protein S1-Receptor-Binding Domain- Alpha (B.1.1.7)+E484K_HEK

Description:

InVivo offers a recombinant form of the Spike protein receptor binding domain (RBD) from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), based on Wuhan-Hu-1-isolate (MN908947), which is produced under serum-free conditions in HEK-INV cells (InVivo proprietary optimized; human embryonic kidney, HEK293 cells).

RBD-Alpha (B.1.1.7) variant (N501Y) with additional immune-escape mutation E484K (VoC-202102/02).

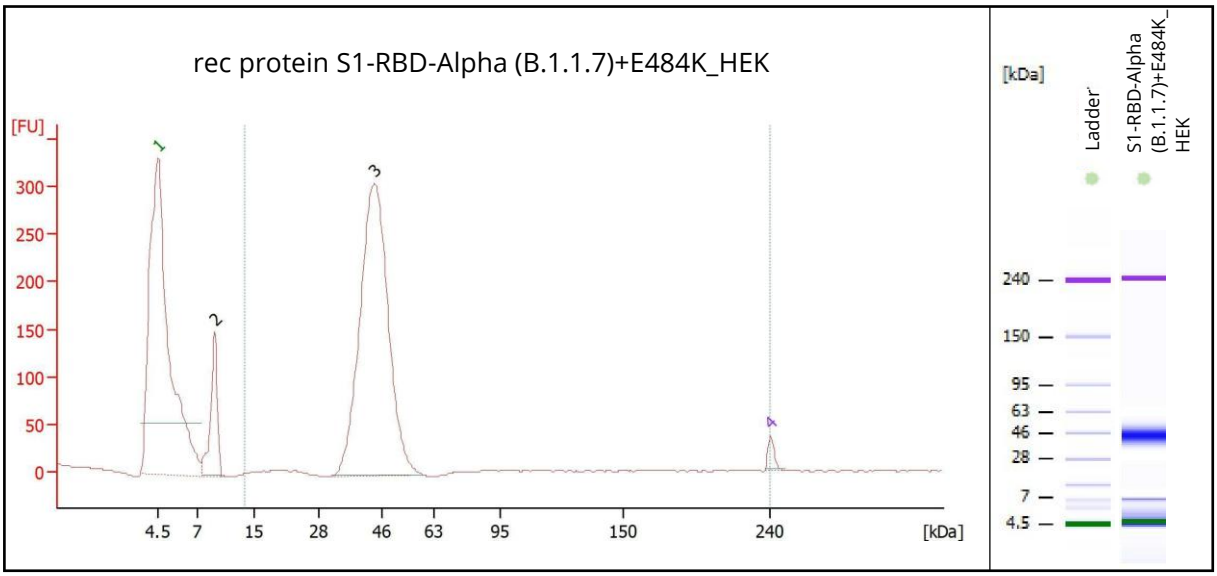
Protein design and manufacturing process is based on InVivo's RBD protein (aa 319-541). The protein includes a C-terminal hexa-histidine-tag and is purified using immobilized metal exchange chromatography (IMAC) and preparative SEC (for polishing).

Product-ID:	S1-RBD-Alpha (B.1.1.7)+E484K_HEK
Expression System:	Mammalian; HEK
Protein Accession Number:	GenBank: QHD43416.1 / UniProt: P0DTC2
Amino Acids:	Arg319–Phe541
Mutations:	E484K, N501Y
Mature Protein N-Term:	Arg319 (predicted)
Tag:	6 x His-tag; C-terminal
Expected Molecular Weight:	26 kDa (*glycosylated form runs at 30-50 kDa in gel electrophoresis)*
Formulation:	Liquid, 20 mM NaPP, 300 mM NaCl pH 7.2
Concentration:	≥ 0.5 mg/ mL
Purity:	≥ 90% (*via analytical CGE under reducing conditions*)

The product is for research use or for further manufacturing only.

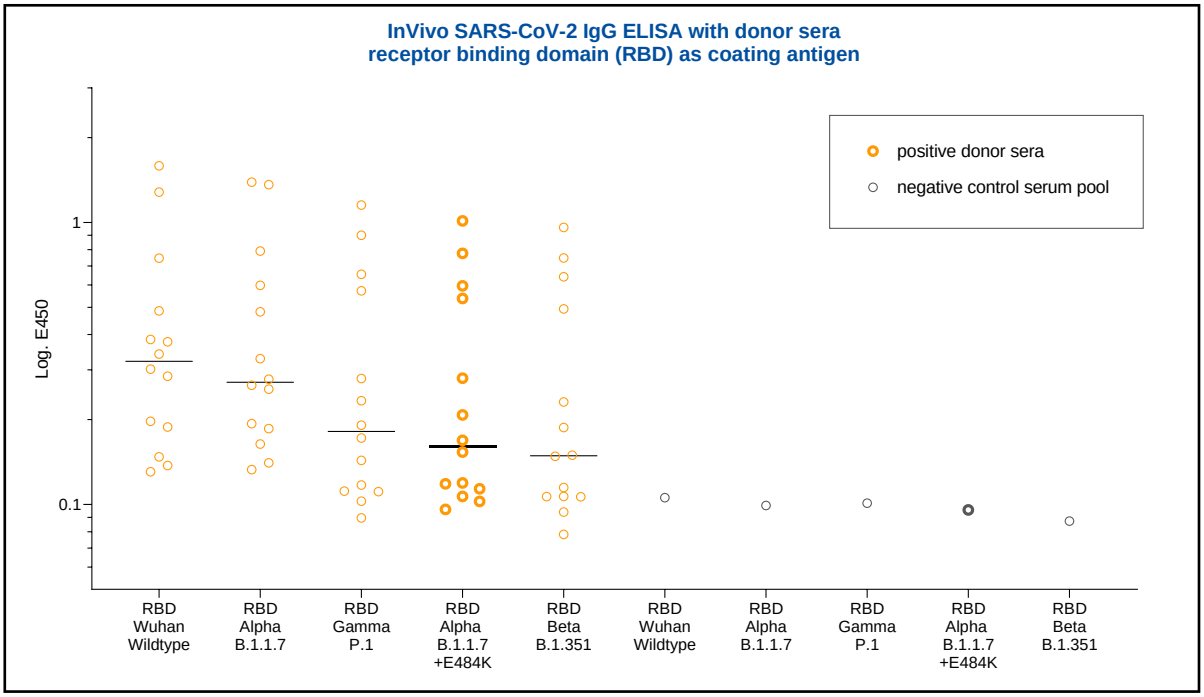
Purity (analytical CGE, under reducing conditions):

Please note: Glycosylated form of S1-RBD-Alpha (B.1.1.7)+E484K_HEK runs at 30-50 kDa in gel electrophoresis



Peak	Size [kDa]	% of Total	Peak Identification
1	4.5	0.0	Lower Marker
2	9.5	0.0	System Peak
3	43.7	≥ 90%	RBD-Alpha+E484K
4	240.0	0.0	Upper Marker

Protein Activity (ELISA):



SARS-CoV-2 receptor-binding domains (RBD-Wuhan, Alpha, Gamma, Alpha+E484K and Beta) recombinantly expressed in HEK cells tested as solid phase bound capture antigen at 2 µg/mL in an in-house SARS-CoV-2 IgG ELISA.

14 SARS-CoV-2 positive patient serum samples (obtained before October 2020) vs. one negative control serum pool (obtained before 2018). The line indicates the median of the absorbance values.