

Table S5. Neutralizing Activity Against Multiclade, Clade C, and Primary Virus Panels, Related to Figure 2 (continued)

119 Pseudovirus Multiclade Panel (continued)

Virus	Clade	561_01_18		561_01_55		561_02_12		N6		3BNC117		VRC01		10-1074		PGT121	
		IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀
620345.c01	AE	0.145	1.964	0.222	2.687	>20	>20	4.393	>20	>20	>20	>20	>20	>20	>20	>20	>20
CNE8	AE	0.005	0.030	0.026	0.097	0.022	0.206	0.112	0.483	0.086	0.361	0.678	1.672	>20	>20	>20	>20
C1080.c03	AE	0.020	0.100	0.069	0.492	0.010	0.112	0.383	1.560	0.120	0.790	1.613	9.664	>20	>20	>20	>20
R2184.c04	AE	0.004	0.020	0.011	0.038	0.005	0.027	0.021	0.104	0.032	0.110	0.081	0.313	>20	>20	>20	>20
R1166.c01	AE	0.006	0.026	0.015	0.065	0.006	0.037	0.200	0.959	0.203	0.622	1.642	5.640	>20	>20	>20	>20
R3285.c06	AE	0.010	0.086	0.030	0.266	0.005	0.034	0.040	0.323	0.060	1.952	0.347	2.266	>20	>20	>20	>20
C2101.c01	AE	0.038	0.330	0.077	0.450	0.003	0.036	0.073	0.486	0.060	0.188	0.189	0.709	>20	>20	>20	>20
C3347.c11	AE	0.027	0.090	0.018	0.080	0.016	0.060	0.012	0.054	0.031	0.105	0.077	0.325	>20	>20	>20	>20
C4118.c09	AE	0.040	0.249	0.161	1.108	0.020	0.086	0.089	0.392	0.030	0.187	0.111	0.606	>20	>20	>20	>20
CNE5	AE	0.184	0.868	2.789	15.607	0.137	0.838	0.139	0.618	0.344	1.068	0.332	0.996	>20	>20	>20	>20
BJOX009000.02.4	AE	0.386	1.300	19.308	>20	0.124	0.807	0.353	1.347	0.365	1.277	2.412	5.667	>20	>20	4.156	>20
BJOX015000.11.5	AE	0.117	0.773	0.097	1.148	0.033	0.308	0.067	0.524	0.053	0.303	0.293	1.058	>20	>20	>20	>20
BJOX010000.06.2	AE	0.526	3.408	3.403	14.691	0.228	1.538	0.587	2.595	1.772	6.245	9.188	17.773	>20	>20	>20	>20
BJOX025000.01.1	AE	0.120	0.839	0.054	0.584	0.024	0.238	0.020	0.102	0.063	0.262	4.126	>20	>20	>20	>20	
BJOX028000.10.3	AE	0.806	>20	>20	>20	0.027	1.812	0.003	0.013	0.012	0.048	0.532	1.149	>20	>20	>20	>20
T257-31	AG	0.050	0.199	0.105	0.475	0.183	1.345	0.171	0.855	0.133	0.507	2.145	6.753	>20	>20	>20	>20
928-28	AG	0.189	0.672	0.633	2.918	0.133	0.643	0.097	0.461	0.156	0.533	0.436	1.265	0.759	2.915	>20	>20
263-B	AG	0.016	0.058	0.038	0.104	0.019	0.096	0.047	0.213	0.030	0.090	0.200	0.588	0.262	4.362	1.008	7.901
T250-4	AG	0.019	0.067	0.037	0.144	>20	>20	0.016	0.055	>20	>20	>20	>20	0.001	0.005	0.001	0.011
T251-18	AG	0.044	0.137	0.070	0.235	0.044	0.218	0.365	1.905	0.210	0.744	3.419	10.447	0.387	2.427	10.177	3.240
T278-50	AG	>20	>20	10.349	>20	>20	>20	>20	>20	>20	>20	>20	>20	0.942	5.436	>20	>20
T255-34	AG	0.042	0.292	0.793	15.424	>20	>20	0.147	0.682	0.042	0.205	0.435	1.664	0.380	>20	9.198	>20
211-9	AG	0.076	0.283	0.422	2.072	>20	>20	0.358	2.182	0.346	1.197	16.437	>20	0.108	0.445	0.997	7.298
235-47	AG	0.007	0.027	0.015	0.072	0.027	0.166	0.020	0.069	0.025	0.158	0.044	0.169	0.019	0.137	0.184	1.116
CNE19	BC	0.006	0.022	0.011	0.040	0.006	0.028	0.055	0.188	0.023	0.099	0.245	0.861	0.199	>20	0.008	0.080
CNE20	BC	0.033	0.149	0.060	0.275	0.007	0.047	0.025	0.108	>20	>20	8.270	>20	0.001	0.006	0.001	0.007
CNE21	BC	0.039	0.185	0.056	0.230	0.017	0.064	0.067	0.346	19.054	>20	0.441	1.382	0.043	0.141	0.008	0.025
CNE17	BC	0.157	0.566	15.490	>20	0.086	0.481	0.328	1.219	4.893	>20	1.541	4.030	1.791	6.820	9.777	>20
CNE30	BC	0.076	0.274	0.150	0.635	0.075	0.269	0.291	1.039	0.336	1.112	0.825	2.582	0.299	0.948	0.077	0.291
CNE52	BC	0.007	0.026	0.011	0.038	0.003	0.014	0.052	0.144	0.027	0.092	0.215	0.595	1.887	10.909	2.843	>20
CNE53	BC	0.089	0.317	0.215	0.956	0.032	0.116	0.109	0.366	0.066	0.567	0.104	0.301	0.008	0.059	0.013	0.068
CNE58	BC	0.017	0.050	0.027	0.064	0.009	0.028	0.040	0.131	0.360	2.338	0.164	0.456	0.139	0.548	>20	>20
3817.v2.c59	CD	0.131	0.540	0.725	3.717	2.284	>20	0.562	3.584	0.197	0.636	>20	>20	0.734	5.714	18.892	>20
6480.v4.c25	CD	0.023	0.083	0.013	0.062	0.025	0.074	0.038	0.136	0.010	0.040	0.040	0.090	0.006	0.028	0.003	0.041
6952.v1.c20	CD	0.035	0.182	0.309	1.834	0.020	0.100	0.022	0.072	0.120	0.440	0.050	0.149	0.016	0.069	0.060	0.418
6811.v7.c18	CD	0.042	0.227	0.066	0.288	0.074	0.676	0.069	0.235	0.038	0.185	0.168	0.493	0.002	0.009	0.002	0.009
89-F1_2_25	CD	0.007	0.023	0.014	0.039	0.006	0.025	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20
0815.v3.c3	ACD	0.009	0.044	0.011	0.047	0.003	0.014	0.017	0.080	0.015	0.037	0.040	0.103	0.022	0.146	0.020	0.080
3103.v3.c10	ACD	0.050	0.144	0.146	0.453	18.167	>20	0.331	1.223	0.270	1.023	1.193	3.179	0.020	0.057	0.017	0.084
GeoMean of Neutralized Breadth (%)		0.048	0.183	0.096	0.346	0.053	0.188	0.086	0.314	0.111	0.339	0.349	0.994	0.049	0.166	0.066	0.169
		96.6	94.1	92.4	87.4	86.6	78.2	97.5	95.0	88.2	83.2	89.9	85.7	61.3	56.3	65.5	57.1

N6 neutralization data were determined in the same laboratory as data for 1-18 family members, except for 6405.v4.c34 and 0330_V4_C3 which were derived from CATNAP. VRC01 neutralization data were derived from CATNAP except for four strains that were tested in the same laboratory as 1-18 family members (249M B10, 89-F1_2_25, BJOX015000.11.1, and 231966.c02). 3BNC117, 10-1074, and PGT121 neutralization data were derived from CATNAP. 1-55 tested on the 119-panel was based on earlier sequence variants and contained primer-induced mutations at the start and end of the V genes (VH: 2 aa mut., Vk: 4 aa mut.).

Antibody concentration (µg/ml)	<0.1	0.1 - 0.5	0.5 - 1	1 - 2	2 - 5	5 - 10	>10
Breadth (%)	>95	90 - 95	80 - 90	70 - 80	60 - 70	50 - 60	<50

Table S5. Neutralizing Activity Against Multiclade, Clade C, and Primary Virus Panels, Related to Figure 2 (continued)

B 100 Pseudovirus Clade C Panel

Table with 15 columns: Virus, Clade, 561_01_18 (IC50, IC80), 561_02_12 (IC50, IC80), N6 (IC50, IC80), 3BNC117 (IC50, IC80), VRC01 (IC50, IC80), 10-1074 (IC50, IC80), and PGT121 (IC50, IC80). Rows include various virus strains like 0041_V3_C18, 0933_V4_C4, etc., with corresponding neutralization values.

Table S5. Neutralizing Activity Against Multiclade, Clade C, and Primary Virus Panels, Related to Figure 2 (continued)

100 Pseudovirus Clade C Panel (continued)

Virus	Clade	561_01_18		561_02_12		N6		3BNC117		VRC01		10-1074		PGT121	
		IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀
CT810_G4_7	C	0.071	0.361	>20	>20	0.100	0.450	1.191	8.124	0.510	1.920	0.264	0.912	0.053	0.286
CT966_E1_7	C	0.057	0.234	0.177	1.006	0.038	0.156	0.200	0.702	0.560	2.940	>20	>20	7.854	>20
DU422_1	C	0.063	0.216	0.050	0.238	0.030	0.156	>20	>20	>10	>10	0.041	0.153	0.045	0.173
KO426_T78_10	C	0.056	0.146	0.097	0.313	0.136	0.409	0.141	0.428	1.089	4.167	0.060	0.185	10.178	>20
KO459_T68_4	C	0.159	0.524	0.642	5.878	0.156	0.415	0.173	0.570	1.270	5.570	0.043	0.117	0.063	0.357
KO870_C2_10	C	0.157	0.358	0.064	0.180	0.042	0.117	0.131	0.433	0.230	0.870	>20	>20	>20	>20
ME178_G6_16	C	0.176	0.600	0.122	0.559	0.119	0.520	0.425	2.100	0.400	1.380	0.018	0.055	0.099	0.574
SO032_A2_8_1	C	0.035	0.133	>20	>20	0.147	0.533	4.873	>20	1.980	>10	0.005	0.015	0.004	0.012
SO405_T24_5	C	0.073	0.225	0.292	1.090	0.279	1.274	0.330	0.872	3.410	>10	0.001	0.005	0.007	0.019
SO431_C1_1	C	0.018	0.083	0.011	0.082	0.003	0.020	0.198	5.198	0.560	3.640	>20	>20	0.025	0.183
SO607_B6_9	C	0.071	0.257	0.049	0.233	0.131	0.347	0.124	0.433	0.490	1.740	>20	>20	>20	>20
ZM106_9	C	0.011	0.035	0.071	0.296	0.026	0.093	0.076	0.277	0.254	0.714	0.008	0.042	0.003	0.016
ZM135_10A	C	1.729	13.124	>20	>20	0.144	0.430	0.056	0.205	0.899	5.016	0.066	0.331	0.897	6.359
ZM197_7	C	0.091	0.321	0.137	0.714	0.061	0.342	0.335	1.145	0.516	1.673	>20	>20	>20	>20
ZM214_15	C	0.048	0.654	0.007	0.076	0.071	0.369	0.091	0.692	0.821	3.344	0.411	2.752	0.464	2.353
ZM215_8	C	0.039	0.205	0.027	0.193	0.043	0.199	0.013	0.086	0.166	0.839	0.007	0.061	0.012	0.052
ZM233_6	C	0.042	0.159	0.438	6.876	0.066	0.210	0.191	0.901	2.527	10.823	0.021	0.348	2.311	2.673
ZM249_1	C	0.020	0.073	5.632	>20	0.019	0.074	0.041	0.186	0.073	0.272	>20	>20	3.200	>20
GeoMean of Neutralized Breadth (%)		0.074	0.279	0.084	0.316	0.062	0.201	0.259	0.613	0.471	1.374	0.050	0.154	0.087	0.201
		90.0	88.0	74.0	68.0	97.0	95.0	81.0	66.0	76.0	64.0	63.0	60.0	72.0	63.0

N6, 3BNC117, VRC01, 10-1074, and PGT121 neutralization data were derived from CATNAP.

Antibody concentration (µg/ml)	<0.1	0.1 - 0.5	0.5 - 1	1 - 2	2 - 5	5 - 10	>10
Breadth (%)	>95	90 - 95	80 - 90	70 - 80	60 - 70	50 - 60	<50

Table S5. Neutralizing Activity Against Multiclade, Clade C, and Primary Virus Panels, Related to Figure 2 (continued)

C 51 Outgrowth Culture-Derived Viruses

Virus	Clade	561_01_18		561_01_55		N6		3BNC117		VRC01		10-1074		PGDM1400	
		IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀
IDC#0355	AG	1.461	3.205	1.432	3.608	2.127	7.093	6.871	>20	10.211	>20	0.095	0.267	5.903	>20
IDC#0763	AG	0.085	0.237	0.064	0.218	0.261	0.761	0.408	1.119	0.517	1.829	0.115	0.279	4.480	19.040
IDC#0034	B	2.228	5.254	2.007	5.646	3.683	12.057	1.995	6.491	>20	>20	0.029	0.078	>20	>20
IDC#0039	B	2.474	6.289	2.989	8.410	5.398	>20	9.121	>20	>20	>20	>20	>20	>20	>20
IDC#0049	B	0.225	0.579	0.224	0.633	0.257	0.773	0.277	1.588	0.471	1.468	>20	>20	>20	>20
IDC#0052	B	0.753	2.174	0.671	2.118	0.600	3.084	1.060	4.010	2.778	12.760	0.377	0.846	1.453	3.657
IDC#0114	B	1.193	3.752	1.203	4.837	3.157	15.679	1.492	6.716	11.891	>20	<0.010	0.041	0.092	0.596
IDC#0115	B	0.160	0.682	0.210	0.717	1.317	4.956	0.382	1.737	2.459	16.411	<0.010	0.017	>20	>20
IDC#0170	B	<0.010	0.017	<0.010	0.068	0.073	0.371	0.071	0.432	0.208	0.907	1.618	10.670	>20	>20
IDC#0171	B	0.162	0.403	0.227	0.627	2.196	7.958	0.601	2.336	8.549	>20	0.293	0.730	>20	>20
IDC#0176	B	1.399	2.722	2.076	5.159	3.276	14.943	1.010	5.675	17.053	>20	0.412	1.089	0.325	1.775
IDC#0183	B	0.542	1.927	0.660	2.295	0.474	3.203	5.017	>20	2.218	>20	0.585	2.128	>20	>20
IDC#0190	B	0.054	0.198	0.081	0.272	0.564	1.546	0.287	1.220	1.877	8.138	0.100	0.377	1.504	7.405
IDC#0213	B	2.554	6.397	2.317	7.688	19.416	>20	2.667	17.200	>20	>20	0.354	0.906	0.210	6.623
IDC#0228	B	4.784	11.207	8.618	>20	7.813	>20	2.300	9.107	>20	>20	1.774	15.570	>20	>20
IDC#0230	B	0.210	1.208	0.510	2.413	1.583	7.546	1.334	12.872	6.322	>20	0.060	0.915	>20	>20
IDC#0233	B	5.477	>20	2.562	8.446	>20	>20	1.606	8.980	>20	>20	5.466	>20	>20	>20
IDC#0246	B	2.368	6.492	1.925	6.026	12.309	>20	3.589	14.560	>20	>20	1.447	3.726	1.104	4.957
IDC#0261	B	0.604	1.809	0.995	2.619	0.585	2.832	0.503	3.235	1.210	7.087	2.043	8.232	0.401	1.938
IDC#0338	B	0.127	0.376	0.217	0.614	0.514	1.960	0.209	0.853	2.049	9.573	0.044	0.170	18.149	>20
IDC#0362	B	0.208	0.608	0.340	0.856	0.373	1.107	0.087	0.349	0.719	2.685	0.267	>20	1.229	>20
IDC#0365	B	0.315	0.838	0.396	1.021	0.673	2.012	0.440	1.481	1.938	6.335	<0.010	0.028	>20	>20
IDC#0403	B	6.062	15.186	9.595	>20	2.213	9.314	>20	>20	>20	>20	0.896	3.040	6.140	>20
IDC#0428	B	2.926	9.014	3.945	10.286	1.190	2.930	2.290	6.772	2.690	9.648	0.477	7.845	2.659	>20
IDC#0438	B	0.462	1.225	0.470	1.219	3.592	9.314	1.676	5.611	6.402	>20	0.024	0.120	>20	>20
IDC#0440	B	2.248	5.670	2.005	5.270	3.678	16.480	1.649	6.151	12.071	>20	>20	>20	0.289	1.750
IDC#0449	B	0.195	0.482	0.200	0.526	1.100	5.061	0.282	1.589	3.544	17.233	0.046	0.125	0.250	0.807
IDC#0453	B	1.626	4.447	1.668	4.049	2.117	6.169	1.467	4.291	10.605	>20	0.415	1.033	0.337	>20
IDC#0460	B	0.141	0.433	0.174	0.640	0.461	1.689	>20	>20	>20	>20	0.417	1.560	>20	>20
IDC#0464	B	0.202	1.016	0.337	1.201	0.236	1.330	0.495	2.536	1.215	5.483	2.762	>20	<0.010	>20
IDC#0467	B	0.205	0.696	0.283	0.997	0.381	1.358	0.530	2.064	3.242	14.350	0.109	0.426	0.317	1.900
IDC#0480	B	0.191	0.668	0.369	0.865	0.896	2.158	0.872	2.571	2.050	6.449	0.081	0.250	0.103	0.431
IDC#0527	B	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20
IDC#0535	B	0.484	1.495	0.648	2.162	0.965	2.671	0.622	1.530	1.171	5.692	0.740	2.123	0.606	18.190
IDC#0540	B	1.331	3.092	1.729	4.460	2.878	9.422	1.355	3.861	7.124	>20	0.552	1.767	1.305	6.870
IDC#0541	B	0.566	2.039	1.118	2.458	8.265	19.597	3.331	7.394	19.438	>20	0.293	0.727	>20	>20
IDC#0548	B	0.163	0.547	0.282	0.764	1.696	4.501	0.985	2.541	7.670	>20	0.079	0.305	<0.010	<0.010
IDC#0551	B	0.995	2.497	1.333	3.006	1.153	2.923	0.230	0.694	1.550	4.865	2.635	6.679	>20	>20
IDC#0578	B	0.119	0.277	0.182	0.664	0.266	0.748	>20	>20	0.491	2.094	0.736	1.973	1.527	8.611
IDC#0579	B	0.185	0.525	0.315	0.917	0.766	2.150	>20	>20	>20	>20	2.072	>20	1.516	>20
IDC#0615	B	0.558	1.654	1.201	2.309	2.912	7.215	0.415	1.355	4.980	17.759	>20	>20	2.405	6.679
IDC#0648	B	0.554	1.762	0.958	2.501	1.340	4.197	0.423	1.172	1.578	8.994	0.078	0.334	1.952	7.911
IDC#0683	B	4.107	11.123	5.080	14.716	5.334	18.067	1.873	6.689	11.529	>20	>20	>20	0.720	2.661
IDC#0758	B	0.291	0.756	0.656	2.490	0.457	1.361	>20	>20	>20	>20	5.610	>20	3.726	13.729
IDC#0761	B	0.471	1.213	0.574	1.932	0.674	2.181	1.554	7.146	1.259	5.396	>20	>20	0.119	13.561
IDC#0779	B	0.888	8.496	1.049	4.104	11.159	17.434	>20	>20	2.689	10.735	>20	>20	0.462	1.992
IDC#0787	B	0.051	0.203	0.075	0.273	0.293	1.016	0.112	0.383	1.292	3.901	0.066	0.248	>20	>20
IDC#0799	B	1.605	5.506	4.690	13.625	0.659	1.925	1.482	4.547	3.819	>20	8.033	18.912	>20	>20
IDC#0801	B	2.457	6.553	2.534	10.521	1.973	5.450	1.374	3.889	5.114	>20	>20	>20	14.317	>20
IDC#0782	C	4.684	14.871	>20	>20	3.520	9.252	>20	>20	>20	>20	12.929	>20	17.801	>20
IDC#0508	D	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20	>20
GeoMean of Neutralized Breadth (%)		0.555	1.568	0.698	1.899	1.319	3.659	0.879	2.908	2.872	6.018	0.313	0.752	0.816	2.955
		96.1	94.1	94.1	90.2	94.1	86.3	82.4	76.5	76.5	45.1	80.4	68.6	62.7	43.1

Antibody concentration (µg/ml)	<0.1	0.1 - 0.5	0.5 - 1	1 - 2	2 - 5	5 - 10	>10
Breadth (%)	>95	90 - 95	80 - 90	70 - 80	60 - 70	50 - 60	<50