

**Table S1: Env- pseudovirus panel and neutralization titers for 34 Viremic controllers and 33 HIV progressors.**

The plasma from each subject was tested against a standardized panel of 11 clade B Tier 2/3 Env-pseudoviruses. Neutralization was considered positive if the 50% inhibitory dose (ID50) titer against an HIV-1 isolate was >3-fold higher than that observed against a negative control murine leukemia virus (MuLV). Subjects with a HIV-1 antibody neutralization breadth of  $\geq 2$  Tier 2/3 viruses were classified as a "Neutralizer" and subjects that failed to show HIV-1 antibody neutralization of any of the 11 Tier 2/3 viruses were classified as a "Non-Neutralizer".

Viremic Controllers	Neutralization Status	QH0692 .42	SC422 661.8	PVO .4	TRO. 11	AC10 .0.29	RHPA 4259.7	THRO4 156.18	REJO4 541.67	TRJO4 551.58	WITO4 160.33	CAAN5 342.A2	MuLV	3X MuLV	Neutralization breadth
622800	Neutralizer	225	366	480	1581	2116	588	66	328	61	923	307	30	90	9
773597	Neutralizer	150	188	102	471	247	90	21	326	30	345	503	26	78	9
970489	Neutralizer	70	100	325	171	124	148	59	131	44	134	115	32	96	8
270245	Neutralizer	149	47	117	106	72	135	102	102	98	23	165	31	93	8
912103	Neutralizer	65	55	73	189	53	336	34	200	22	85	185	<20	<60	7
982640	Neutralizer	162	140	260	167	147	180	71	245	44	69	109	47	141	6
508682	Neutralizer	153	38	47	114	153	26	39	202	53	1293	99	48	144	4
568125	Neutralizer	352	188	105	411	64	118	69	494	129	112	300	105	315	4
615167	Neutralizer	56	92	26	98	56	31	28	67	77	38	26	<20	<60	4
195173	Neutralizer	38	46	86	226	73	102	22	203	60	60	178	42	126	3
585670	Neutralizer	35	111	92	181	<20	21	42	<20	52	41	280	32	96	3
958793	Neutralizer	<20	27	<20	126	64	205	30	35	38	<20	48	<20	<60	3
245487	Neutralizer	<20	<20	53	275	58	35	250	<20	85	<20	<20	<20	<60	3
262833	Neutralizer	52	<20	463	126	<20	48	49	24	<20	<20	40	<20	<60	2
264095	Non-neutralizer	<20	<20	27	23	<20	<20	29	<20	33	24	42	35	105	0
337892	Non-neutralizer	157	48	78	136	64	137	66	58	39	92	101	71	213	0
388031	Non-neutralizer	52	<20	72	56	31	<20	51	54	66	33	57	58	174	0
470157	Non-neutralizer	95	33	69	70	<20	<20	49	116	40	53	80	52	156	0
550657	Non-neutralizer	60	20	59	70	<20	<20	33	44	51	46	45	44	132	0
606807	Non-neutralizer	54	25	37	66	<20	<20	24	90	35	<20	64	51	153	0
707249	Non-neutralizer	58	<20	28	74	<20	<20	43	38	24	<20	57	41	123	0
917933	Non-neutralizer	34	<20	38	34	20	40	28	<20	40	31	45	33	99	0
994355	Non-neutralizer	25	38	95	41	23	27	38	44	22	41	60	41	123	0
184388	Non-neutralizer	51	28	72	102	<20	<20	43	129	78	45	78	69	207	0
376252	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	24	<20	22	42	35	105	0
474723	Non-neutralizer	48	<20	74	38	<20	<20	30	78	66	28	54	58	174	0
186089	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<60	0
211774	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<60	0
913554	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	31	29	87	0
135137	Non-neutralizer	98	44	28	56	74	54	45	65	47	<20	49	46	138	0
527129	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<60	0
609736	Non-neutralizer	100	35	<20	<20	<20	38	68	108	135	<20	91	59	177	0
344966	Non-neutralizer	29	<20	<20	<20	24	<20	24	21	33	<20	<20	30	90	0
533586	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<60	0

HIV progressor	Neutralization Status	QH0692 .42	SC422 661.8	PVO .4	TRO .11	AC10 .0.29	RHPA 4259.7	THRO4 156.18	REJO4 541.67	TRJO4 551.58	WITO4 160.33	CAAN5 342.A2	MuLV	3X MuLV	Neutralization breadth
975283	Neutralizer	256	1207	2728	2128	482	2381	282	3207	914	2251	829	38	114	11
201476	Neutralizer	171	234	105	250	141	187	47	165	88	218	123	28	84	10
197059	Neutralizer	141	66	214	500	238	401	33	385	384	147	249	44	132	9
792092	Neutralizer	71	100	94	177	305	117	35	558	79	115	288	28	84	8
560454	Neutralizer	85	34	155	211	262	168	79	1411	101	4417	174	40	120	7
705357	Neutralizer	68	138	135	42	31	111	34	401	84	94	51	<20	<60	7
729579	Neutralizer	155	108	129	103	74	<20	44	540	75	39	72	34	102	5
995697	Neutralizer	77	153	218	172	<20	108	46	140	35	139	69	37	111	5
273479	Neutralizer	121	59	134	60	2400	52	50	911	48	463	180	49	147	4
339284	Neutralizer	62	<20	<20	72	<20	36	87	<20	42	<20	64	<20	<60	4
698443	Neutralizer	98	31	34	160	45	<20	69	129	29	123	63	31	93	4
996052	Neutralizer	<20	<20	39	88	247	289	50	<20	<20	32	147	<20	<60	4
233232	Neutralizer	94	76	93	255	54	39	36	280	142	40	86	38	114	3
880315	Neutralizer	132	89	67	186	53	30	42	159	39	74	91	37	111	3
881658	Neutralizer	44	28	45	107	39	84	35	82	46	29	147	28	84	3
995725	Neutralizer	46	35	72	33	550	25	55	906	<20	5942	61	30	90	3
384682	Neutralizer	86	<20	61	41	34	21	65	265	40	184	68	51	153	2
533621	Neutralizer	85	160	42	159	<20	29	<20	<20	53	46	<20	39	117	2
886861	Neutralizer	51	<20	<20	<20	24	61	<20	<20	<20	<20	84	<20	<60	2
950005	Neutralizer	66	51	50	98	40	131	47	70	109	33	39	33	99	2
959154	Neutralizer	<20	<20	<20	95	25	136	<20	<20	<20	<20	58	<20	<60	2
120083	Neutralizer	75	24	37	82	33	50	55	136	57	185	98	39	117	2
132848	Non-neutralizer	28	<20	<20	49	<20	<20	46	<20	36	<20	<20	42	126	0
289151	Non-neutralizer	<20	<20	33	<20	<20	<20	<20	<20	37	35	36	20	60	0
339815	Non-neutralizer	28	<20	56	46	<20	<20	36	96	52	32	65	46	138	0
362517	Non-neutralizer	<20	<20	44	33	<20	<20	36	55	97	42	105	38	114	0
387879	Non-neutralizer	87	<20	36	49	<20	163	73	98	43	25	95	56	168	0
867766	Non-neutralizer	39	<20	40	49	26	30	36	36	36	25	39	33	99	0
957078	Non-neutralizer	<20	22	42	50	24	34	31	27	38	27	35	43	129	0
539068	Non-neutralizer	22	<20	30	29	<20	<20	24	60	46	<20	42	30	90	0
181260	Non-neutralizer	34	<20	33	24	<20	<20	40	60	50	21	38	40	120	0
641287	Non-neutralizer	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<60	0
776812	Non-neutralizer	25	<20	51	33	<20	<20	24	80	20	36	35	27	81	0