Anti-Spike (RBD) Antibody_AK3402

Description:

InVivo offers a series of different monoclonal antibodies for the detection of the SARS-CoV-2 Spike protein. All antibodies come from hybridoma cell lines that were generated by immunization with the recombinant full-length Spike protein (S) or the receptor-binding domain (RBD).

This antibody has been validated by ELISA and is specifically directed against an epitope that is located on the RBD. Additionally, ELISAs with directly coated antigens proved that this antibody also binds to the Alpha variant of the Spike protein and different RBD variants (Alpha, Alpha + E484K, Beta and Gamma).

This antibody was shown to neutralize the SARS-CoV-2 wildtype (Wuhan), as well as the Alpha and the Beta variant in cell culture. No other variants were tested.

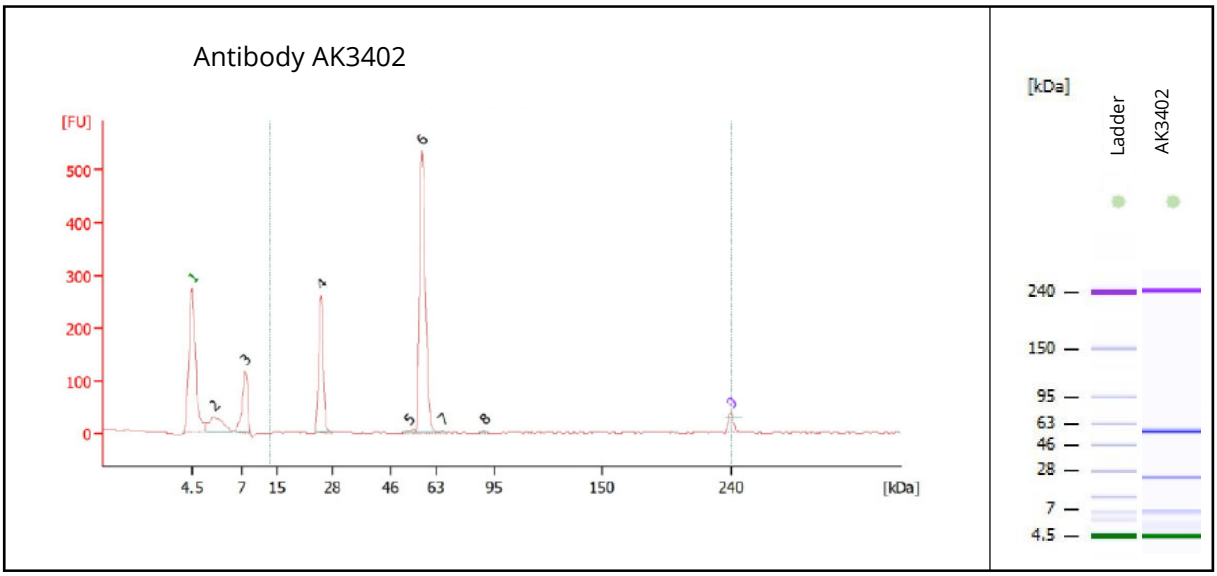
All antibodies are produced exclusively under serum-free conditions from hybridoma and purified through one-step purification with Protein-A affinity chromatography.

Product-ID:	AK3402
Host:	Mouse
Clonality:	Monoclonal
Isotype:	IgG
Subclass:	mIgG2bκ
Formulation:	Liquid, PBS, pH 7.4, 0.2 µm sterile filtered
Concentration:	≥ 0.5 mg/ mL
Purity:	≥ 90% (via analytical CGE under reducing conditions)
Conjugate:	Unconjugated
Specificity:	S (tested for: Wuhan and Alpha)
	RBD (tested for: Wuhan, Alpha, Alpha+E484K, Beta and Gamma)
Neutralization:	yes
IC_{50} SARS-CoV-2 Wuhan[1]:	0.25 +/- 0.09 µg/ mL
IC_{50} SARS-CoV-2 Alpha[1]:	0.08 +/- 0.03 µg/ mL
IC_{50} SARS-CoV-2 Beta[1]:	0.14 +/- 0.02 µg/ mL

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

[1] Mean of two individual in-cell neutralization assays performed with Vera6 cells by our cooperation partner Dr. Valeria Falcone from the University Hospital Freiburg (Institute of Virology)

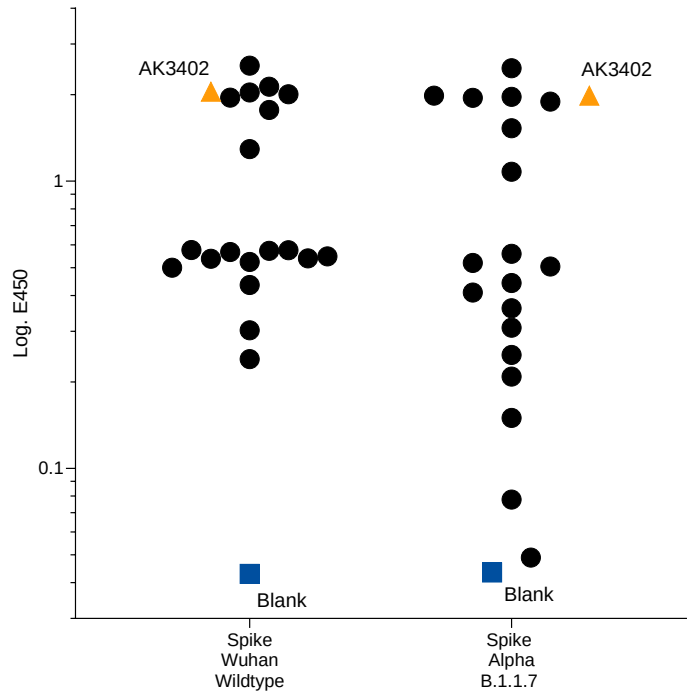
Purity (analytical CGE, under reducing conditions):



Peak	Size [kDa]	% of Total	Observations
1	4.5	0.0	Lower Marker
2	5.6	0.0	System Peak
3	7.6	0.0	System Peak
4	25.3	Peak Value 1	Light Chain
5	53.1	1.1	
6	57.8	Peak Value 2	Heavy Chain
7	66.6	0.4	
8	89.5	0.3	
9	240.0	0.0	Upper Marker

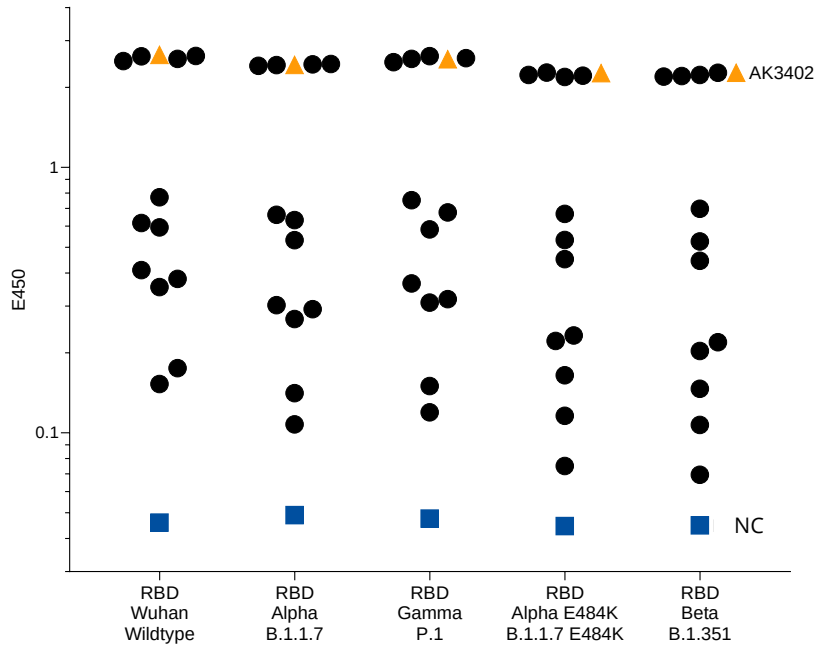
Summation of peak values 1 and 2 results in a purity of ≥ 90%

Binding activity to SARS-CoV-2 Spike protein and receptor-binding domain variants (ELISA):



Binding activity of AK3402 to coated SARS-COV-2 Spike protein (Wuhan origin vs. Alpha) in comparison to 19 other monoclonal mouse hybridoma antibodies targeting the Spike protein.

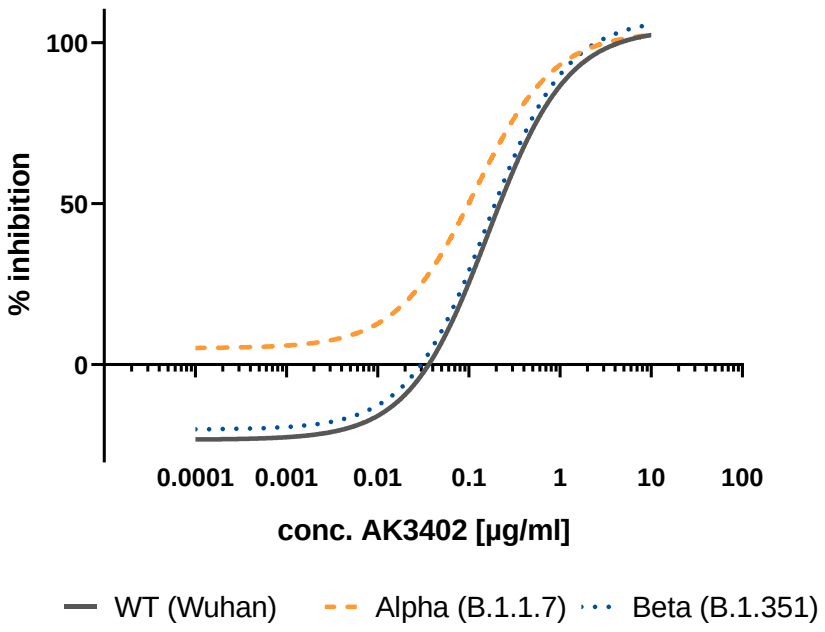
Bound antibodies were detected using anti- mouse-IgG antibodies conjugated to HRP in an in-house SARS-CoV-2 IgG ELISA. For the blank signal, no mouse-antibody was added.



Binding activity of AK3402 to different coated SARS-COV-2 RBD variants (WT, Alpha, Gamma, Alpha E484K and Beta) in comparison to 12 other monoclonal mouse hybridoma antibodies targeting the RBD and a negative control antibody (NC).

Bound antibodies were detected using anti-mouse-IgG antibodies conjugated to HRP in an in-house SARS-CoV-2 IgG ELISA. The negative control is a monoclonal mouse hybridoma antibody which does not bind the RBD of SARS-CoV-2.

Neutralization Assay:



Dose-dependent inhibition of SARS-CoV-2 infection with wildtype and common variants (Alpha and Beta) by AK3402 measured in an in-cell ELISA assay with Vero6 cells.

As an example, the results of one assay are depicted.