

Supplementary Material:

Serum proteomics reveals high-affinity and convergent antibodies by tracking SARS-CoV-2 hybrid immunity to emerging variants of concern

1 SUPPLEMENTARY DATA

2 SUPPLEMENTARY TABLES AND FIGURES

2.1 Tables

2.2 Figures

donor sequence id	public sequence id	mAb	donor	observed affinity	% HC match	% CDR-H3 match
cluster_20832-1_AB5-spike_size_1	BD56-1725		AB5	RBD	87.9	82.4
QVHLVQSGAEVKKPGSSVKASKASGTFSSYTIISWVRQAPCGGLEWMGRILPFLGVANDAKQFQGRVTITADKSTSTAYLELGSITSEDTAVYYC AKQGGYSGSGSNRYFDL WGRGTIVTVSS						
.						
.						
QVQLVQSGAEVKKPGSSVKVSCAEASGTFSSYTFSSWVRQAPCGGLEWMGRILPILGFANYAQNFGQGRVTITADKSTSTAYVELSSLRSEDTAIYYC ARDIGYSGSGSNWYFDL WGRGTIVTVSS						
cluster_44992-0_AB5-spike_size_1	C690	AB5-20	AB5	RBD	87.4	80.0
QVQLVESGGGVVQPGGRSLRLSCTASGTFRHYGCLHWVRQAPGKGLWEWAVILYDGSDEYRD SVKGRFTISRDN SKNTLYLQMN SLRPEDTAVYYC AKOSGPYCSGNGCYSGHFDY WQGGTIPVSVSS						
QVQLVESGGGVVQPGGRSLRLSCTASGTFRHYGCLHWVRQAPGKGLWEWAVILYDGSDEYRD SVKGRFTISRDN SKNTLYLQMN SLRPEDTAVYYC AKOSGPYCSGNGCYSGHFDY WQGGTIPVSVSS						
QVQLVESGGGVVQPGGRSLRLSCTASGTFRHYGCLHWVRQAPGKGLWEWAVILYDGSDEYRD SVKGRFTISRDN SKNTLYLQMN SLRPEDTAVYYC AKOSGPYCSGNGCYSGHFDY WQGGTIPVSVSS						
cluster_2336-0_AB6-spike_size_1	pt1611	AB6-10	AB6	RBD	92.3	90.9
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
cluster_31008-0_AB5-spike_size_1	R40-1C8	AB5-13	AB5	SPIKE	90.6	81.8
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYAGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC VRDLQDFGMDV WQGGTIVTVSS						
cluster_15916-0_AB5-spike_size_1	BD56-411	AB5-18	AB5	RBD & SPIKE	90.6	83.3
DVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYSGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRIEDTAIYYC ARDLQEAAGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYSGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC ARDLQEAAGMDV WQGGTIVTVSS						
cluster_17473-0_AB5-spike_size_1	368.01a.A.0031		AB5	RBD	93.2	91.7
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYSGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC ARDLQEAAGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYSGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC ARDLQEAAGMDV WQGGTIVTVSS						
EVQLVESGGGLVQPGGSLRLSCAASGTVVSSNYMSWVRQAPGEGLEWVSIMYSGGSTFYADSVKGRFTISRDN SKNTLFLQMN SLRPEDTAVYYC ARDLQEAAGMDV WQGGTIVTVSS						
cluster_14976-0_AB6-spike_size_1	CQT218		AB6	RBD	87.3	84.6
EEHLVESGGGLVQPGGSLRLSCAASGFMFTNFWMVTWVRQAPGKGLWEWAVNIQDGSSEKYYLDSVKGRFTISRDN SKNTKNSVLEMI SLRAEDTAIYYCARDLGLVWFGEY YSGQGTLVTVSS						
.						
EVQLVESGGGLVQPGGSLRLSCAASGFMFTNFWMVTWVRQAPGKGLWEWAVNIQDGSSEKYYLDSVKGRFTISRDN SKNTKNSVLEMI SLRAEDTAIYYCARDLGLVWFGEY YSGQGTLVTVSS						

Table S1. Supplementary Table 1: Sequence alignments of RBD+ and Spike+ serum antibodies to public COVID sequences found in CoVAbDab. CDR-H3 sequences are delimited by a space.

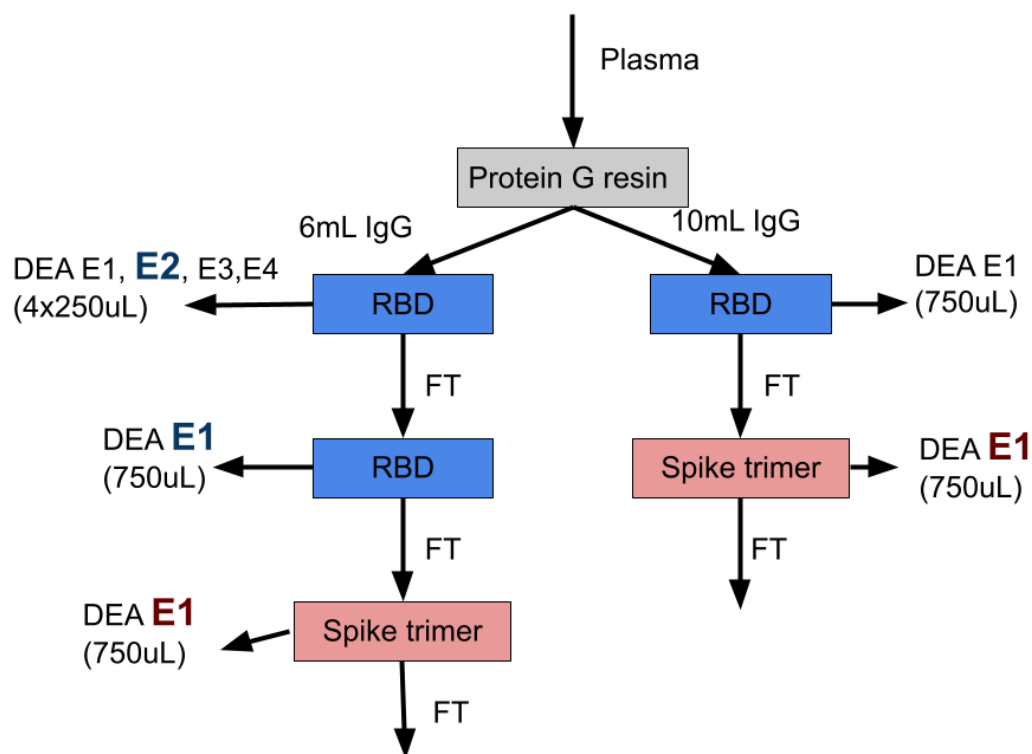


Figure S1. Supplementary Figure 1: Affinity purification strategy that was repeated for each donor plasma collections. Lines represent flow of plasma or antibodies, and boxes represent columns containing affinity resin: Protein G, RBD-conjugated, or Spike trimer-conjugated. Elution volumes in separate fractions are marked as E1, E2, E3, and E4. Elutions marked in bold were subjected to heavy and light chain separation via SDS-PAGE in reducing conditions, and four protease digestion to generate MS/MS data for each digestion, chain, elution, and donor. For Alicanto analysis, MS/MS data was aggregated to find anti-RBD antibodies (blue 6mL RBD+ and 6mL RBD+RBD+ elution runs) or anti-Spike antibodies (red 6mL Spike+ and 10mL Spike+ elution runs) per donor.