

## Product Datasheet

# SARS-CoV-2 (COVID-19) Spike Neutralization Single Domain Antibody [A10] (orb1274180)

<b>Catalog Number</b>	orb1274180
<b>Category</b>	Antibodies
<b>Description</b>	SARS-CoV-2 (COVID-19) Spike Neutralization Single Domain Antibody [A10]
<b>Target</b>	S
<b>Clonality</b>	Recombinant
<b>Species/Host</b>	Camelus
<b>Isotype</b>	sdAb
<b>Conjugation</b>	Unconjugated
<b>Reactivity</b>	Virus
<b>Form/Appearance</b>	Liquid
<b>Concentration</b>	batch dependent
<b>Buffer/Preservatives</b>	SARS-CoV-2 (COVID-19) Spike Neutralization Antibody is supplied in PBS.
<b>Purification</b>	SARS-CoV-2 (COVID-19) Spike Neutralization Antibody is affinity chromatography purified via Nickel column. Antibody is supplied as a His-tagged purified protein. It also contains a myc-tag for detection.
<b>Immunogen</b>	SARS-CoV-2 S protein RBD containing C-terminal His Tag. The protein was expressed in human 293 cells (HEK293). It contains amino acids Arg 319 - Lys 537.
<b>UniProt ID</b>	<b>PODTC2</b>

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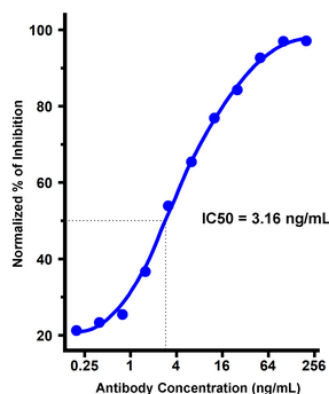
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<b>Tested applications</b>	ELISA, NeA
<b>Specificity</b>	Specificity is to the RBD. RBD is contained within the S1 domain. S1 is the N-terminal half of the spike protein.
<b>Antibody Type</b>	Primary Antibody
<b>Clone Number</b>	A10
<b>Modifications</b>	None
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Dry Ice Shipping</b>	<b>Please note: This product requires shipment on dry ice. A dry ice surcharge will apply.</b>
<b>Note</b>	For research use only
<b>NCBI</b>	<b>QHD43419</b>
<b>Expiration Date</b>	12 months from date of receipt.



Neutralization Assay of SARS-CoV-2 Pseudovirus by SARS-CoV-2 Spike Antibody, Neutralization antibody: Anti-SARS-CoV-2 Spike S1 antibody, orb1274180, dilution: 0.1-200 ng/mL. Pseudovirus: SARS-CoV-2 Spike Pseudovirus, orb1227403. Cells: ACE2-overexpressing 293T cell. Diluted antibody was incubated with Spike pseudovirus at 37 °C for 1 hr. ACE2-overexpressing 293T cells were added in each well and incubated at 37 °C for 48 hrs. Luminescence reporter reagent was added in each well and the final results were read with the luminescence plate reader. Percent inhibition is calculated based on the RLU value.

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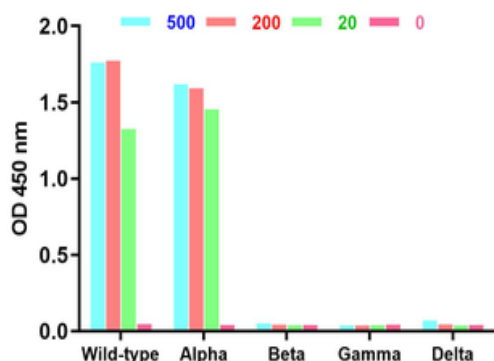
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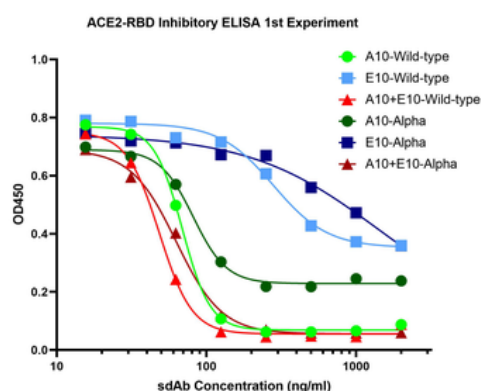
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ELISA Validation with RBDs of SARS-CoV-2 Variants, Antibodies: SARS-CoV-2 (COVID-19) Spike RBD Antibody, orb1274180. A direct ELISA was performed using RBD protein of SARS-CoV-2 variants (wild-type, alpha, beta, gamma and Delta) as coating antigens at 1 µg/mL and the anti-SARS-CoV-2 (COVID-19) RBD antibody (orb1274180) as the capture antibody, followed by anti-cMyc-tag antibody (orb1239964) at 1 µg/mL. Secondary: Goat anti-mouse IgG HRP conjugate at 1:5000 dilution. orb1274180 binds to RBDs of wild-type and alpha but not to the beta, gamma and Delta variants.



ACE2-RBD binding inhibitory ELISA, Antibodies: SARS-CoV-2 (COVID-19) Spike RBD Antibodies, orb1274180 (A10) and orb1274179 (E10). ACE2-RBD binding inhibitory ELISA was performed using RBD protein of SARS-CoV-2 variants (wild-type and alpha) as coating antigens at 1 µg/mL and the anti-SARS-CoV-2 (COVID-19) RBD antibody (orb1274180 and orb1274179) as the capture antibody, followed by incubation with 20 ng/mL human ACE2-Fc. Bound h-ACE2-Fc was detected with a goat anti-human IgG-HRP conjugate (1:20000 dilution) using the TMB chromogenic substrate system. Both orb1274180 (A10) and orb1274179 (E10) exhibited a dose dependent inhibitory effect on ACE2 binding to RBDs of wild-type and alpha strains, and the combination of the two (A10+E10) showed a significantly synergistic effect.

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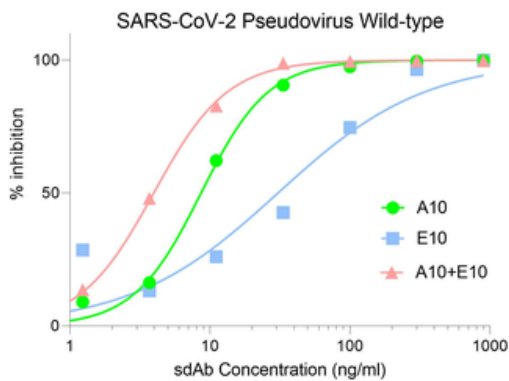
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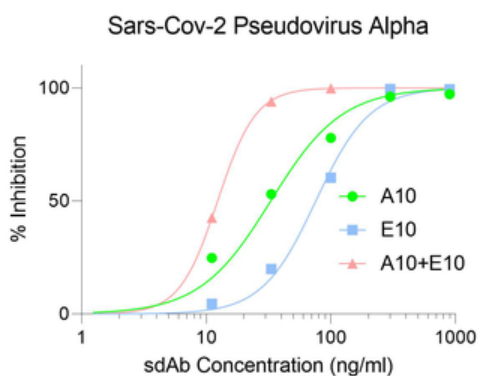
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Pseudovirus neutralization assay, Antibodies: SARS-CoV-2 (COVID-19) Spike RBD Antibodies, orb1274180 (A10) and orb1274179 (E10). Luciferase reporter virus-like particles and 293T-hsACE2 cells were used for the assay. After 72 hrs incubation infectivity was measured by luciferase expression using Promega Renilla-Glo Luciferase Assay System. Infectivity was measured as RLU and no sdAb control was set to 100% infectivity. Neutralization activity of orb1274180 (A10) and orb1274179 (E10) was measured over a serial dilution series to determine the half-maximal inhibitory concentration (IC50). Both orb1274180 (A10) and orb1274179 (E10) exhibited a dose dependent neutralizing effect on both wild-type pseudoviruses, and the combination of the two showed a significantly synergistic effect.



Pseudovirus neutralization assay, Antibodies: SARS-CoV-2 (COVID-19) Spike RBD Antibodies, orb1274180 (A10) and orb1274179 (E10). Luciferase reporter virus-like particles and 293T-hsACE2 cells were used for the assay. After 72 hrs incubation infectivity was measured by luciferase expression using Promega Renilla-Glo Luciferase Assay System. Infectivity was measured as RLU and no sdAb control was set to 100% infectivity. Neutralization activity of orb1274180 (A10) and orb1274179 (E10) was measured over a serial dilution series to determine the half-maximal inhibitory concentration (IC50). Both orb1274180 (A10) and orb1274179 (E10) exhibited a dose dependent neutralizing effect on both alpha pseudoviruses, and the combination of the two showed a significantly synergistic effect.

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