Supplementary Information

Antibody 10-1074 suppresses viremia in HIV-1-infected individuals

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a Pseudotyped viruses

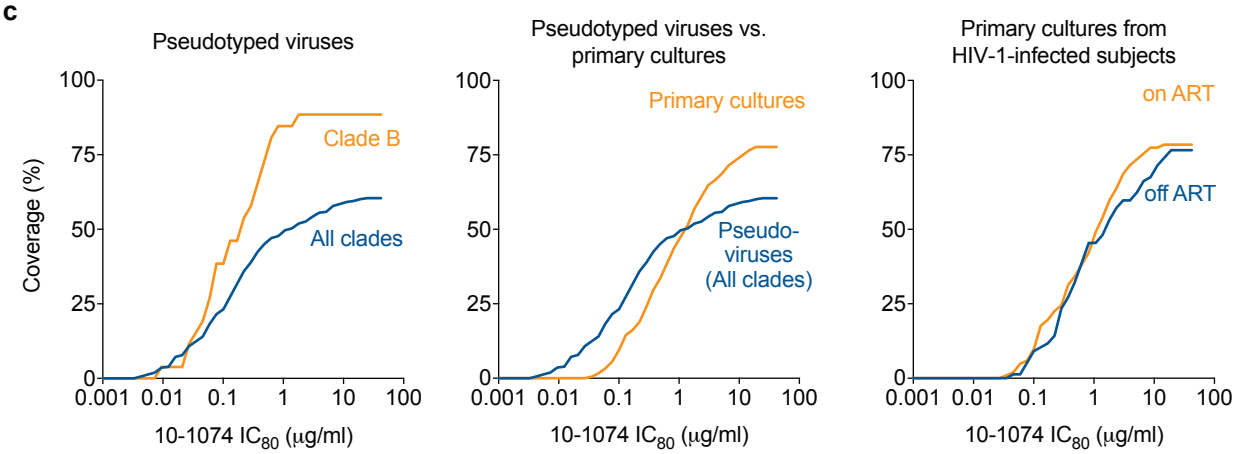
Subtype	Tested strains	$Mean_{IC80}$*	Neutralized (%)**
A1	13	0.09	53.8
B	26	0.13	88.5
C	211	0.20	61.1
D	5	0.04	20.0
G	7	0.06	85.7
01_AE	16	n.d.	0.0
02_AG	9	0.79	77.8
07_BC	5	0.04	80.0
08_BC	2	0.97	100.0
A1C	4	n.d.	0.0
A1D	2	0.17	50.0
A1CD	1	0.06	100.0
CD	5	0.11	80.0
All	306	0.18	60.5

* Geometric mean of neutralized viruses.
** IC_{80} < 20 µg/ml.

b Primary culture samples

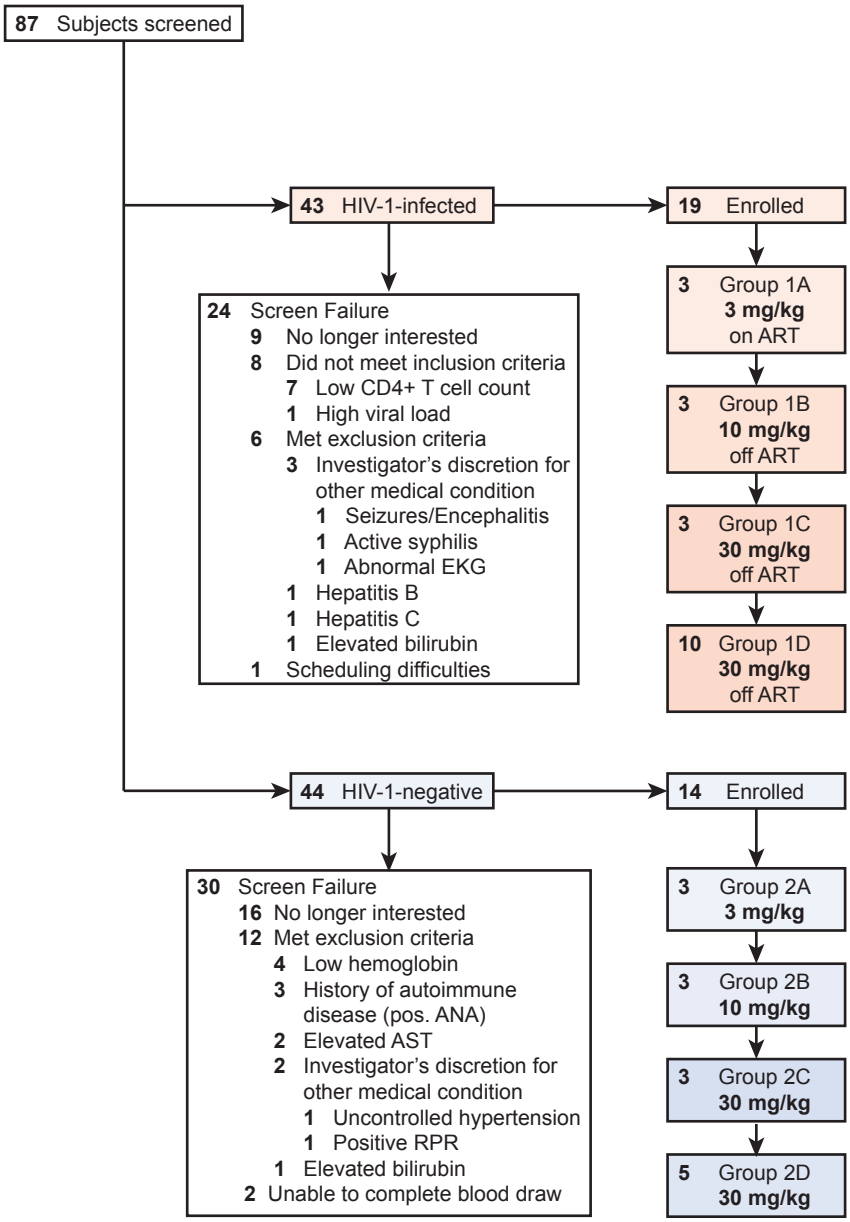
ART	Tested samples	$Mean_{IC80}$*	Neutralized (%)**
off	77	0.80	76.6
on	102	0.58	78.4
All	179	0.67	77.7

c



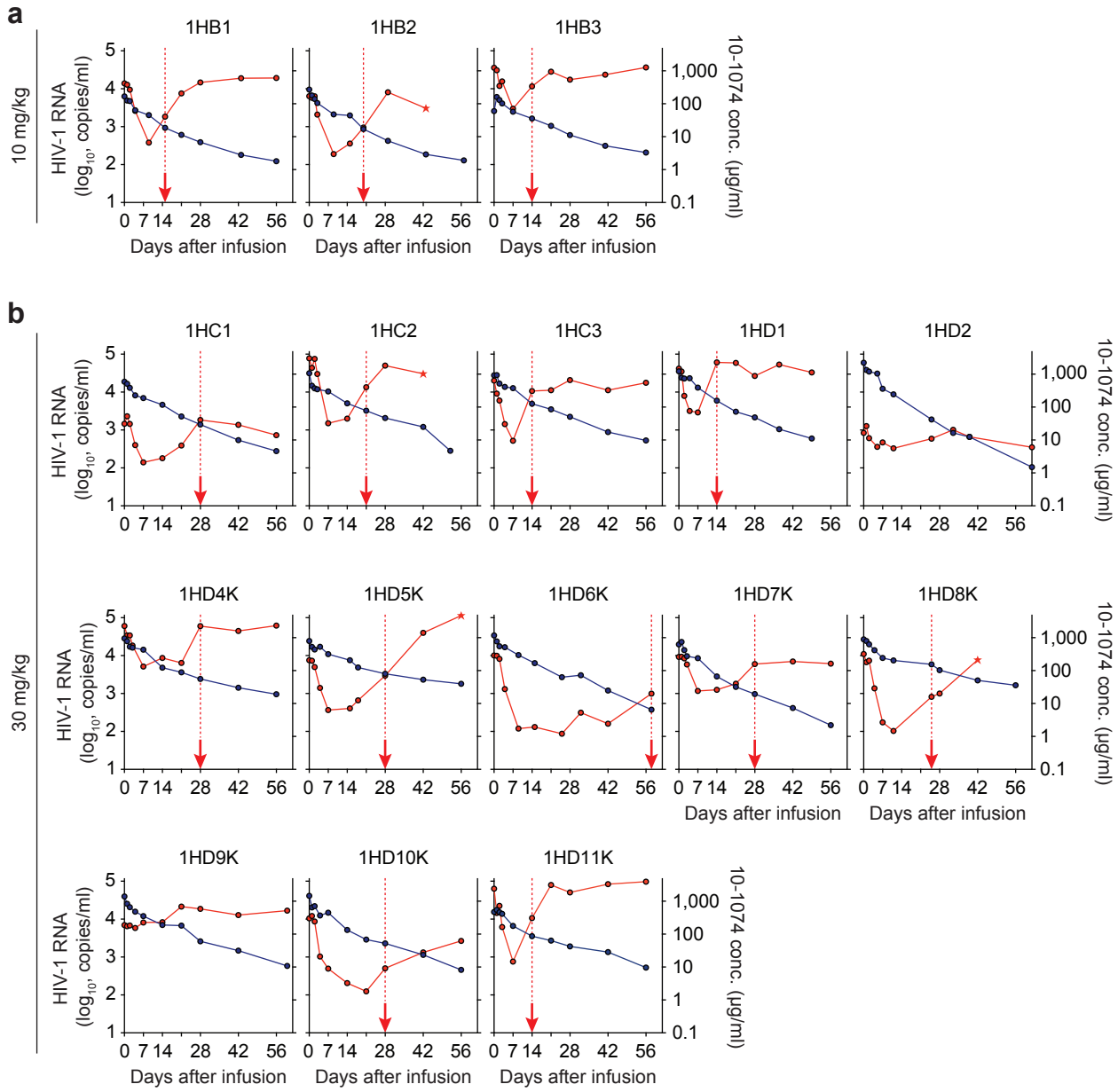
Supplementary Figure 1. *HIV-1 neutralizing activity of 10-1074*

(**a**) Summary of 10-1074 neutralizing *in vitro* activity based on 306 HIV-1 pseudotyped viruses comprising 13 subtypes and recombinant forms. Data were retrieved from the 'CATNAP Database' (Yoon *et al.*, Nucleic Acid Res, 2015) and analyzed using 'AntibodyDatabase' by Anthony West (West *et al.*, PNAS, 2013). Mean IC_{80}-values are color-coded (dark red: < 0.1 µg/ml; light red: 0.1 - 0.49 µg/ml, and orange: 0.5 - 1 µg/ml). n.d.: not determined. (**b**) 10-1074 neutralizing *in vitro* activity of 179 primary culture samples obtained by viral outgrowth assay from HIV-1-infected subjects living in the U.S. or Germany. 77 subjects were off and 102 were on antiretroviral therapy (ART). Neutralizing activity was determined by the TZM.bl neutralization assay. **(c)** Illustration of the fraction (i.e., % coverage; y-axis) of HIV-1 isolates/cultures that are neutralized at a given IC_{80} (µg/ml; x-axis) using the data sets from **(a)** and **(b)**.



Supplementary Figure 2. *Subject enrollment and study design*

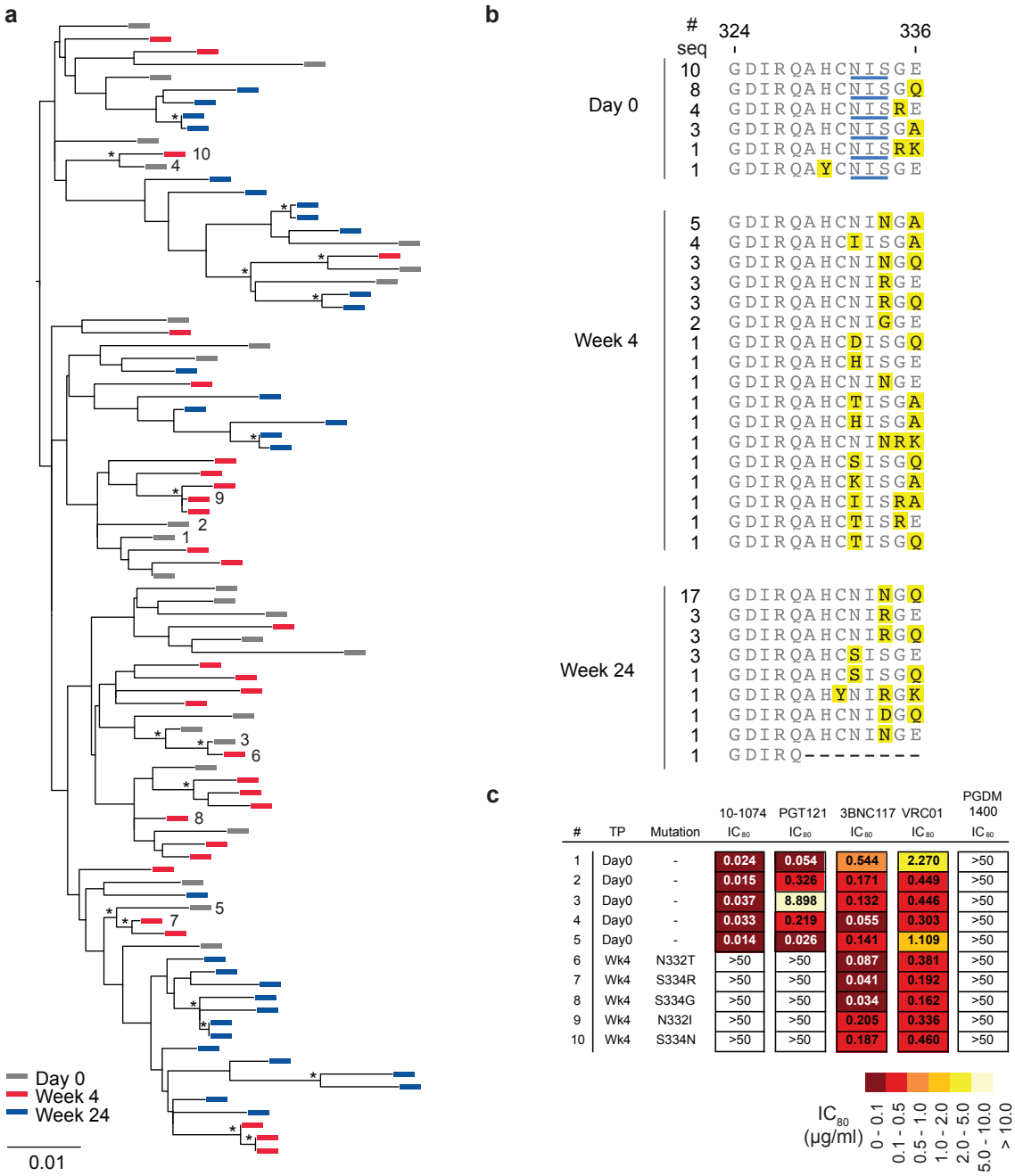
A total of 87 HIV-1-infected and -uninfected subjects were screened for study participation. In both cohorts, 10-1074 was sequentially administered at increasing doses of 3 mg/kg (groups 1A and 2A), 10 mg/kg (groups 1B and 2B), or 30 mg/kg (groups 1C-D and 2C-D) to HIV-1-infected (groups 1) and HIV-1-uninfected (groups 2) participants. Of a total of 87 subjects screened, 19 HIV-1-infected and 14 -uninfected participants were enrolled.



Supplementary Figure 3. *Viremia and 10-1074 serum levels in HIV-1-infected subjects*

(**a, b**) HIV-1 RNA plasma copies (solid red line) and 10-1074 serum concentration determined by TZM-bl assay (blue line) after a single intravenous infusion of 10-1074 at a dose of 10 mg/kg (**a**) or 30 mg/kg (**b**). Arrows and dashed red lines indicate time of viral rebound, defined as an increase of HIV-1 RNA of at least 0.5 $\log_{10}$ that is confirmed at the next study visit. Stars indicate initiation of antiretroviral therapy.

Supplementary Figure 4 (**1HB1**)



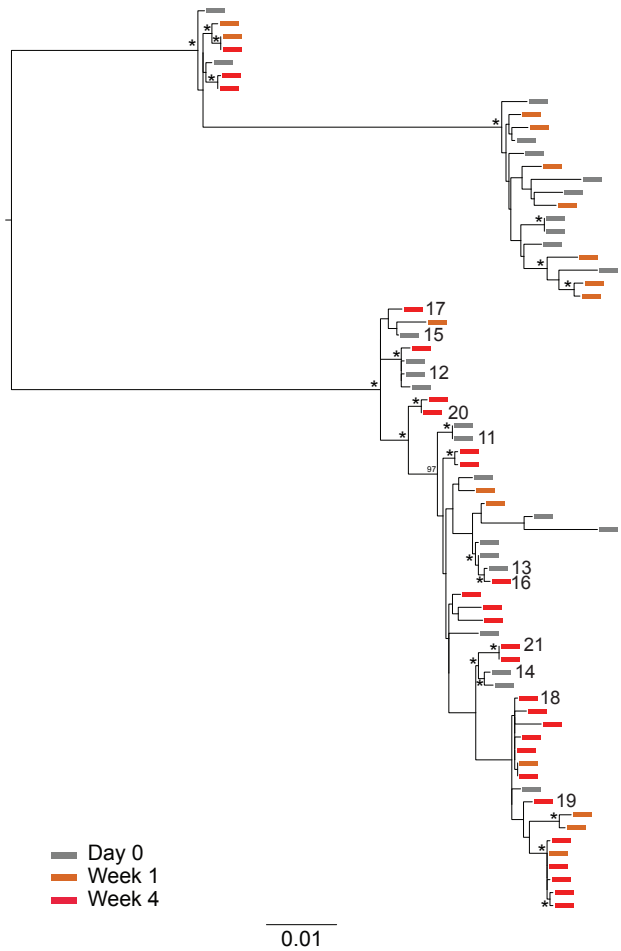
#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
1	Day0	-	0.024	0.054	0.544	2.270	>50
2	Day0	-	0.015	0.326	0.171	0.449	>50
3	Day0	-	0.037	8.898	0.132	0.446	>50
4	Day0	-	0.033	0.219	0.055	0.303	>50
5	Day0	-	0.014	0.026	0.141	1.109	>50
6	Wk4	N332T	>50	>50	0.087	0.381	>50
7	Wk4	S334R	>50	>50	0.041	0.192	>50
8	Wk4	S334G	>50	>50	0.034	0.162	>50
9	Wk4	N332I	>50	>50	0.205	0.336	>50
10	Wk4	S334N	>50	>50	0.187	0.460	>50

Supplementary Figure 4. *Phylogenetic analysis of plasma env sequences obtained before and after 10-1074 infusion*

(**a**) Maximum-likelihood phylogenetic trees of plasma-derived *env* sequences from subjects sampled before (Day 0/pre-infusion visit) and at different timepoints (Wk 1, Wk 2, Wk 4, Wk 8, Wk 12, Wk 16, Wk 20, Wk 24) after 10-1074 infusion. Black asterisks indicate nodes with boostrap support ≥ 70%. (**b**) Amino acid alignment of HxB2 positions 324-336 of SGS sequences. Columns one and two indicate the time point sampled and number of sequences, respectively. Yellow boxes denote changes from day 0 majority variant. Light blue lines indicate intact potential *N*-linked glycosylation motifs at either N332 or N334 (when present). (**c**) Pseudovirus neutralization data of selected subjects' plasma envelope sequences. Shown are IC_{80} values in (µg/ml) of 5 different monoclonal antibodies that are currently in or planned for clinical testing.

Supplementary Figure 4 continued (**1HB2**)

a



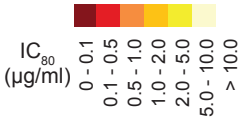
b

	# seq	324 … 336
Day 0	18	GDIRQAHCNISVS
	9	GDIRKAHCNISRT
Week 1	7	GDIRKAHCNISRT
	2	GDIRQAHCIISVS
	2	GDIRQAHCSISVS
	2	GDIRQAHCNISVS
	1	GDIRQAHCNIRVS
	1	GDIRQAHCKISVS
	1	GDIRQAHCNINVS
Week 4	12	GDIRQAHCNINVS
	8	GDIRQAHCSISVS
	5	GDIRQAHCNIRVS
	1	GDIRQAHCIISVS
	1	GDIRQAHCNIGVS

c

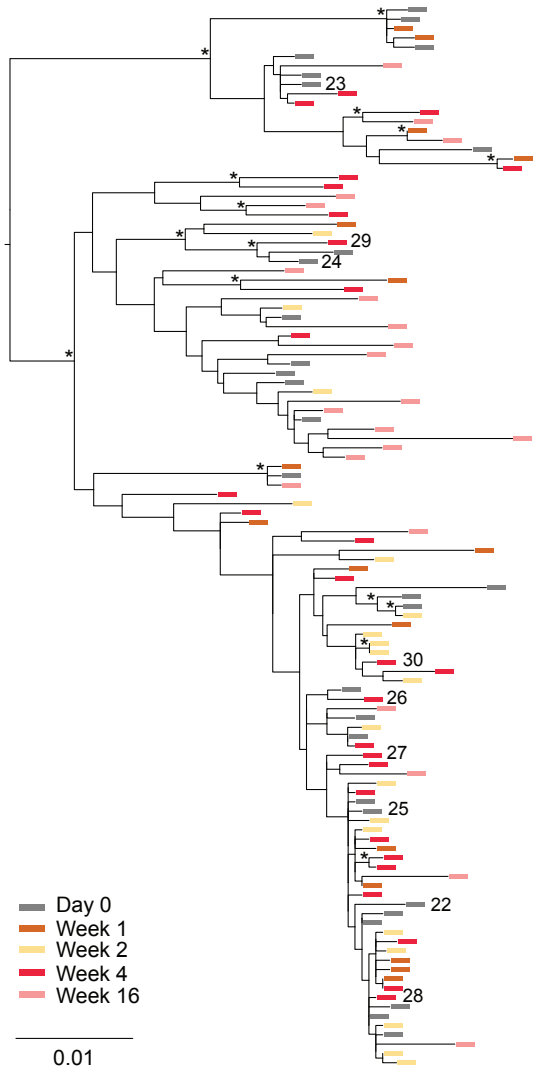
#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
11	Day0	-	0.029	0.136	0.074	0.483	>50
12	Day0	-	0.026	0.099	0.070	0.363	>50
13	Day0	-	0.030	0.124	0.064	0.630	>50
14	Day0	-	0.024	0.172	0.071	0.492	>50
15	Day0	-	0.026	0.172	0.079	0.344	>50
16	Wk4	S334G	>50	>50	0.060	0.529	>50
17	Wk4	N332S	>50	>50	0.053	0.273	>50
18	Wk4	shift**	>50	>50	0.045	0.592	>50
19	Wk4	S334R	>50	>50	0.061	0.443	>50
20	Wk4	shift**	>50	>50	0.060	0.311	>50
21	Wk4	S334R	>50	>50	0.056	0.439	>50

**shift of PNGS from N332 to N334



Supplementary Figure 4 continued (**1HB3**)

a



b

	# seq	324 … 336
Day 0	14	GDIRQAHCNISKA
	10	GNIRQAHCNISKA
	4	GNIRQAHCNISKT
	1	GNIRQAHCNISNA
Week 1	6	GDIRQAHCNINKA
	4	GNIRQAHCNISKA
	2	GNIRQAHCNISKT
	1	GNIRQAHCSISKA
	1	GGIRQAHCNISKA
	1	GDIRQAHCNISKA
	1	GNIRQAHCNINKA
Week 2	5	GDIRQAHCNINKA
	3	GDIRQAHCSISKA
	2	GDIRQAHCNIGKA
	2	GNIRQAHCDISKA
	2	GEIRQAHCNISKA
	1	GNIRQAHCSISKA
	1	GDIRQAHCKISKA
	1	GDIRQAHCTISKA
	1	GGIRQAHCNISKA
	1	GNIRQAHCNINKA
Week 4	7	GDIRQAHCNINKA
	5	GNIRQAHCNINKA
	2	GDIRQAHCDISKA
	2	GDIRQAHCSISKA
	2	GNIRQAHCDISKT
	1	GDIRQAHCNIGKA
	1	GNIRQAHCDISKA
	1	GKIRQAHCNISKA
	1	GDIRQAHCNIIKA
	1	GNIRQAHCSISKA
	1	GDIRQAHCKISKA
	1	GNIRQAHCSISKT
	1	GGIRQAHCNISKA
	1	GDIRQAHCHISKA
	1	GNIRQAHCNINKT
Week 16	3	GNIRQAHCIISKA
	3	GNIRQAHCTISKA
	3	GNIRQAHCNINKA
	2	GNIRQAHCSISKA
	2	GNIRQAHCNIRKA
	2	GDIRQAHCNINKA
	2	GDIRQAHCNISKA
	2	GKIRQAHCNISKT
	1	GDIRQAHCKISKP
	1	GNIRQAHCNISKA
	1	GNIRQAHCIISKT

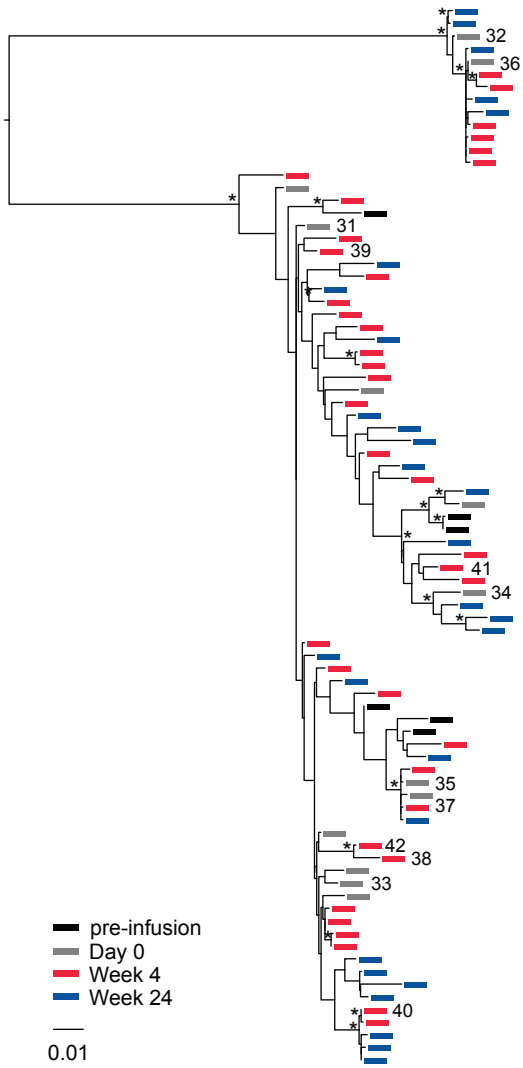
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
22	Day0	-	0.115	0.038	0.320	5.104	1.698
23	Day0	-	0.048	0.048	0.105	1.034	4.876
24	Day0	-	0.160	0.092	0.435	5.752	1.294
25	Day0	-	0.098	0.035	0.431	4.862	2.323
26	Wk4	N332D	>50	>50	0.660	6.231	1.828
27	Wk4	D325G	>50	>50	0.417	4.568	1.314
28	Wk4	N332K	>50	>50	0.457	5.854	2.348
29	Wk4	S334N	>50	>50	0.438	3.831	1.153
30	Wk4	N332S	>50	>50	0.530	6.577	1.318

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HC1**)

a



b

	# seq	324 … 336
pre-infusion	4	GDIRQAHCNLSRE
	2	GDIRQAHCNISRE
Day 0	10	GDIRQAHCNLSRE
	2	GDIRQAYCTISKR
	1	GDIRQAHCNISRE
Week 4	12	GDIRQAHCNLSRE
	6	GDIRQAYCTISKR
	6	GDIRQAHCSLSRE
	5	GDIRQAHCNISRE
	3	GDIRQAHCTLSRE
	2	GDIRQAHCNINRE
	1	GDIRQAHCTISRE
	1	GEIRQAHCNLSRE
	1	GDIRQAHCKLSRE
Week 16	17	GDIRQAHCNLSRE
	6	GDIRQAHCNISRE
	4	GDIRQAYCTISKR
	1	GDIRQAYCTISKS

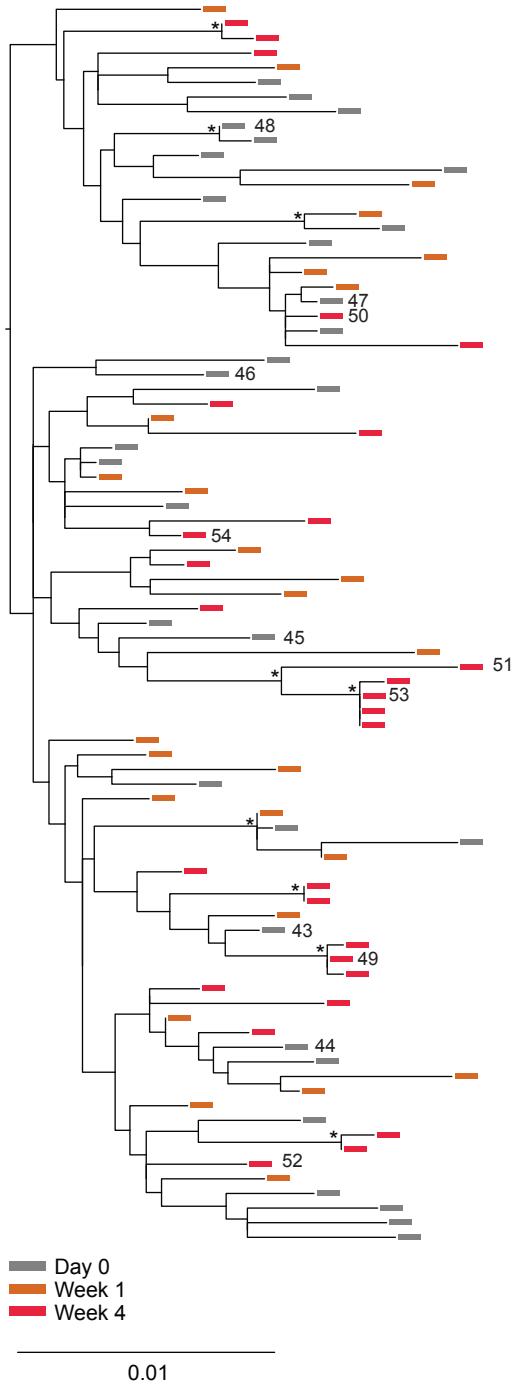
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
31	Day0	-	1.104	0.741	0.657	0.891	>50
32	Day0	N332T	>50	4.575	0.017	0.084	>50
33	Day0	-	1.371	1.074	0.568	0.667	>50
34	Day0	-	1.179	1.163	0.454	0.336	>50
35	Day0	-	0.797	0.330	0.880	1.075	>50
36	Day0	N332T	10.01	0.391	0.013	0.053	>50
37	Wk4	N332S	>50	>50	0.993	1.524	>50
38	Wk4	S334N	>50	>50	1.203	1.261	>50
39	Wk4	-	1.498	0.983	0.656	0.716	>50
40	Wk4	N332T	>50	>50	0.398	0.457	>50
41	Wk4	-	1.481	1.166	0.818	0.618	>50
42	Wk4	D325E	>50	>50	0.808	0.745	>50

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HC2**)

a



b

	# seq	324 … 336
Day 0	22	GDIRQAHCNISKG
	9	GDIRQAHCNISKR
Week 1	21	GDIRQAHCNISKG
	5	GDIRQAHCNISKR
Week 4	13	GDIRQAHCNINKG
	6	GDIRQAHCKISKG
	3	GDIRQAHCTISKG
	2	GDIRQAHCNINKR
	2	GDIRQAHCNINRG
	1	GDIRQAHCSISKR
	1	GEIRQAHCNISKR

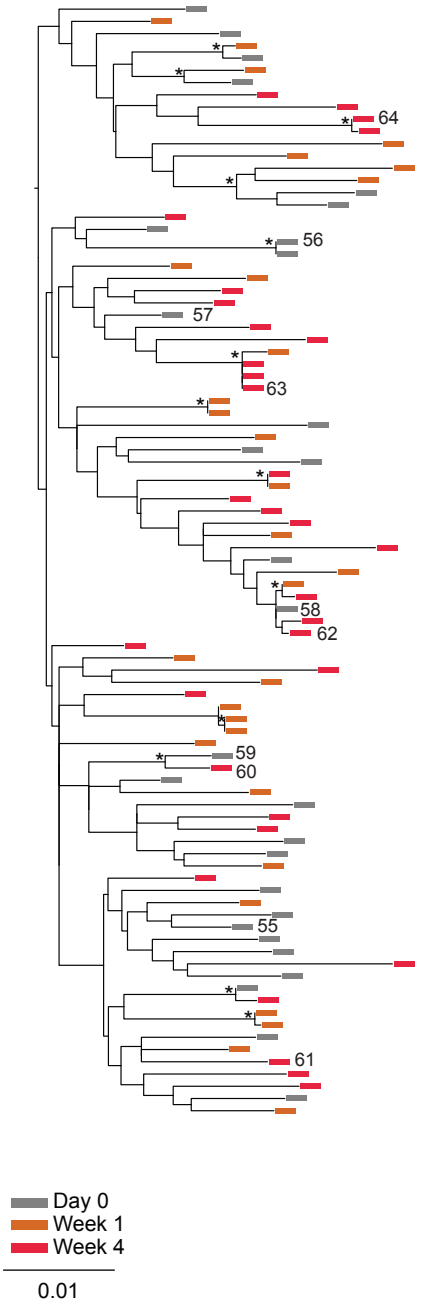
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
43	Day0	-	0.494	0.469	0.760	2.673	0.017
44	Day0	-	0.257	0.219	1.475	1.174	0.080
45	Day0	-	0.068	0.047	>50	1.325	0.914
46	Day0	-	0.090	0.044	>50	7.175	0.018
47	Day0	-	0.090	0.046	0.083	0.096	0.020
48	Day0	-	0.109	0.050	0.054	0.306	0.017
49	Wk4	S334N	>50	>50	6.513	1.728	0.007
50	Wk4	S334N	>50	>50	0.122	0.061	0.003
51	Wk4	N332K	>50	>50	5.952	3.721	0.010
52	Wk4	N332T	>50	>50	0.175	0.727	0.012
53	Wk4	N332K	>50	>50	>50	7.683	0.008
54	Wk4	S334N	>50	>50	0.383	0.268	0.004

IC_{80} (μg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HC3**)

a



b

	# seq	324 … 336
Day 0	16	GDIRQAHCNISKE
	8	GDIRQAHCNISKA
	4	GDIRQAHCNISKK
	1	GDIRQAHCNISKQ
Week 1	7	GDIRQAHCNINKE
	5	GDIRQAHCNIRKE
	4	GDIRQAHCSISKE
	3	GDIRQAHCNINKA
	2	GDIRQAHCNINKK
	1	GDIRQAHCNIGKA
	1	GDIRQAHCKISKK
	1	GDIRQAHCSISKK
	1	GDIRQAHCDVSKE
	1	GDIRQAHCKISKE
	1	GDIRQAHCNISKE
	1	GDIRQAHCIISKK
	1	GDIRQAHCNISKR
	1	GDIRQAHCNIGKE
Week 4	8	GDIRQAHCSISKE
	5	GDIRQAHCNINKE
	4	GDIRQAHCNINKA
	3	GDIRQAHCSISKA
	3	GDIRQAHCNVNKE
	2	GDIRQAHCKISKE
	2	GDIRQAHCIISKK
	1	GDIRQAHCDISKE
	1	GDIRQAHCNIGKE
	1	GDIRQAHCSISKK
	1	GDIRQAHCNIRKE
	1	GDIRQAHCNINKK

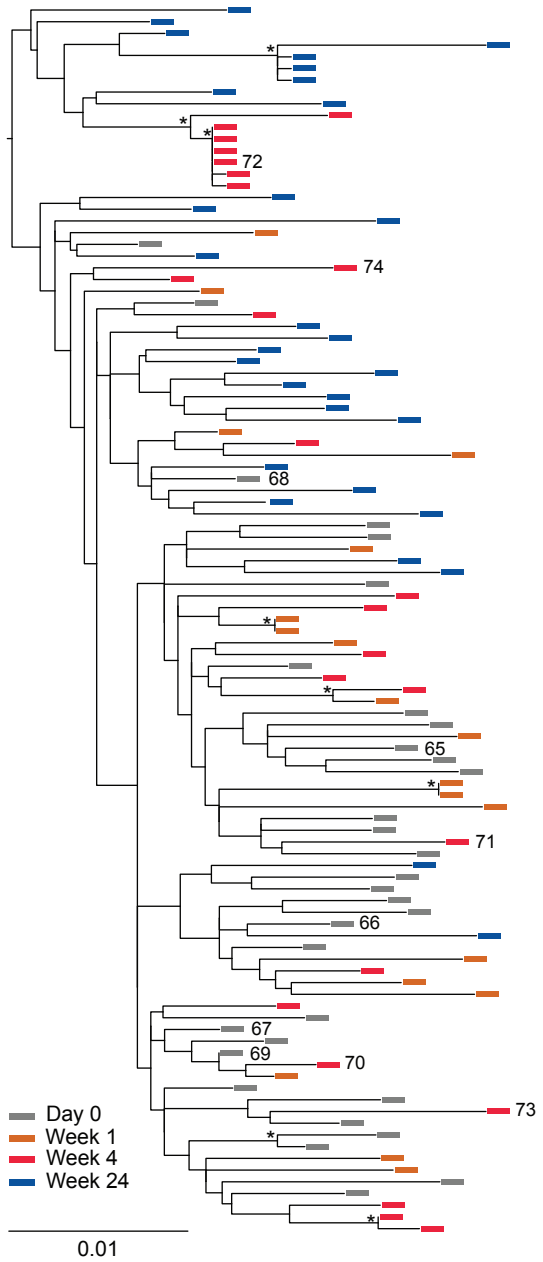
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
55	Day0	-	0.531	0.104	3.571	2.107	0.008
56	Day0	-	0.836	0.202	1.041	1.256	0.020
57	Day0	-	0.514	0.117	42.56	2.273	0.015
58	Day0	-	0.704	0.254	0.156	0.776	0.013
59	Day0	-	0.946	0.213	0.630	1.679	0.064
60	Wk4	S334N	>50	>50	0.816	1.667	0.053
61	Wk4	N332K	>50	>50	9.426	3.600	0.041
62	Wk4	N332S	>50	>50	0.634	1.095	0.012
63	Wk4	S334N	>50	>50	5.043	2.245	0.058
64	Wk4	N332I	>50	>50	3.033	2.914	0.006

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD1**)

a



b

	# seq	324 … 336
Day 0	22	GNIRQAHCNISEG
	5	GNIRQAHCNISEE
	5	GNIRQAHCNISKE
Week 1	6	GKIRQAHCNISEG
	3	GNIRQAHCNINKE
	2	GNIRQAHCNINEG
	2	GNIRQAHCNISEG
	1	GNIRQAHCNIIKE
	1	GNIRQAHCNIREG
	1	GNIRQAHCNINKG
	1	GNIRQAHCNISEE
	1	GKTRQAHCNISEG
	1	GNIRQAHCSISEG
Week 4	10	GNIRQAHCNINKE
	5	GNIRQAHCNINEG
	2	GNIRQAHCNIREG
	2	GKIRQAHCNISKE
	1	GNIRQAHCIISKE
	1	GNIRQAHCTISKE
	1	GNIRQAHCIISEG
	1	GNIRQAHCDISKE
	1	GNIRQAHCSISEG
Week 24	17	GNIRQAHCNISKE
	9	GKIRQAHCNISKE
	2	GKIRQAHCNISEG
	1	GNIRQAHCNINEG
	1	GKIRQAHCNISKG

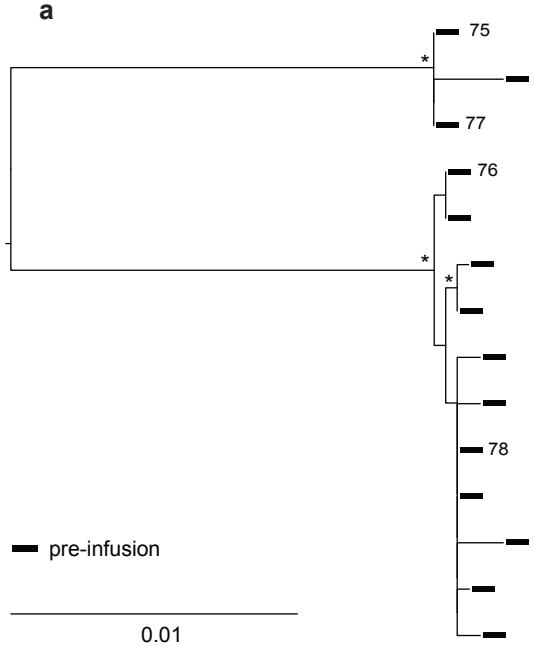
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
65	Day0	-	0.102	0.034	1.313	9.558	2.654
66	Day0	-	0.038	0.016	0.248	3.241	0.534
67	Day0	-	0.029	0.011	0.064	0.588	0.930
68	Day0	-	0.066	0.026	0.116	0.681	3.731
69	Day0	-	0.046	0.021	0.351	2.098	2.104
70	Wk4	S334N	>50	>50	0.350	1.751	1.817
71	Wk4	S334R	>50	>50	0.311	1.585	1.185
72	Wk4	S334N	>50	>50	0.177	0.583	2.111
73	Wk4	N325K	>50	>50	0.467	4.299	1.487
74	Wk4	N325K	>50	>50	0.172	0.805	1.655

IC_{80} (μg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD2**)

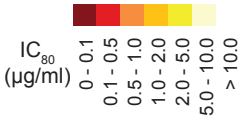
a



b

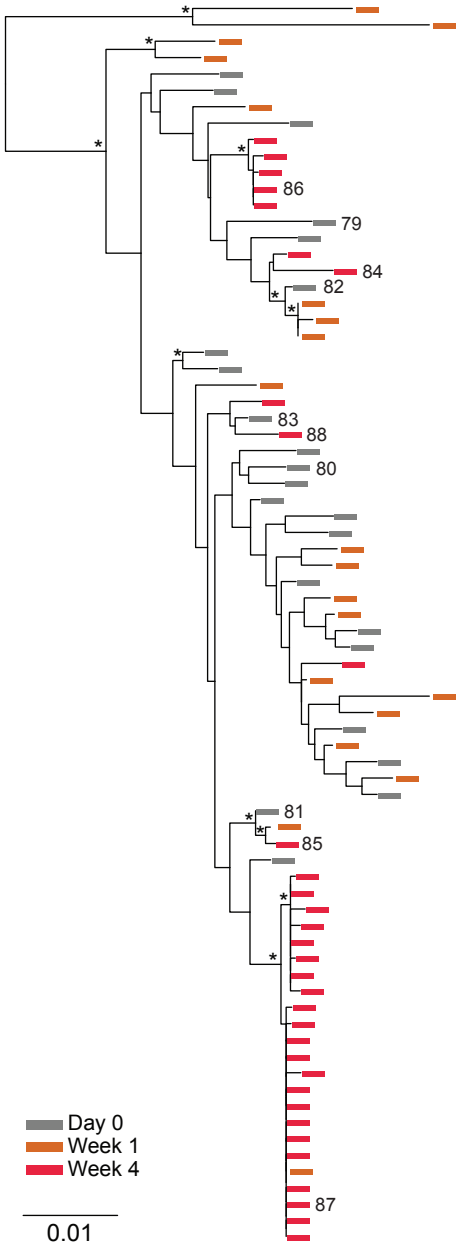
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
75	pre	N332T	>50	>50	**0.018**	**0.210**	10.96
76	pre	N332T	>50	>50	**0.003**	**0.014**	>50
77	pre	N332T	>50	>50	**0.022**	**0.126**	13.84
78	pre	N332T	>50	>50	**0.004**	**0.019**	>50



Supplementary Figure 4 continued (**1HD4K**)

a



b

	# seq	324 … 336
Day 0	20	GDIRKAYCNISKA
	3	GDIRKAHCNISKA
Week 1	11	GDIRKAYCNISKA
	4	GDIRKAHCNISKA
	1	GDIKKAHCNISKA
	1	GDIRKAYCKISKA
	1	GDIKKAYCNINGT
	1	GDIRRAYCNISKA
	1	GDIRKAYCDISKA
Week 4	27	GDIRKAYCDISKA
	2	GDIRKAYCKISKA
	1	GDIRKAHCNINKA
	1	GDIKKAYCNINKA
	1	GDIRKAYCNINKA
	1	GDIRKAHCNIRKA

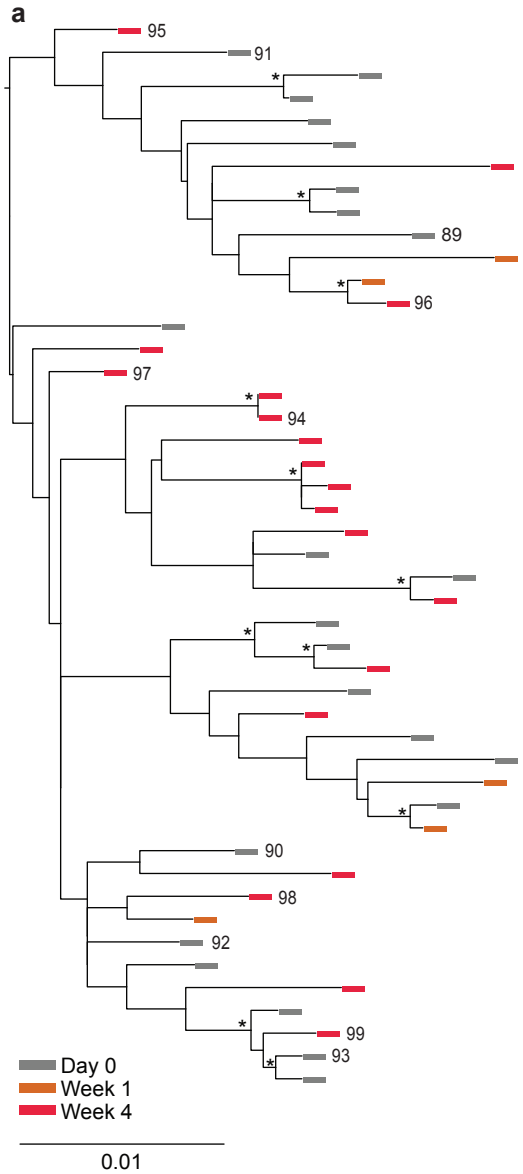
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
79	Day0	-	0.021	0.008	1.895	9.346	>50
80	Day0	-	0.025	0.020	1.298	1.968	>50
81	Day0	-	0.027	0.020	0.628	2.199	>50
82	Day0	-	0.017	0.011	0.580	1.434	>50
83	Day0	-	0.027	0.014	0.517	1.912	>50
84	Wk4	S334R	>50	0.557	0.354	2.772	>50
85	Wk4	N332K	>50	0.214	0.947	2.219	>50
86	Wk4	N332D	>50	0.199	0.794	7.741	>50
87	Wk4	N332D	>50	0.077	0.720	2.852	>50
88	Wk4	S334N	>50	0.406	0.503	2.169	>50

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD5K**)

a



b

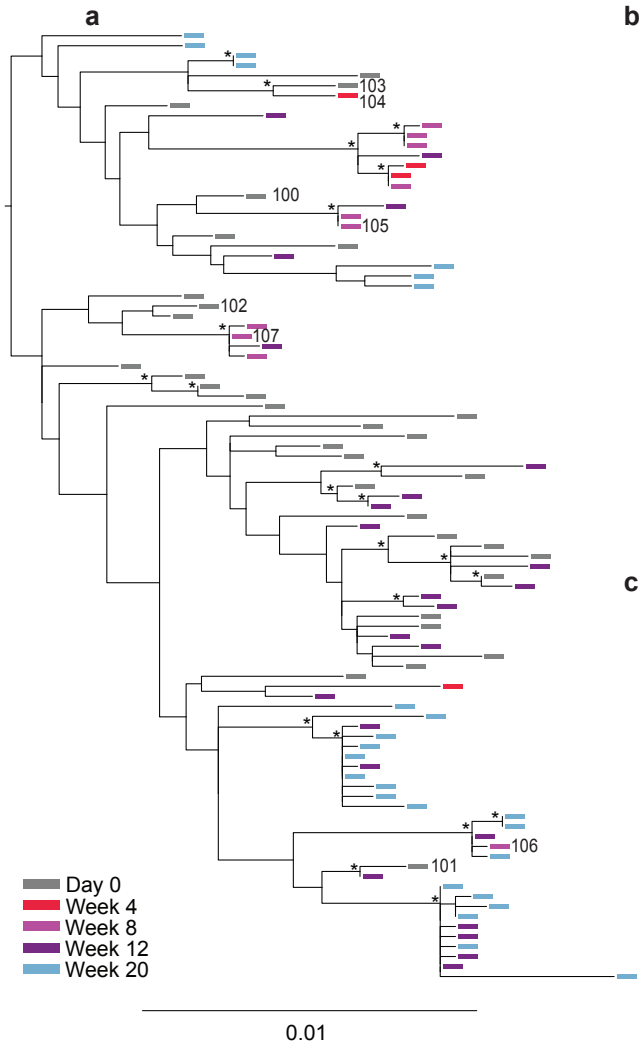
	# seq	324 … 336
Day 0	11	GDIRQAHCNISKT
	8	GDIRQAHCNISKA
	3	GDIRQAHCNISEA
	1	GDIRQAHCNISTA
Week 1	3	GDIRQAHCNISKT
	2	GDIRQAHCNISKA
Week 4	4	GDIRQAHCNINKT
	3	GDIRQAHCNINKA
	2	GDIRQAHCSISKT
	2	GDIRQAHCNIRKT
	1	GDIRQAHCNIGKA
	1	GDIRQAHCNIGKT
	1	GDIRQAHCYISKT
	1	GDIRQAHCNIRKK
	1	GDIRQAHCSISEA
	1	GDIRQAHCSISTA
	1	GDIRQAHCKISKT
	1	GDIRQAHCSISKA

c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
89	Day0	-	0.162	0.040	>50	0.733	1.476
90	Day0	-	0.159	0.045	0.131	0.622	1.204
91	Day0	-	0.130	0.040	0.118	0.783	1.629
92	Day0	-	0.191	0.038	0.112	0.627	1.432
93	Day0	-	0.123	0.055	0.117	0.783	1.463
94	Wk4	S334R	>50	>50	0.168	0.658	1.436
95	Wk4	S334N	>50	>50	0.149	0.961	1.176
96	Wk4	N332S	>50	>50	48.18	0.891	1.530
97	Wk4	S334G	>50	>50	0.158	0.886	1.135
98	Wk4	N332K	>50	>50	0.103	0.606	1.518
99	Wk4	S334N	>50	>50	0.147	0.697	1.266

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD6K**)



b

	# seq	324 … 336
Day 0	31	GDIRQAHCNISRE
	1	GDIRQVHCNISRE
Week 4	3	GDIRQAHCNIARE
	1	GDIRQAHCNISRE
Week 8	5	GDIRQAHCNIFRE
	3	GDIRQAHCNIYRE
	1	GDIRQAHCNIARE
	1	GDIRQAHCNISRE
Week 12	20	GDIRQAHCNISRE
	1	GEIRQAHCNISRE
	1	GDIRQAHCNIFRE
	1	GDIRQAHCKISRE
	1	GDIRQAHCNIYRE
Week 20	23	GDIRQAHCNISRE
	2	GDIRQAHCNISRG

c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
100	Day0	-	0.097	0.040	0.748	5.167	0.432
101	Day0	-	0.187	0.063	0.780	3.761	>50
102	Day0	-	0.117	0.069	0.783	3.371	0.359
103	Day0	-	0.096	0.046	0.750	2.589	0.918
104	Wk4	S334A	>50	>50	0.839	3.452	0.375
105	Wk4	S334F	>50	>50	1.021	4.718	0.445
106	Wk4	-	0.130	0.037	3.342	0.205	0.504
107	Wk4	S334Y	>50	12.84	0.791	3.005	0.403

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD8K**)

a

b

	# seq	324 … 336
Day 0	17	GDIRQAHCNISEG
	8	GNIRQAHCNISER
	7	GDIRQAHCNISER
	3	GNIRQAHCNISEG
	1	GNIRQAHCNISEK
Week 4	13	GNIRQAHCNINER
	8	GNIRQAHCNINEG
	5	GNIRQAHCNIREG
	2	GNIRQAHCNIGER
	2	GNIRQAHCKISEG
	1	GDIRQAHCSISER
	1	GDIRQAHCNIRER
	1	GNIRQAHCTISEG
	1	GKIRQAHCNISEG

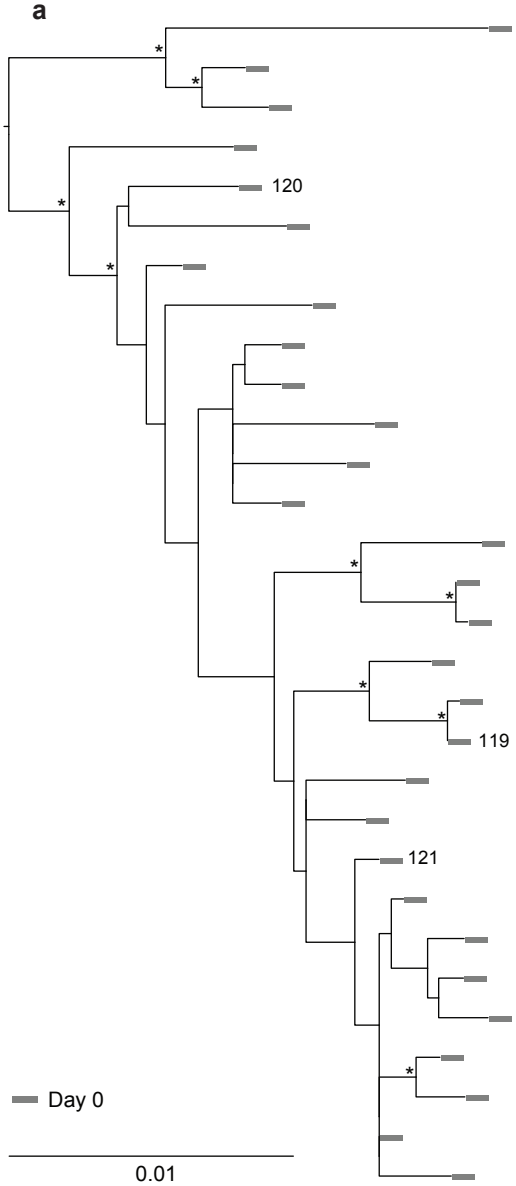
c

#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
108	Day0	-	0.006	0.005	0.281	3.195	>50
109	Day0	-	0.024	0.100	0.048	0.664	>50
110	Day0	-	0.016	0.037	0.166	2.447	>50
111	Day0	-	0.155	0.303	0.595	3.949	>50
112	Day0	-	0.007	0.013	0.212	2.013	>50
113	Wk4	N332S	>50	>50	0.922	2.858	>50
114	Wk4	S334G	>50	>50	0.048	0.369	>50
115	Wk4	N332K	>50	>50	0.102	0.819	>50
116	Wk4	S334N	>50	>50	0.136	0.583	>50
117	Wk4	S334R	>50	>50	0.126	1.365	>50
118	Wk4	S334N	>50	>50	0.044	0.562	>50

IC_{80} (µg/ml): 0 - 0.1; 0.1 - 0.5; 0.5 - 1.0; 1.0 - 2.0; 2.0 - 5.0; 5.0 - 10.0; > 10.0

Supplementary Figure 4 continued (**1HD9K**)

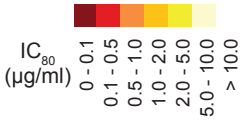
a



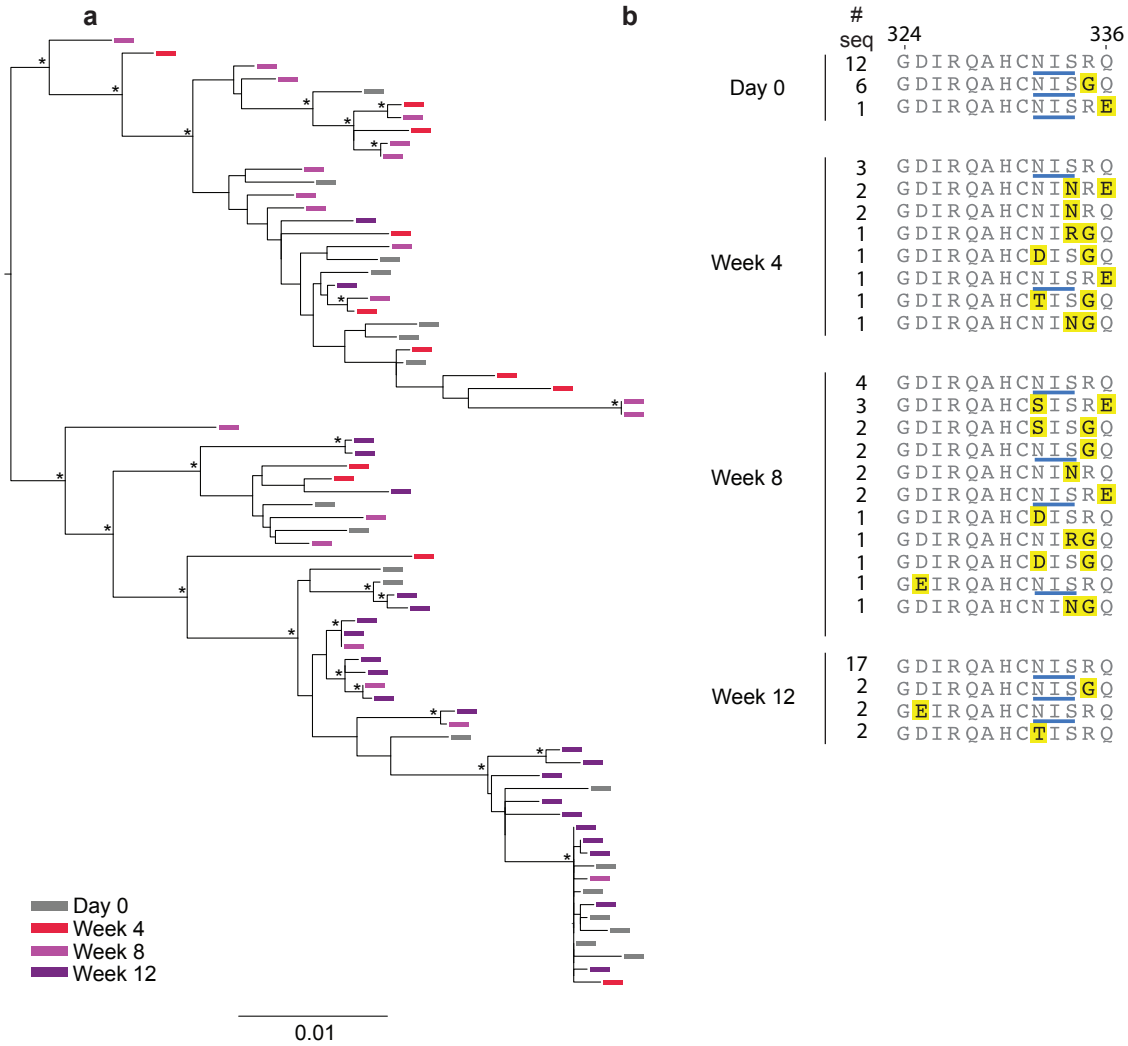
b

c

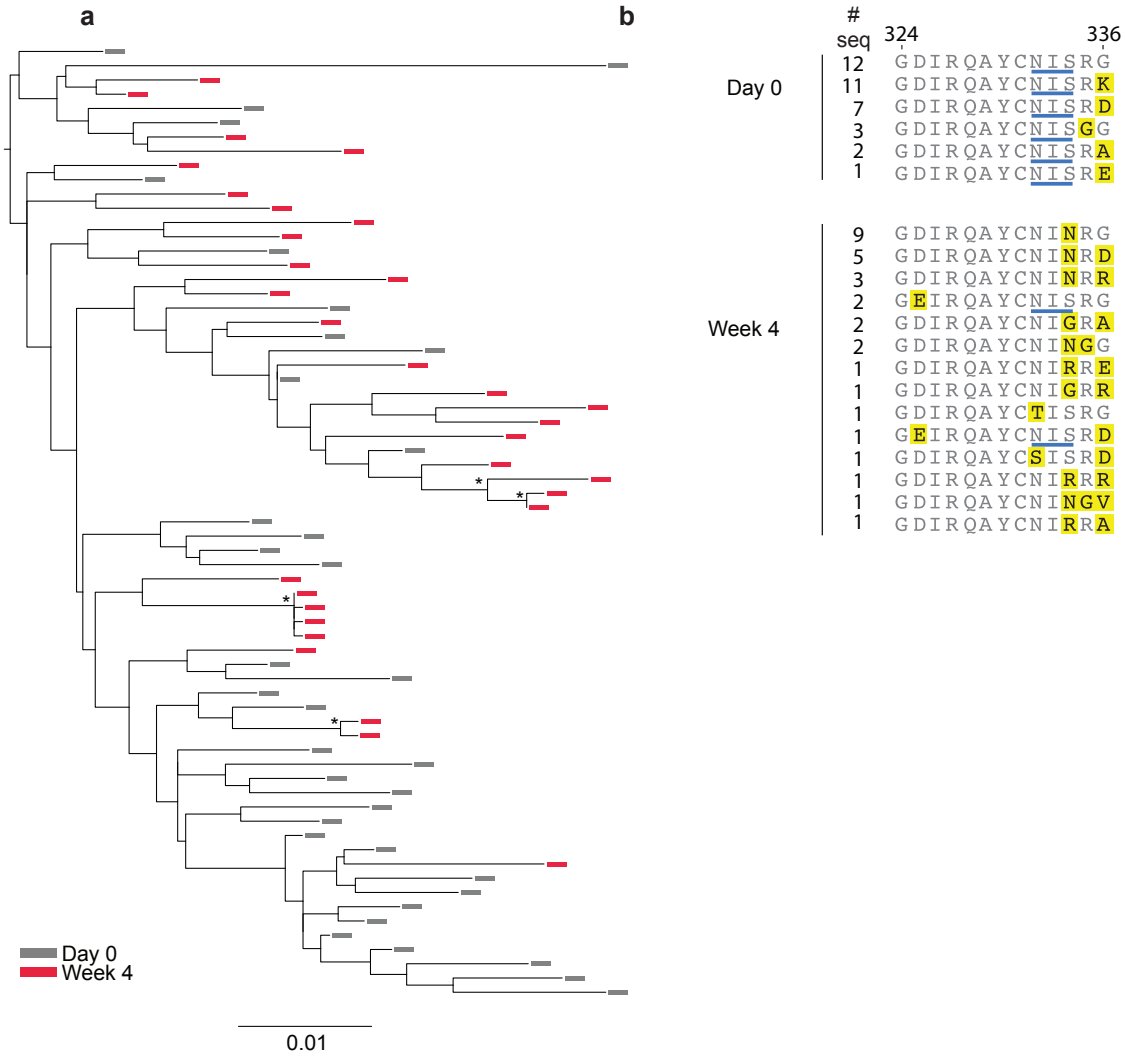
#	TP	Mutation	10-1074 IC_{80}	PGT121 IC_{80}	3BNC117 IC_{80}	VRC01 IC_{80}	PGDM 1400 IC_{80}
119	Day0	325E	>50	>50	0.087	1.587	0.873
120	Day0	325E	>50	>50	0.147	2.221	0.625
121	Day0	325E	>50	>50	0.034	0.401	0.827

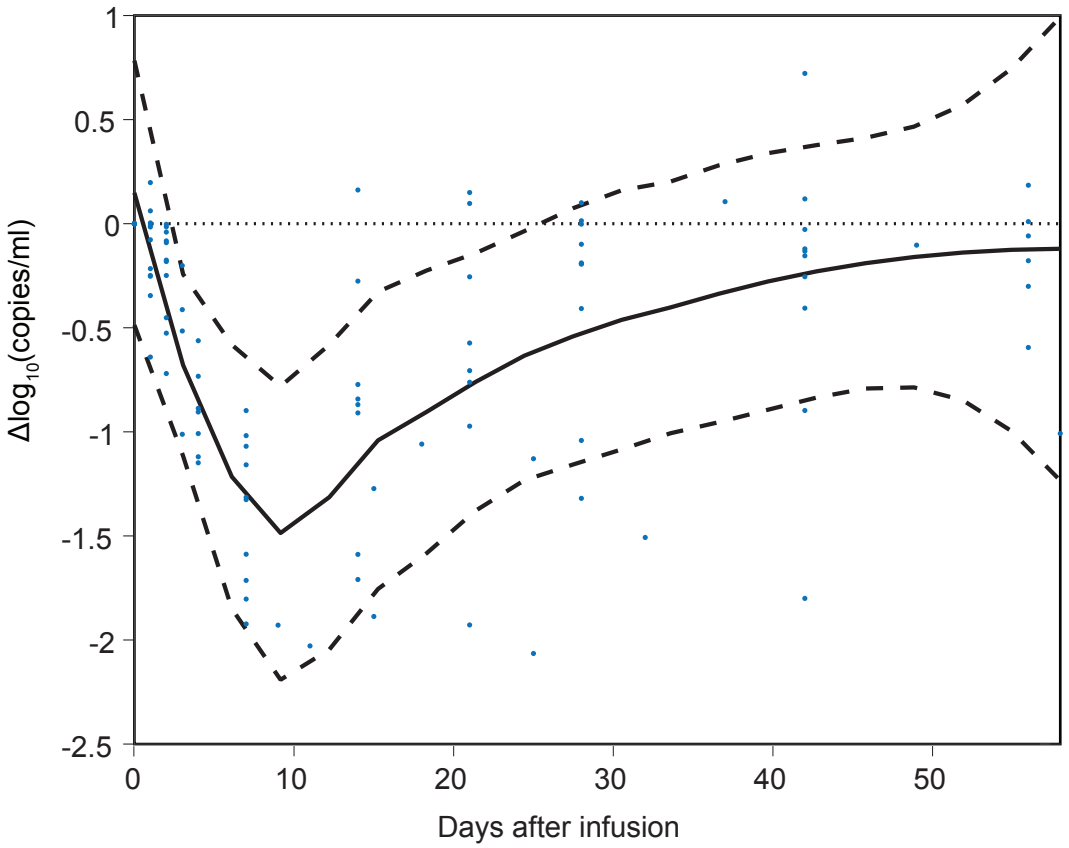


Supplementary Figure 4 continued (**1HD10K**)



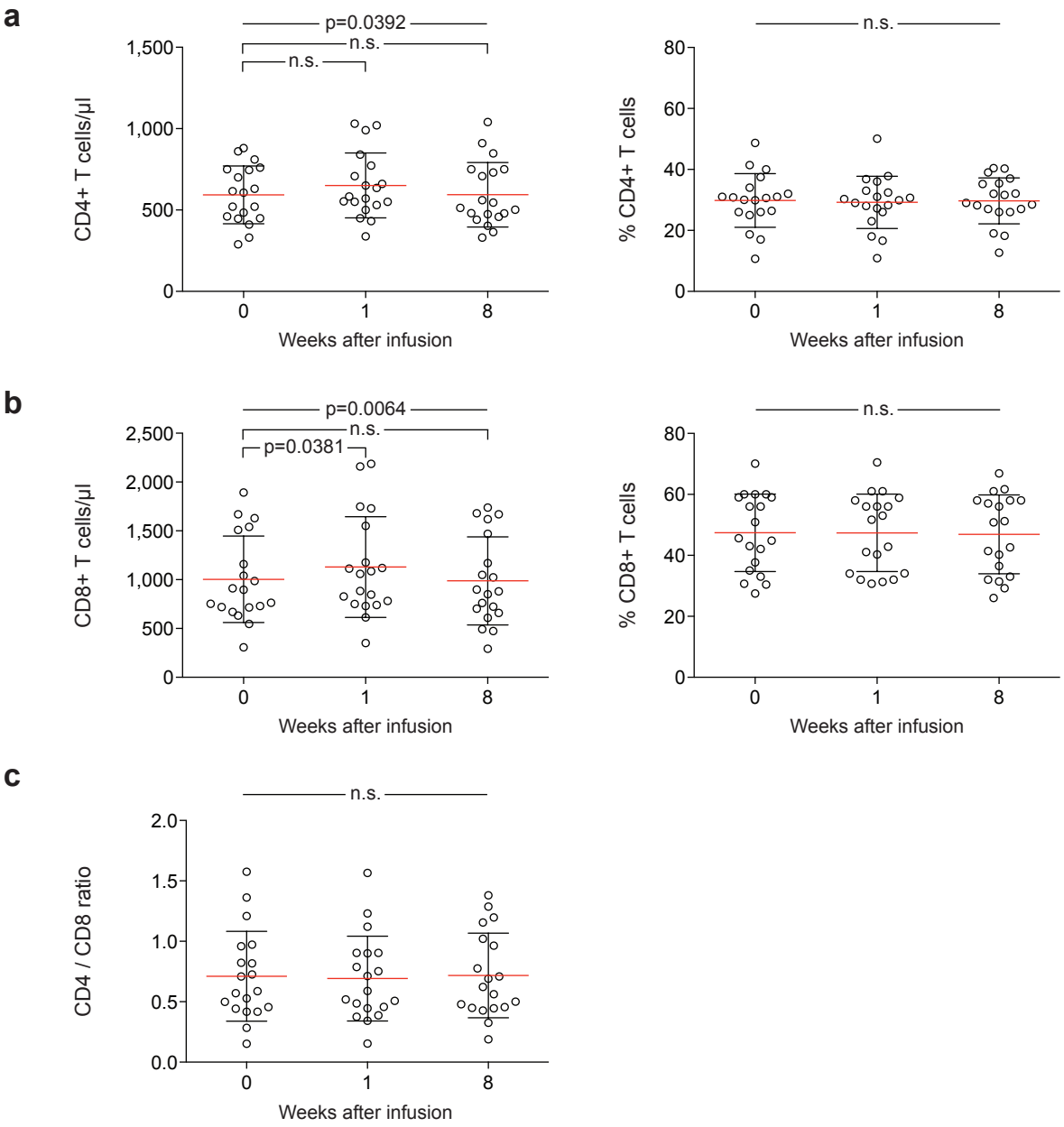
Supplementary Figure 4 continued (**1HD11K**)





Supplementary Figure 5. *Statistical analysis of viral load changes in the 10-1074-sensitive HIV-1-infected 30 mg/kg dose group*

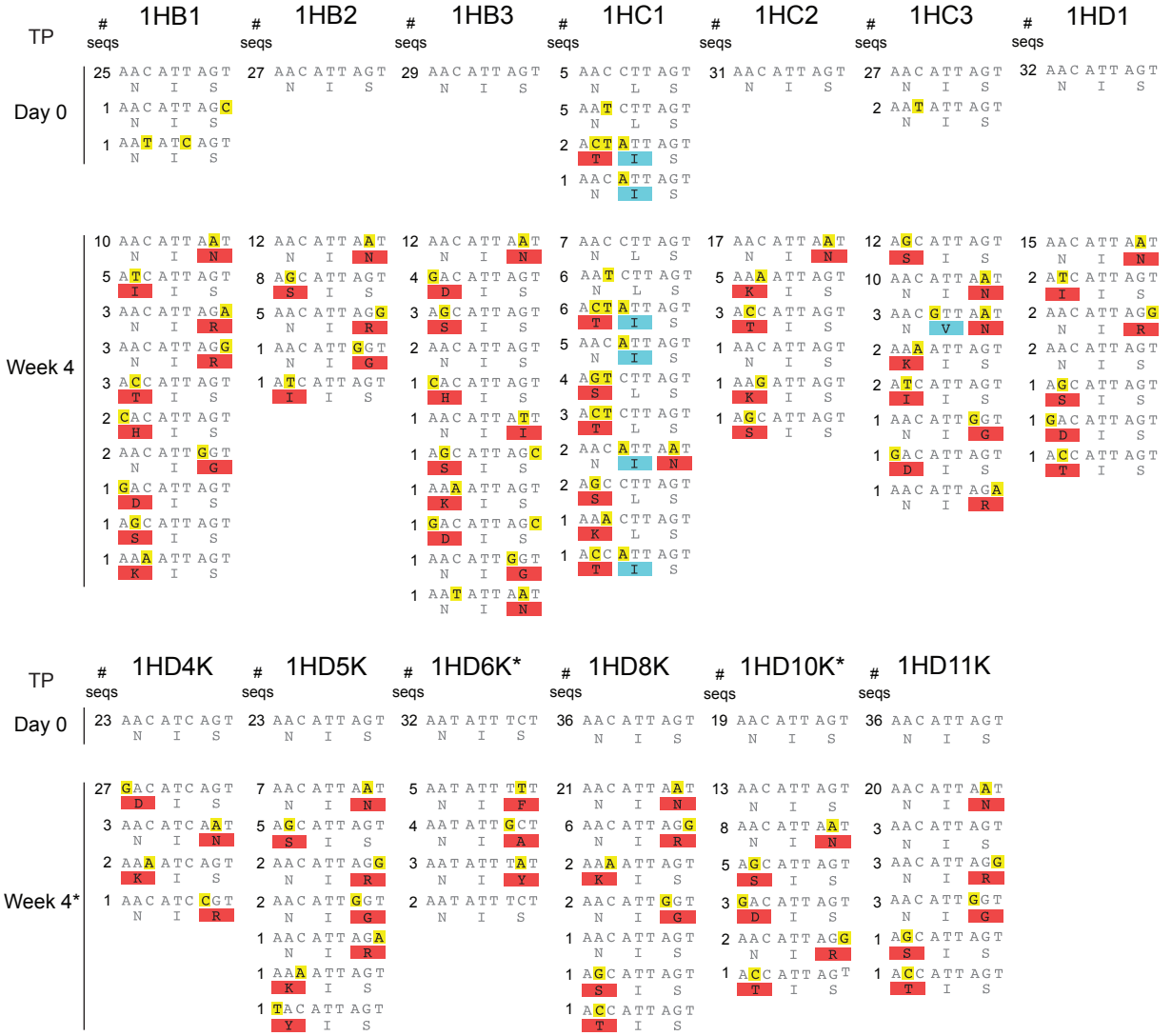
The significance of viral load changes after 10-1074 infusion was analyzed using simultaneous confidence bands. Each blue dot represents a viral load measurement of a responder that received the 30 mg/kg dose. Simultaneous confidence bands were computed with the R package locfit (version 1.5-9.1) using the Gaussian family for the local likelihood function. The solid line represents the regression fit and the dashed lines show the simultaneous confidence bands at 95% certainty level. The simultaneous confidence bands exclude zero from about 3 days after infusion to about 27 days after infusion, demonstrating that there is a significant effect on viral load reduction during that time period.



Supplementary Figure 6. *CD4+ and CD8+ T cell counts*

(**a-b**) Absolute counts (left panels) and relative frequencies (right panels) of CD4+ T cells (**a**) and CD8+ T cells (**b**) before, and 1 and 8 weeks after 10-1074 infusion. (**c**) CD4/CD8 ratio before, and 1 and 8 weeks after 10-1074 infusion. Mean is indicated by the red line and bars represent standard deviation. Differences between time points were tested by repeated measures one-way ANOVA. If significant, Dunnett's test was performed post hoc to compare week 1 and week 8 to baseline, respectively.

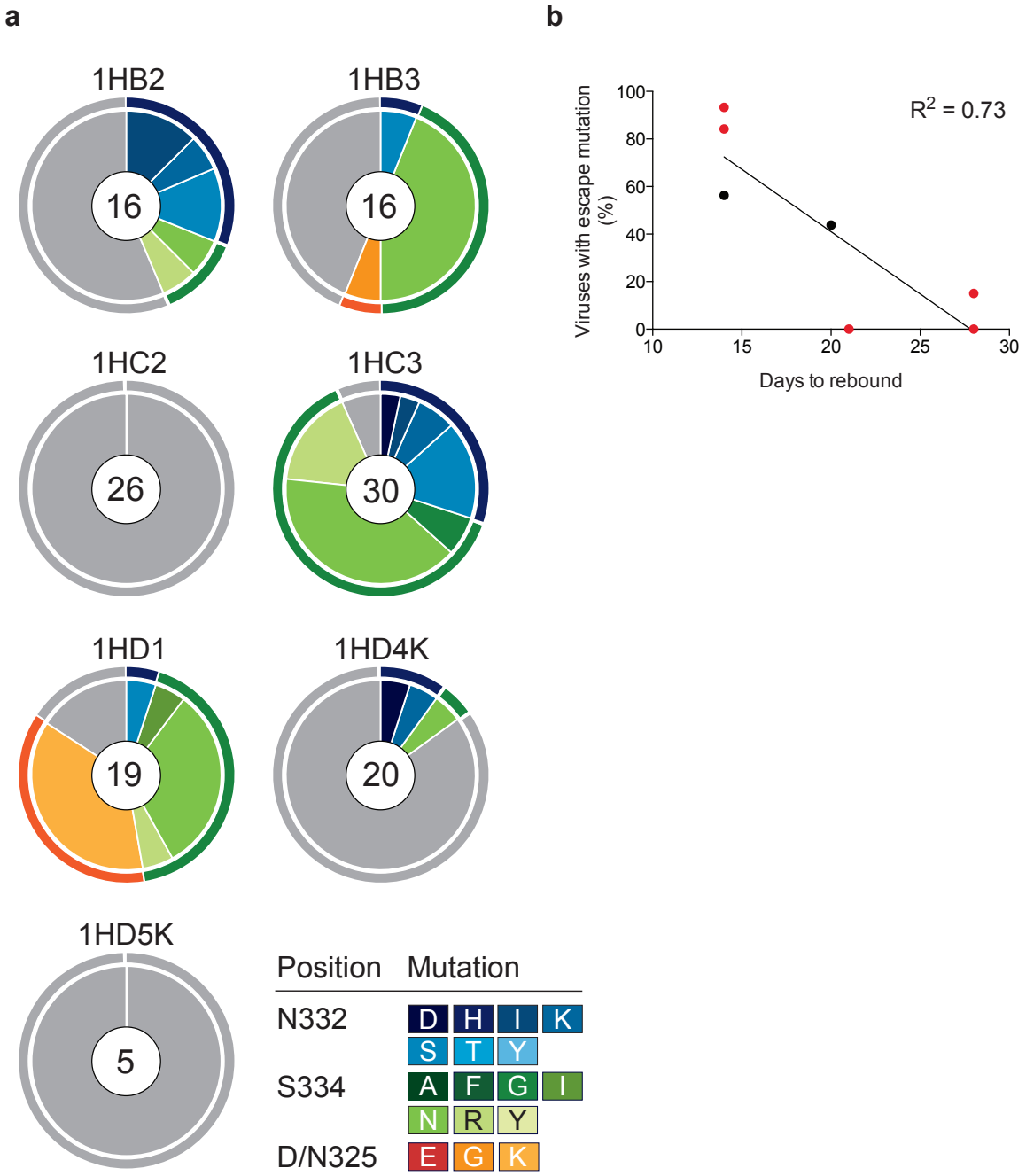
Sensitive subjects



Resistant subjects

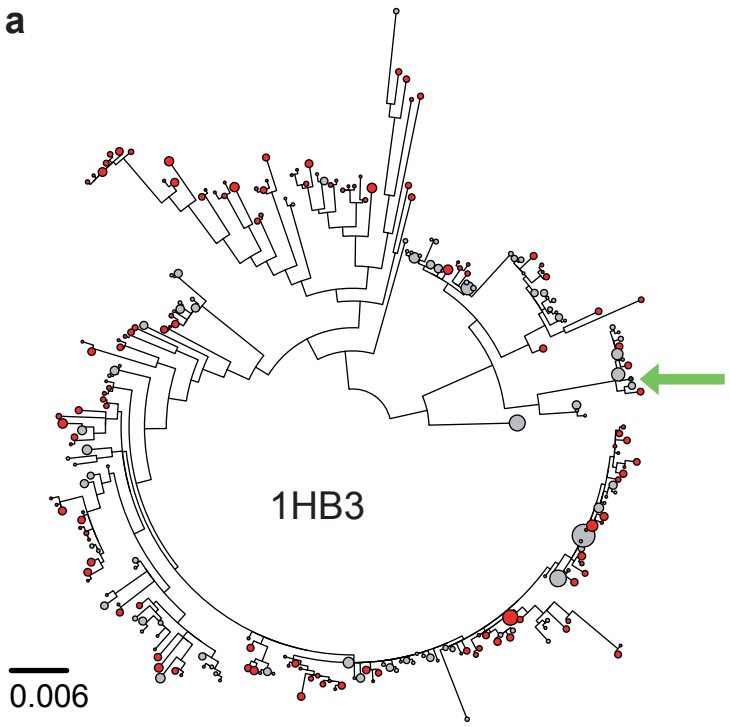
Supplementary Figure 7. *Nucleotide alignment of N332 glycan region in study participants*

Depicted are the different nucleotide motifs encoding the N332 glycan region (positions 332-334) in each subject at Day 0 (d0, **pre-infusion for 1HD2) and four weeks after infusion of 10-1074 (*wk4 and wk8 for 1HD6K, 1HD10K). To the left of each motif is the number of sequences matching a particular motif. Translation of the 9-nt span is shown below each nucleotide sequence. Yellow boxes highlight nucleotide changes away from the Day 0 majority variant. Red boxes highlight amino acid changes that disrupt the potential *N*-linked glycosylation site (PNGS) at position 332, while tourquoise boxes highlight non-synonymous changes that do not disrupt the PNGS. Subjects that harbored 10-1074-sensitive viruses on day 0 are shown on top, subjects that harbored resistant viruses at the bottom.



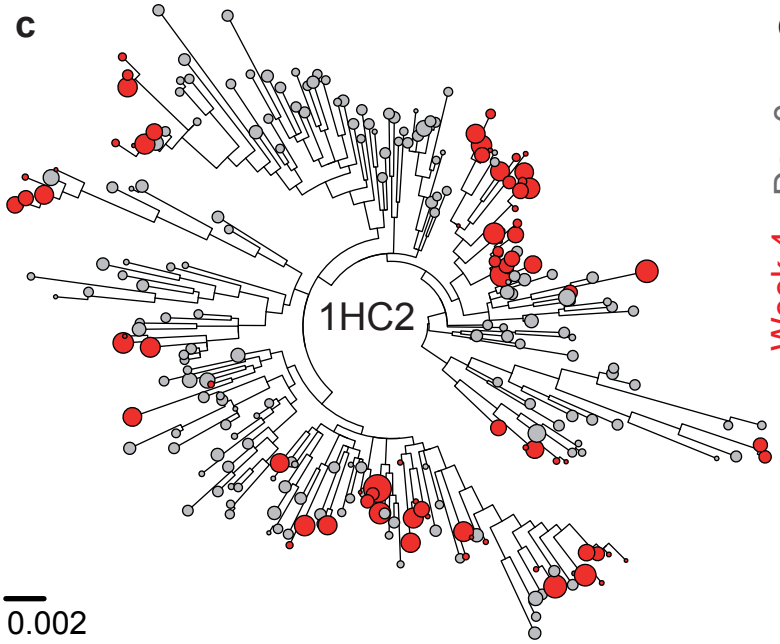
Supplementary Figure 8. *Relative frequency of 10-1074 escape mutations in plasma envelope sequences 1 week after infusion*

(**a**) Pie charts illustrate the relative abundance of particular amino acid mutations at envelope residues 325, 332, and 334 as analyzed by SGS. Type of escape mutation indicated by color code. (**b**) Correlation of time to viral rebound (x-axis) and the percentage of viruses mutated at 325, 332 or 334 (y-axis). Colors of dots indicate dose groups (10 mg/kg, black; 30 mg/kg, red).



b

	# seq	of total	325 332-334
Day 0	5828	54.90 %	GDIRQAHCNIS
	4752	44.76 %	GNIRQAHCNIS
	36	0.34 %	GNIRQAHCNIN
Week 4	3712	30.65 %	GDIRQAHCNIN
	2165	17.88 %	GNIRQAHCNIN
	788	6.51 %	GDIRQAHCSIS
	754	6.23 %	GNIRQAHCDIS
	564	4.66 %	GNIRQAHCSIS
	479	3.96 %	GNIRQAHCTIS
	445	3.67 %	GDIRQAHCTIS
	433	3.58 %	GNIRQAHCNIG
	392	3.24 %	GDIRQAHCNIR
	271	2.24 %	GGIRQAHCNIS
	263	2.17 %	GDIRQAHCKIS
	255	2.11 %	GDIRQAHCDIS
	249	2.06 %	GDIRQAHCIIS
	175	1.45 %	GDIRQAHCNKS
	143	1.18 %	GDIRQAHCNII
	134	1.11 %	GEIRQAHCNIS
	130	1.07 %	GDIRQAHCHIS
	128	1.06 %	GNIRQAHCKIS
	124	1.02 %	GKIRQAHCNIS
	123	1.02 %	GNIRQARCNIS
	117	0.97 %	GNIRQAHCNIR
	70	0.58 %	GNIRQAHCIIS
	67	0.55 %	GDIRQAHCNIS
	66	0.55 %	GKIRQAHCTIS
	62	0.51 %	GHIRQAHCNIS
	1	0.01 %	GDIRQAHCKIN



d

	# seq	of total	325 332-334
Day 0	5282	100.0 %	GDIRQAHCNIS
Week 4	4749	70.13 %	GNIRQAHCNIN
	959	14.16 %	GNIRQAHCSIS
	951	14.04 %	GNIRQAHCKIS
	99	1.46 %	GNIRRAHCSIS
	14	0.21 %	GNIRQAHCNIS

Supplementary Figure 9. *SMRT sequencing of subjects 1HB3 and 1HC2*

Maximum-likelihood phylogenetic trees of full-length plasma envelope single molecule real time sequencing of subjects 1HB3 (**a**) and 1HC2 (**c**) obtained on Day 0 and Week 4 after 10-1074 infusion. Branches show high-quality consensus reads (HQCSs) with their respective copy number visualized by the size of the circle. Tables in (**b**) and (**d**) summarize obtained number of filtered reads (# seq) for sequence variants in envelope region 324-334 and the relative frequency of each variant (of total) for the two subjects, respectively. Arrow in (**b**) highlights Day 0 minor variant carrying a ^{332}NIN^{334} mutation.

Supplementary Table 1. *Study participant demographics*

a Demographics of HIV-1-infected participants enrolled in groups 1A-1D

Study ID	10-1074 dose	Age (years)	Gender	Race	Years since HIV-1 diagnosis	HIV-1 clade	ART regimen at enrollment**	HIV-1-RNA at day 0*** (copies/ml)	CD4+ T cell count at day 0 (cells/µl)
1HA1	3 mg/kg	47	Male	Black	26	ND	RPV/TDF/FTC	<20D	750
1HA2	3 mg/kg	36	Male	Black/Hispanic	3	ND	EVG/cobi/TDF/FTC	<20D	745
1HA3	3 mg/kg	49	Female	White/Hispanic	20	ND	EFV/TDF/FTC	<20	484
1HB1	10 mg/kg	32	Male	Black	15	B	-	13,920	449
1HB2	10 mg/kg	26	Male	Black	3	B	-	6,380	520
1HB3	10 mg/kg	53	Female	Black	19	B	-	35,810	616
1HC1	30 mg/kg	53	Male	Black	21	B	-	1,460	289*
1HC2	30 mg/kg	25	Male	Black	1	B	-	77,610	607
1HC3	30 mg/kg	33	Male	Black	6	B	-	20,140	411
1HD1	30 mg/kg	25	Male	Black	2	B	-	41,770	520
1HD2	30 mg/kg	51	Female	White	16	B	-	840	447
1HD4K	30 mg/kg	46	Male	White	6	B	-	60,300	330
1HD5K	30 mg/kg	42	Male	White	3	B	-	7,570	630
1HD6K	30 mg/kg	38	Male	White	2	B	-	10,100	700
1HD7K	30 mg/kg	53	Male	White	7	B	-	9,250	860
1HD8K	30 mg/kg	45	Male	White	2	B	-	11,000	880
1HD9K	30 mg/kg	27	Male	White	4	B	-	6,960	810
1HD10K	30 mg/kg	44	Male	White	11	B	-	10,500	760
1HD11K	30 mg/kg	24	Male	White	2	B	-	63,400	460

* Absolute CD4+ T cell count was 342 cells/µl at screening.

** RPV - rilpivirine, TDF - tenofovir disoproxil, FTC - emtricitabine, EVG - elvitegravir, cobi - cobicistat, EFV - efavirenz.

*** <20D - HIV-1-RNA detected but below limit of quantification (20 copies/ml). <20 - No HIV-1 RNA detected.

ND: Not determined.

b Demographics of HIV-1-negative participants enrolled in groups 2A-2D

Study ID	10-1074 dose	Age (years)	Gender	Race
2HA1	3 mg/kg	41	Male	Black
2HA2	3 mg/kg	58	Male	Black
2HA3	3 mg/kg	43	Female	White
2HB1	10 mg/kg	60	Male	Unknown
2HB2	10 mg/kg	34	Male	White
2HB3	10 mg/kg	34	Male	Black
2HC1	30 mg/kg	49	Male	White
2HC2	30 mg/kg	58	Female	Black
2HC3	30 mg/kg	52	Male	White
2HD1	30 mg/kg	28	Female	Black
2HD2	30 mg/kg	25	Male	Multiple
2HD3	30 mg/kg	39	Male	Black
2HD4	30 mg/kg	57	Male	White/Hispanic
2HD5	30 mg/kg	27	Female	White

Supplementary Table 2. *Safety data**

Adverse Events	Reported AEs	% of AEs	% of participants	Possibly related	Mild	Moderate	Severe	Uninfected			HIV-1-infected		
								3 mg/kg (n=3)	10 mg/kg (n=3)	30 mg/kg (n=8)	3 mg/kg (n=3)	10 mg/kg (n=3)	30 mg/kg (n=13)
								no. of adverse events			*no. of adverse events*		
Upper respiratory infection	15	26.32	39.4	-	15	-	-	1	1	9	-	1	3
Headache	6	10.53	18.2	5	5	1	-	-	2	1	-	1	2
Skin infection (folliculitis, furunculosis, tinea corporis)	4	7.02	12.1	-	4	-	-	-	-	1	2	-	1
Surgical and medical procedures (mammoplasty, hysterectomy, tooth extraction)	3	5.26	6.1	-	1	1	1	-	-	-	2	-	1
Arthralgia	2	3.51	6.1	-	2	-	-	-	1	1	-	-	-
Dyspepsia	2	3.51	6.1	-	1	1	-	1	-	1	-	-	-
Gastroenteritis	2	3.51	6.1	-	1	1	-	-	-	-	-	-	2
Localized musculoskeletal pain	2	3.51	6.1	-	2	-	-	-	-	-	-	1	1
Rash	2	3.51	6.1	-	1	1	-	-	-	-	-	-	2
Vomiting / Nausea	2	3.51	6.1	-	2	-	-	1	-	-	-	-	1
Abdominal pain	1	1.75	3.0	1	1	-	-	-	-	-	-	1	-
Diplopia	1	1.75	3.0	-	1	-	-	-	-	-	1	-	-
Dizziness	1	1.75	3.0	1	1	-	-	-	-	-	1	-	-
Depressive episode	1	1.75	3.0	-	1	-	-	-	-	-	-	-	1
Dry eyes	1	1.75	3.0	1	1	-	-	-	-	-	-	1	-
Elevated total bilirubin	1	1.75	3.0	1	1	-	-	-	-	-	-	-	1
Epistaxis	1	1.75	3.0	-	1	-	-	-	-	1	-	-	-
Head injury due to fall	1	1.75	3.0	-	1	-	-	-	-	-	-	1	-
Herpes zoster	1	1.75	3.0	-	1	-	-	-	-	-	-	-	1
Increased blood pressure	1	1.75	3.0	-	-	1	-	-	-	-	1	-	-
Malaise/Fatigue	1	1.75	3.0	1	1	-	-	-	-	-	-	1	-
Menorrhagia	1	1.75	3.0	-	1	-	-	-	-	-	1	-	-
Pruritus	1	1.75	3.0	1	1	-	-	-	-	-	-	-	1
Soft tissue hematoma	1	1.75	3.0	-	1	-	-	-	-	-	-	-	1
Toothache	1	1.75	3.0	-	1	-	-	-	-	-	1	-	-
Traumatic ear injury	1	1.75	3.0	-	1	-	-	-	-	-	-	-	1
Urinary tract infection	1	1.75	3.0	-	1	-	-	-	-	1	-	-	-

* Adverse events reported during 24 weeks of follow-up after 10-1074 infusion by 14/14 HIV-1-negative and 16/19 HIV-1-infected individuals (1HA1-1HD8K), and during 12 (1HD11K) and 20 (1HD9K, 1HD10K) weeks of follow up by the remaining 3 HIV-1 infected individuals.

Supplementary Table 3. *Clinical parameters and 10-1074 serum activity*

a

3 mg/kg

1HA1	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	764	<20	-	-	-	-
Pre	-	<20D	-	-	-	-
Day 0 Base	750	<20D	-	<20	<0.34	<20
Day 0 End	-	-	-	3,419	44.4	<20
Day 1	-	<20D	-	2,433	31.6	<20
Day 2	-	<20	-	2,346	30.5	<20
Day 4	-	<20D	-	NA	NA	22
Day 7	773	30	-	1,494	19.4	<20
Day 14 (-1)	837	<20	-	510	6.6	<20
Day 21	-	<20	-	290	3.8	<20
Day 28	676	<20D	-	217	2.8	<20
Day 42	-	<20	-	97	1.3	<20
Day 56	708	<20D	-	60	0.8	<20
Day 84	-	<20D	-	26	0.3	<20
Day 112	802	<20	-	NA	NA	21
Day 140 (+1)	-	<20	-	NA	NA	25
Day 168	742	<20D	-	23	0.3	<20

1HA2	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	618	<20D	-	-	-	-
Pre	-	<20D	-	-	-	-
Day 0 Base	745	<20D	-	<20	<0.34	<20
Day 0 End	-	-	-	4,329	56.3	<20
Day 1	-	<20D	-	3,298	42.9	<20
Day 2	-	<20D	-	2,391	31.1	<20
Day 4	-	<20	-	1,632	21.2	<20
Day 7 (+1)	1,021	<20D	-	919	11.9	<20
Day 14 (+1)	865	<20	-	655	8.5	<20
Day 21 (+1)	-	<20D	-	370	4.8	<20
Day 28 (+1)	968	<20D	-	267	3.5	<20
Day 42 (+1)	-	<20	-	114	1.5	<20
Day 56 (+1)	848	<20D	-	73	0.9	<20
Day 84 (+1)	-	<20	-	39	0.5	<20
Day 112 (-6)	836	<20	-	24	0.3	<20
Day 140 (-6)	-	<20	-	<20	<0.26	<20
Day 168 (-1)	1,113	<20	-	<20	<0.26	<20

1HA3	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	702	<20	-	-	-	-
Pre	-	<20	-	-	-	-
Day 0 Base	484	<20	-	<20	<0.34	<20
Day 0 End	-	-	-	4,826	62.7	<20
Day 1	-	<20	-	4,475	58.2	<20
Day 2	-	<20D	-	2,039	26.5	<20
Day 4	-	<20D	-	1,451	18.9	<20
Day 7	551	<20	-	1,193	15.5	<20
Day 14	305	<20	-	484	6.3	<20
Day 21	-	<20D	-	652	8.5	<20
Day 28 (-3)	419	<20	-	314	4.1	<20
Day 42	-	<20	-	149	1.9	<20
Day 56	403	<20	-	123	1.6	<20
Day 84	-	<20	-	48	0.6	<20
Day 112	574	<20D	-	NA	NA	20
Day 140 (+8)	-	<20D	-	<20	<0.26	<20
Day 168 (+3)	595	20	-	<20	<0.26	<20

10 mg/kg

1HB1	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	451	29,180	-	-	-	-
Pre	-	21,160	-	-	-	-
Day 0 Base	449	13,920	-	<20	<0.26	<20
Day 0 End	-	-	-	7,786	167.4	<20
Day 1	-	12,790	0.0	5,827	125.3	<20
Day 2	-	9,450	-0.2	5,620	120.8	<20
Day 4	-	2,610	-0.7	2,964	63.7	<20
Day 7 (+2)	571	380	-1.6	2,108	45.3	<20
Day 14 (+1)	518	1,840	-0.9	866	18.6	<20
Day 21	-	7,540	-0.3	532	11.4	<20
Day 28	475	14,660	0.0	318	6.8	<20
Day 42 (+1)	-	18,980	0.1	129	2.8	<20
Day 56	474	19,190	0.1	85	1.8	<20
Day 84 (+2)	-	11,930	-0.1	<20	<0.43	<20
Day 112	475	13,000	0.0	<20	<0.43	<20
Day 140 (+3)	-	27,320	0.3	<20	<0.43	<20
Day 168 (+1)	501	16,600	0.1	<20	<0.43	<20

1HB2	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	572	8,930	-	-	-	-
Pre	-	7,310	-	-	-	-
Day 0 Base	520	6,380	-	<20	<0.26	<20
Day 0 End	-	-	-	12,586	270.6	<20
Day 1	-	5,780	0.0	8,300	178.5	<20
Day 2	-	6,320	0.0	6,499	139.7	<20
Day 4 (-1)	-	2,090	-0.5	4,894	105.2	<20
Day 7 (+2)	583	190	-1.5	2,217	47.7	<20
Day 14 (+1)	509	360	-1.2	2,067	44.4	<20
Day 21 (-1)	-	950	-0.8	792	17.0	<20
Day 28 (+1)	749	8,110	0.1	348	7.5	<20
Day 42 (+1)	-	3,050	-0.3	135	2.9	<20
Day 56 (+1)	458	70	-	143	1.9	<20
Day 84	-	50	-	-	-	<20
Day 112 (-1)	785	<20D	-	<20	<0.26	<20
Day 140 (+3)	-	<20	-	NA	NA	28
Day 168 (+7)	754	<20	-	NA	NA	21

1HB3	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	487	1,330	-	-	-	-
Pre	-	8,070	-	-	-	-
Day 0 Base	616	35,810	-	<20	<0.26	59
Day 0 End	-	-	-	2,794	60.1	<20
Day 1	-	30,780	-0.1	7,456	160.3	<20
Day 2	-	11,880	-0.5	6,050	130.1	<20
Day 4 (-1)	-	15,660	-0.4	4,756	102.3	<20
Day 7	553	2,990	-1.1	2,680	57.6	<20
Day 14	542	11,590	-0.5	1,655	35.6	<20
Day 21	-	28,150	-0.1	990	21.3	<20
Day 28	629	17,380	-0.3	523	11.2	<20
Day 42 (-1)	-	23,510	-0.2	248	5.3	<20
Day 56	513	36,580	0.0	155	3.3	<20
Day 84 (+2)	-	36,990	0.0	<20	<0.43	<20
Day 112 (+7)	500	37,640	0.0	<20	<0.43	ND
Day 140 (+9)	-	140	-	<20	<0.26	<20
Day 168	656	1,110	-	<20	<0.26	<20

30 mg/kg

1HC1	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	342	3,300	-	-	-	-
Pre	-	2,260	-	-	-	-
Day 0 Base	289	1,460	-	<20	<0.26	<20
Day 0 End	-	-	-	27,478	590.8	<20
Day 1	-	2,300	0.2	23,756	510.8	<20
Day 2	-	1,450	0.0	17,918	385.2	<20
Day 4	-	400	-0.6	10,528	226.4	<20
Day 7	338	140	-1.0	8,763	188.4	<20
Day 14	354	180	-0.9	5,450	117.2	<20
Day 21	-	390	-0.6	2,419	52.0	<20
Day 28	300	1,840	0.1	1,376	29.6	<20
Day 42	-	1,370	0.0	460	9.9	<20
Day 56	330	730	-0.3	215	4.6	<20
Day 84	-	1,850	0.1	47	1.0	<20
Day 112 (+2)	354	5,730	0.6	<20	<0.43	<20
Day 140 (-4)	-	3,080	0.3	<20	<0.43	<20
Day 168	289	1,460	0.0	<20	<0.43	<20

1HC2	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	517	45,320	-	-	-	-
Pre	-	18,490	-	-	-	-
Day 0 Base	607	77,610	-	<20	<0.26	<20
Day 0 End	-	-	-	49,761	1,069.9	<20
Day 1	-	43,400	-0.3	20,719	445.5	<20
Day 2	-	75,000	0.0	17,233	370.5	<20
Day 4 (-1)	-	29,990	-0.4	16,211	348.5	<20
Day 7	708	1,500	-1.7	13,913	299.1	<20
Day 14	683	2,000	-1.6	6,039	129.8	<20
Day 21	-	13,430	-0.8	3,619	77.8	<20
Day 28	583	49,840	-0.2	2,166	46.6	<20
Day 42	-	30,480	-0.4	1,166	25.1	<20
Day 56 (-4)	502	40	-	358	4.7	<20
Day 84	-	<20	-	55	0.7	<20
Day 112	662	<20D	-	<20	<0.26	<20
Day 140 (+3)	-	<20	-	<20	<0.26	<20
Day 168 (-1)	1,019	<20D	-	<20	<0.26	<20

1HC3	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	322	13,480	-	-	-	-
Pre	-	11,780	-	-	-	-
Day 0 Base	411	20,140	-	<20	<0.26	<20
Day 0 End	-	-	-	20,132	926.1	<20
Day 1	-	9,090	-0.3	20,339	935.6	<20
Day 2	-	6,000	-0.5	11,238	516.9	<20
Day 4	-	1,430	-1.1	8,947	411.6	<20
Day 7	432	520	-1.6	8,171	375.9	<20
Day 14	426	10,670	-0.3	2,751	126.5	<20
Day 21	-	11,190	-0.3	1,864	85.7	<20
Day 28	388	20,800	0.0	1,102	50.7	<20
Day 42	-	11,200	-0.3	379	17.4	<20
Day 56	364	17,590	-0.1	211	9.7	<20
Day 84 (-5)	-	13,480	-0.2	49	2.3	<20
Day 112 (+1)	478	<20	-	<20	<0.26	<20
Day 140 (+1)	-	<20	-	<20	<0.26	<20
Day 168	467	<20	-	<20	<0.26	<20

1HD1	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	510	64,130	-	-	-	-
Pre	-	37,350	-	-	-	-
Day 0 Base	520	41,770	-	<20	<0.26	<20
Day 0 End	-	-	-	57,033	1,226.2	<20
Day 1	-	34,950	-0.1	36,270	779.8	<20
Day 2	-	7,960	-0.7	34,333	738.2	<20
Day 4	-	3,170	-1.1	35,038	753.3	<20
Day 7	636	2,900	-1.2	18,120	389.6	<20
Day 14	492	60,640	0.2	7,316	157.3	<20
Day 21	-	58,960	0.1	3,374	72.5	<20
Day 28	504	26,710	-0.2	2,270	48.8	<20
Day 42 (-5)	-	53,300	0.1	995	21.4	<20
Day 56 (-7)	546	32,940	-0.1	517	11.1	<20
Day 84	-	15,640	-0.4	30	0.6	<20
Day 112	497	24,020	-0.2	<20	<0.43	<20
Day 140 (+3)	-	29,700	-0.1	<20	<0.43	<20
Day 168	448	72,450	0.2	<20	<0.43	<20

1HD2	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	455	830	-	-	-	-
Pre	-	2,940	-	-	-	-
Day 0 Base	447	840	-	<20	<0.26	<20
Day 0 End	-	-	-	103,523	2,225.7	<20
Day 1	-	1,270	0.2	62,389	1,341.4	<20
Day 2	-	610	-0.1	55,847	1,200.7	<20
Day 4 (+1)	-	360	-0.4	48,758	1,048.3	<20
Day 7	449	470	-0.3	16,829	361.8	<20
Day 14 (-3)	399	330	-0.4	11,323	243.4	<20
Day 21 (+4)	-	590	-0.2	1,965	42.2	<20
Day 28 (+5)	404	1,010	0.1	767	16.5	<20
Day 42 (-3)	-	660	-0.1	579	12.4	<20
Day 56 (+6)	479	350	-0.4	71	1.5	<20
Day 84 (-4)	-	270	-0.5	<20	<0.43	<20
Day 112 (-7)	352	150	-0.7	<20	<0.43	<20
Day 140 (-7)	-	370	-0.4	<20	<0.43	<20
Day 168(-7)	391	230	-0.6	<20	<0.43	<20

1HD4K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	380	26,000	-	-	-	-
Pre	-	53,300	-	-	-	-
Day 0 Base	330	60,300	-	<20	<0.26	-
Day 0 End	-	-	-	36,456	947.9	<20
Day 1	-	34,000	-0.2	30,175	784.6	<20
Day 2	-	34,000	-0.2	20,483	532.6	<20
Day 4 (-1)	-	18,400	-0.5	19,245	500.4	<20
Day 7	530	5,140	-1.1	16,631	432.4	<20
Day 14	420	8,670	-0.8	4,716	122.6	<20
Day 21	-	6,420	-1.0	3,404	88.5	<20
Day 28	400	60,000	0.0	2,141	55.7	<20
Day 42	-	44,500	-0.1	1,156	30.1	<20
Day 56	480	61,700	0.0	740	19.2	<20
Day 84	410	47,300	-0.1	157	3.6	<20
Day 112	590	210	-	126	1.8	<20
Day 140 (+7)	750	<20D	-	28	0.4	<20
Day 168 (+6)	630	<20D	-	<20	<0.3	<20

Supplementary Table 3. *Clinical parameters and 10-1074 serum activity - continued*

30 mg/kg

1HD5K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	540	97,700	-	-	-	-
Pre	-	9,720	-	-	-	-
Day 0 Base	630	7,570	-	<20	<0.26	-
Day 0 End	-	-	-	30,595	795.5	<20
Day 1	-	7,300	0.0	20,152	524.0	<20
Day 2	-	4,980	-0.2	16,813	437.1	<20
Day 4	-	1,400	-0.7	20,303	527.9	<20
Day 7	550	367	-1.3	12,165	316.3	<20
Day 14 (+1)	680	404	-1.3	7,971	207.2	<20
Day 21 (-3)	-	661	-1.1	4,779	124.3	<20
Day 28	630	2,960	-0.4	3,084	80.2	<20
Day 42	-	39,900	0.7	2,034	52.9	<20
Day 56	560	114,000	1.2	1,523	39.6	<20
Day 84	690	<20D	-	NA	NA	37
Day 112	680	<20	-	NA	NA	41
Day 140	600	<20	-	NA	NA	26
Day 168	600	<20	-	96	1.4	<20

1HD6K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	590	8,690	-	-	-	-
Pre	-	14,100	-	-	-	-
Day 0 Base	700	10,100	-	<20	<0.26	-
Day 0 End	-	-	-	45,073	1171.9	<20
Day 1	-	9,910	0.0	29,675	771.6	<20
Day 2	-	8,190	-0.1	21,180	550.7	<20
Day 4	-	1,310	-0.9	19,734	513.1	<20
Day 7 (+2)	840	119	-1.9	11,431	297.2	<20
Day 14 (+1)	620	131	-1.9	6,497	168.9	<20
Day 21 (+4)	-	87	-2.1	2,427	63.1	<20
Day 28 (+4)	890	314	-1.5	2,782	72.3	<20
Day 42	-	160	-1.8	952	24.8	<20
Day 56 (+2)	1,040	992	-1.0	249	6.5	<20
Day 84	-	10,100	0.0	36	0.6	<20
Day 112	1,100	5,900	-0.2	<20	<0.36	<20
Day 140 (+9)	-	11,600	0.1	<20	<0.36	<20
Day 168	660	3,240	-0.5	<20	<0.54	<20

1HD7K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	830	5,950	-	-	-	-
Pre	-	5,350	-	-	-	-
Day 0 Base	860	9,250	-	<20	<0.26	-
Day 0 End	-	-	-	24,017	624.4	<20
Day 1	-	9,330	0.0	28,574	742.9	<20
Day 2	-	8,430	0.0	16,122	419.2	<20
Day 4 (-1)	-	5,820	-0.2	10,544	274.1	<20
Day 7	990	1,170	-0.9	9,166	238.3	<20
Day 14	880	1,250	-0.9	2,553	66.4	<20
Day 21	-	1,820	-0.7	1,230	32.0	<20
Day 28	960	5,990	-0.2	748	19.4	<20
Day 42	-	7,000	-0.1	282	7.3	<20
Day 56	750	6,140	-0.2	85	2.2	<20
Day 84	-	9,880	0.0	<20	<0.36	<20
Day 112	840	11,100	0.1	<20	<0.36	<20
Day 140	-	10,900	0.1	<20	<0.36	<20
Day 168 (+1)	910	10,600	0.1	<20	<0.54	<20

1HD8K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	780	9,600	-	-	-	-
Pre	-	10,800	-	-	-	-
Day 0 Base	880	11,000	-	<20	<0.26	-
Day 0 End	-	-	-	34,336	892.7	<20
Day 1	-	6,690	-0.2	30,519	793.5	<20
Day 2	-	7,350	-0.2	24,208	629.4	<20
Day 4	-	1,370	-0.9	16,044	417.1	<20
Day 7	1,030	173	-1.8	9,340	242.8	<20
Day 14 (-3)	760	103	-2.0	7,825	203.5	<20
Day 21 (+4)	-	817	-1.1	5,950	154.7	<20
Day 28	830	1,000	-1.0	3,976	103.4	<20
Day 42	-	7,710	-0.2	1,933	50.3	<20
Day 56	910	<20	-	2,576	36.1	<20
Day 84 (+7)	930	<20	-	NA	NA	92
Day 112	-	<20	-	444	6.2	<20
Day 140 (-5)	-	<20	-	296	4.1	<20
Day 168	900	<20	-	95	1.4	<20

1HD9K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	830	763	-	-	-	-
Pre	-	5,770	-	-	-	-
Day 0 Base	810	6,960	-	<20	<0.64	<20
Day 0 End	-	-	-	17,890	1395.4	<20
Day 1	-	6,510	0.0	10,705	835.0	<20
Day 2	-	6,770	0.0	8,450	659.1	<20
Day 4	-	5,830	-0.1	6,183	482.3	<20
Day 7	660	8,120	0.1	4,514	352.1	<20
Day 14	560	8,310	0.1	2,432	189.7	<20
Day 21	-	21,400	0.5	2,326	181.4	<20
Day 28	640	18,600	0.4	774	60.4	<20
Day 42	-	12,800	0.3	404	31.5	<20
Day 56 (+4)	730	16,800	0.4	138	10.8	<20
Day 84 (-2)	-	9,910	0.2	48	0.9	<20
Day 112 (-7)	660	3,840	-0.3	<20	<0.54	<20
Day 140 (-3)	-	18,700	0.4	<20	<0.54	<20
Day 168	-	-	-	-	-	-

1HD10K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	630	7,100	-	-	-	-
Pre	-	7,390	-	-	-	-
Day 0 Base	760	10,500	-	<20	<0.64	<20
Day 0 End	-	-	-	18,618	1452.2	<20
Day 1	-	12,100	0.1	8,339	650.4	<20
Day 2	-	8,680	-0.1	9,085	708.6	<20
Day 4	-	1,030	-1.0	4,719	368.1	<20
Day 7	650	496	-1.3	5,725	446.6	<20
Day 14	750	205	-1.7	1,718	134.0	<20
Day 21	-	124	-1.9	880	68.6	<20
Day 28	800	503	-1.3	670	52.3	<20
Day 42	-	1,330	-0.9	300	23.4	<20
Day 56	750	2,670	-0.6	105	8.2	<20
Day 84	-	12,900	0.1	21	0.4	<20
Day 112	710	2,440	-0.6	<20	<0.54	<20
Day 140	-	34,600	0.5	<20	<0.54	<20
Day 168	-	-	-	-	-	-

1HD11K	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
Timepoint	**cells/µl**	**cp/ml**	**Δlog_{10}**	**ID50**	**µg/ml**	**ID50**
Screen	580	88,500	-	-	-	-
Pre	-	99,800	-	-	-	-
Day 0 Base	460	63,400	-	<20	<0.80	<20
Day 0 End	-	-	-	26,198	471.6	<20
Day 1	-	14,500	-0.6	30,170	543.1	<20
Day 2	-	22,400	-0.5	25,584	460.5	<20
Day 4 (-1)	-	6,170	-1.0	22,916	412.5	<20
Day 7	500	757	-1.9	9,839	177.1	<20
Day 14	470	10,700	-0.8	4,804	86.5	<20
Day 21	-	79,300	0.1	3,530	63.5	<20
Day 28	470	50,500	-0.1	2,359	42.5	<20
Day 42	-	83,400	0.1	1,057	28.5	<20
Day 56	440	97,000	0.2	354	9.6	<20
Day 84	-	224,000	0.5	-	-	-
Day 112	-	-	-	-	-	-
Day 140	-	-	-	-	-	-
Day 168	-	-	-	-	-	-

<20D: HIV-1 RNA detected below limit of quantification (20 copies/ml).
NA: Not assessed because of unspecific serum activity against MuLV-pseudotyped virus.
Grey shading: Subject on antiretroviral therapy.
Blue shading: Use of ART-resistant pseudovirus backbone.

Supplementary Table 3. *Clinical parameters and 10-1074 serum activity - continued*

b

3 mg/kg

2HA1	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.16	<20
Day 0 End	1,112	64.5	<20
Day 1	915	53.1	<20
Day 2	615	35.7	<20
Day 4 (+2)	567	32.9	<20
Day 7	595	34.5	<20
Day 14	259	20.6	<20
Day 21	200	15.9	<20
Day 28	173	13.8	<20
Day 42	112	8.9	<20
Day 56	104	8.3	<20
Day 84	46	3.7	<20
Day 112 (+7)	21	1.7	<20
Day 140 (+2)	22	1.7	<20
Day 168	<20	<1.59	<20

2HA2	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	1,637	130.1	<20
Day 1	982	78.1	<20
Day 2	877	69.7	<20
Day 4	678	53.9	<20
Day 7	447	35.5	<20
Day 14	367	29.2	<20
Day 21	244	19.4	<20
Day 28	168	13.4	<20
Day 42	86	6.8	<20
Day 56	68	5.4	<20
Day 84 (+2)	<20	<1.59	<20
Day 112 (+2)	<20	<1.59	<20
Day 140	<20	<1.59	<20
Day 168	<20	<1.59	<20

2HA3	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	1,005	79.9	<20
Day 1	1,013	80.5	<20
Day 2	734	58.4	<20
Day 4 (+1)	395	31.4	<20
Day 7	355	28.2	<20
Day 14	289	23.0	<20
Day 21	264	21.0	<20
Day 28 (+1)	154	12.2	<20
Day 42	121	9.6	<20
Day 56	97	7.7	<20
Day 84 (-1)	25	2.0	<20
Day 112 (+1)	<20	<1.59	<20
Day 140 (-5)	<20	<1.59	<20
Day 168 (+5)	<20	<1.59	<20

10 mg/kg

2HB1	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.16	<20
Day 0 End	6,178	358.3	<20
Day 1	4,168	241.7	<20
Day 2	2,405	139.5	<20
Day 4	1,849	107.2	<20
Day 7	1,449	84.0	<20
Day 14	1,306	103.8	<20
Day 21	755	60.0	<20
Day 28	508	40.4	<20
Day 42	335	26.6	<20
Day 56 (+3)	168	13.4	<20
Day 84 (+3)	109	8.7	<20
Day 112	24	1.9	<20
Day 140 (-3)	21	1.7	<20
Day 168 (+1)	<20	<1.59	<20

2HB2	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	5,092	404.8	<20
Day 1	2,405	191.2	<20
Day 2	2,218	176.3	<20
Day 4 (-1)	1,966	156.3	<20
Day 7	1,665	132.4	<20
Day 14	1,555	123.6	<20
Day 21	850	67.6	<20
Day 28	550	43.7	<20
Day 42 (+1)	468	37.2	<20
Day 56 (+3)	306	24.3	<20
Day 84 (+3)	149	11.8	<20
Day 112 (+3)	98	7.8	<20
Day 140	79	6.3	<20
Day 168	48	3.8	<20

2HB3	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	4,163	331.0	<20
Day 1	2,965	235.7	<20
Day 2	2,594	206.2	<20
Day 4 (-1)	2,025	161.0	<20
Day 7	1,224	97.3	<20
Day 14	859	68.3	<20
Day 21	637	50.6	<20
Day 28	607	48.3	<20
Day 42 (-1)	283	22.5	<20
Day 56 (+1)	178	14.2	<20
Day 84 (-1)	103	8.2	<20
Day 112	46	3.7	<20
Day 140 (-7)	23	1.8	<20
Day 168	<20	<1.59	<20

30 mg/kg

2HC1	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.16	<20
Day 0 End	24,299	1,409.3	<20
Day 1	13,753	797.7	<20
Day 2 (+1)	13,021	755.2	<20
Day 4	6,905	400.5	<20
Day 7 (+1)	6,083	352.8	<20
Day 14	4,575	363.7	<20
Day 21	2,825	224.6	<20
Day 28 (+6)	1,271	101.0	<20
Day 42 (+2)	786	62.5	<20
Day 56 (+2)	407	32.4	<20
Day 84 (+2)	130	10.3	<20
Day 112	54	4.3	<20
Day 140	21	1.7	<20
Day 168	<20	<1.59	<20

2HC2	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	22,159	1,761.6	<20
Day 1	13,342	1,060.7	<20
Day 2	11,342	901.7	<20
Day 4	9,697	770.9	<20
Day 7	6,467	514.1	<20
Day 14	3,521	279.9	<20
Day 21	2,715	215.8	<20
Day 28 (+2)	2,390	190.0	<20
Day 42 (+1)	2,907	231.1	<20
Day 56 (+9)	976	77.6	<20
Day 84 (+2)	512	40.7	<20
Day 112 (+4)	221	17.6	<20
Day 140 (+4)	155	12.3	<20
Day 168 (+8)	72	5.7	<20

2HC3	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	25,035	1,990.3	<20
Day 1	17,749	1,411.0	<20
Day 2	15,288	1,215.4	<20
Day 4	14,159	1,125.6	<20
Day 7	4,524	359.7	<20
Day 14	3,120	248.0	<20
Day 21	1,974	156.9	<20
Day 28 (+2)	1,224	97.3	<20
Day 42 (-4)	1,462	116.2	<20
Day 56 (+1)	439	34.9	<20
Day 84 (+2)	185	14.7	<20
Day 112 (+2)	65	5.2	<20
Day 140 (-3)	46	3.7	<20
Day 168 (+1)	<20	<1.59	<20

2HD1	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.16	<20
Day 0 End	22,728	1,318.2	<20
Day 1	12,917	749.2	<20
Day 2	8,687	503.8	<20
Day 4	9,290	538.8	<20
Day 7	6,807	394.8	<20
Day 14 (+1)	5,048	401.3	<20
Day 21	1,929	153.4	<20
Day 28 (+1)	1,362	108.3	<20
Day 42 (+4)	827	65.7	<20
Day 56	442	35.1	<20
Day 84 (+3)	333	26.5	<20
Day 112 (+1)	112	8.9	<20
Day 140 (+1)	56	4.5	<20
Day 168 (+4)	<20	<1.26	<20

2HD2	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	19,872	1,579.8	<20
Day 1	23,001	1,828.6	<20
Day 2	8,687	690.6	<20
Day 4	7,289	579.5	<20
Day 7 (+1)	5,773	459.0	<20
Day 14	4,116	327.2	<20
Day 21 (+1)	3,205	254.8	<20
Day 28	1,589	126.3	<20
Day 42	990	78.7	<20
Day 56	743	59.1	<20
Day 84	259	20.6	<20
Day 112	141	11.2	<20
Day 140 (-4)	68	5.4	<20
Day 168	47	4.8	<20

2HD3	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	17,652	1,403.3	<20
Day 1	12,852	1,021.7	<20
Day 2	13,275	1,055.4	<20
Day 4	4,244	337.4	<20
Day 7	4,176	332.0	<20
Day 14	2,488	197.8	<20
Day 21 (+1)	1,399	111.2	<20
Day 28 (+1)	1,232	97.9	<20
Day 42 (+3)	377	30.0	<20
Day 56	249	19.8	<20
Day 84 (+1)	72	5.7	<20
Day 112 (+1)	<20	<1.59	<20
Day 140 (+3)	<20	<1.59	<20
Day 168 (+3)	<20	<2.06	<20

2HD4	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	-
Day 0 End	12,156	966.4	<20
Day 1	8,507	676.3	<20
Day 2	7,543	599.7	<20
Day 4 (-1)	9,117	724.8	<20
Day 7 (+1)	4,567	363.1	<20
Day 14 (+1)	2,235	177.7	<20
Day 21 (+1)	1,787	142.1	<20
Day 28 (+1)	1,226	97.5	<20
Day 42 (+1)	1,016	80.8	<20
Day 56 (+14)	341	27.1	<20
Day 84 (+1)	227	18.0	<20
Day 112 (+2)	135	10.7	<20
Day 140	73	5.8	<20
Day 168 (+1)	56	5.8	<20

2HD5	Active 10-1074 in serum (Du422.1)		Control (MuLV)
Timepoint	**ID50**	**µg/ml**	**ID50**
Screen	-	-	-
Pre	-	-	-
Day 0 Base	<20	<1.59	<20
Day 0 End	8,290	659.1	<20
Day 1	5,498	437.1	<20
Day 2	5,823	462.9	<20
Day 4	4,385	348.6	<20
Day 7	3,040	241.7	<20
Day 14	1,916	152.3	<20
Day 21 (+1)	1,597	127.0	<20
Day 28 (+1)	1,319	104.9	<20
Day 42 (+1)	835	66.4	<20
Day 56 (+2)	464	36.9	<20
Day 84	279	22.2	<20
Day 112 (+2)	128	10.2	<20
Day 140 (+4)	87	6.9	<20
Day 168 (+14)	-	-	-

Supplementary Table 4a. *Pharmacokinetics of 10-1074*

ID	HIV-1	10-1074 dose	Method (strain)	C_{max} (µg/ml)	Adjusted R^2	Estimated $t_{1/2}$ (days)	Lambda (lower, days)	Lambda (upper, days)	AUC (INF_pred)	T_{last} (days)	C_{last} (µg/ml)	AUC_% Extrap_pred
2HA1	Negative	3 mg/kg	TZM.bl (Du422.1)	64.5	0.96	34.0	14	142	1,338.0	142	1.75	4.8
2HA2	Negative	3 mg/kg	TZM.bl (Du422.1)	130.1	0.97	16.8	7	56	1,281.1	56	5.41	8.7
2HA3	Negative	3 mg/kg	TZM.bl (Du422.1)	80.5	0.97	20.8	5	83	1,270.0	83	1.99	5.6
1HA1	Positive	3 mg/kg	TZM.bl (3103.v3.c10)	44.4	0.99	17.2	21	84	418.8	168	0.30	0.1
1HA2	Positive	3 mg/kg	TZM.bl (3103.v3.c10)	56.3	0.92	19.7	15	106	436.2	106	0.30	1.5
1HA3	Positive	3 mg/kg	TZM.bl (3103.v3.c10)	62.7	0.92	19.1	14	84	471.1	84	0.60	3.3
2HB1	Negative	10 mg/kg	TZM.bl (Du422.1)	358.3	0.97	21.0	7	137	3,924.7	137	1.67	1.0
2HB2	Negative	10 mg/kg	TZM.bl (Du422.1)	404.8	0.97	36.8	21	168	5,543.0	168	3.82	3.2
2HB3	Negative	10 mg/kg	TZM.bl (Du422.1)	331.0	0.99	22.8	7	133	3,862.5	133	1.83	1.5
1HB1	Positive	10 mg/kg	TZM.bl (3103.v3.c10)	167.4	0.97	12.1	15	56	1,193.1	56	1.80	2.3
1HB2	Positive	10 mg/kg	TZM.bl (3103.v3.c10)	270.6	0.93	9.5	9	57	1,619.0	57	1.90	1.2
1HB3	Positive	10 mg/kg	TZM.bl (3103.v3.c10)	160.3	0.96	11.5	7	56	1,535.7	56	3.30	2.8
2HC1	Negative	30 mg/kg	TZM.bl (Du422.1)	1,409.3	0.99	16.4	8	140	13,400.1	140	1.67	0.2
2HC2	Negative	30 mg/kg	TZM.bl (Du422.1)	1,761.6	0.97	27.8	14	176	21,427.5	176	5.72	1.0
2HC3	Negative	30 mg/kg	TZM.bl (Du422.1)	1,990.3	0.98	19.3	7	137	15,646.8	137	3.66	0.5
2HD1	Negative	30 mg/kg	TZM.bl (Du422.1)	1,318.2	0.97	24.3	21	141	13,689.5	141	4.45	1.1
2HD2	Negative	30 mg/kg	TZM.bl (Du422.1)	1,828.6	0.96	27.8	28	168	16,480.4	168	4.84	0.8
2HD3	Negative	30 mg/kg	TZM.bl (Du422.1)	1,403.3	0.98	13.8	14	85	10,173.9	85	5.72	1.0
2HD4	Negative	30 mg/kg	TZM.bl (Du422.1)	966.4	0.97	26.5	29	140	12,585.5	169	5.80	0.7
2HD5	Negative	30 mg/kg	TZM.bl (Du422.1)	659.1	0.98	27.9	14	144	9,679.9	144	6.92	2.3
1HC1	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	590.8	0.99	11.2	21	84	4,618.8	84	1.00	0.3
1HC2	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	1,069.9	0.98	8.9	7	84	6,201.0	84	0.70	0.1
1HC3	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	935.6	0.99	11.2	14	79	7,526.8	79	2.30	0.5
1HD1	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	1,226.2	1.00	8.9	14	84	8,785.8	84	0.60	0.1
1HD2	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	2,225.7	0.99	6.9	7	62	11,457.5	62	1.50	0.1
1HD4K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	947.9	0.99	16.1	14	147	8,431.3	147	0.40	0.1
1HD5K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	795.5	0.97	21.8	7	168	10,866.9	168	1.40	0.4
1HD6K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	1,171.9	0.99	8.6	9	84	8,543.5	84	0.60	0.1
1HD7K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	742.9	1.00	8.8	14	56	4,462.4	56	2.20	0.6
1HD8K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	892.7	0.99	21.8	7	168	10,441.9	168	1.40	0.4
1HD9K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	1,395.4	0.97	9.1	7	82	9,414.1	82	0.90	0.2
1HD10K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	1,452.2	0.97	8.7	14	84	8,031.9	84	0.40	0.1
1HD11K	Positive	30 mg/kg	TZM.bl (3103.v3.c10)	543.1	0.96	12.8	7	56	5,366.5	56	9.60	3.6

Supplementary Table 4b. *Pharmacokinetics of 10-1074 by study group*

10-1074 dose	HIV-1	# of subjects	C_{max} (µg/ml)			$t_{1/2}$ (days)		
			Mean	SD	Range	**Mean**	SD	Range
3 mg/kg	Negative	3	**91.7**	34.2	64.5 - 130.1	**23.9**	9.0	16.8 - 34.0
3 mg/kg	Positive	3	**54.5**	9.3	44.4 - 62.7	**18.7**	1.3	17.2 - 19.7
10 mg/kg	Negative	3	**364.7**	37.3	331 - 404.8	**26.9**	8.6	21.0 - 36.8
10 mg/kg	Positive	3	**199.4**	61.7	160.3 - 270.6	**11.0**	1.4	9.5 - 12.1
30 mg/kg	Negative	8	**1,417**	447.9	659.1 - 1,990	**23.0**	5.7	13.8 - 27.9
30 mg/kg	Positive	13	**1,076**	445.0	543.1 - 2,226	**11.9**	5.0	6.9 - 21.8
All	Negative	14				**24.0**	6.6	13.8 - 36.8
All	Positive	19				**12.8**	4.9	6.9 - 21.8

Supplementary Table 5. *Single Genome Sequence analysis (positions 325 and 332-334)**

1HB1

d0			wk 1			wk 4			wk 24		
# (27)	site	mt	# (nd)	site	mt	# (31)	site	mt	# (31)	site	mt
27	DNIS	wt				10	S334	N	18	S334	N
						6	S334	R	7	S334	R
						5	N332	I	4	N332	S
						3	N332	T	1	N332	del
						2	N332	H	1	S334	D
						2	S334	G			
						1	N332	D			
						1	N332	K			
						1	N332	S			

1HB2

d0			wk 1			wk 4			wk 24		
# (27)	site	mt	# (16)	site	mt	# (27)	site	mt	# (nd)	site	mt
27	DNIS	wt	9	DNIS	wt	12	S334	N			
			2	N332	S	8	N332	S			
			2	N332	I	5	S334	R			
			1	N332	K	1	S334	G			
			1	S334	N	1	N332	I			
			1	S334	R						

1HB3

d0			wk 1			wk 2 / wk 4			wk 16		
# (29)	site	mt	# (16)	site	mt	# (19/28)	site	mt	# (22)	site	mt
15	NNIS	wt	7	S334	N	6 / 13	S334	N	5	S334	N
14	DNIS	wt	6	NNIS	wt	2 / 5	N332	D	4	N332	I
			1	DNIS	wt	4 / 4	N332	S	3	N332	T
			1	D/N325	G	0 / 1	N332	H	2	DNIS	wt
			1	N332	S	1 / 1	N332	K	2	D/N325	K
						2 / 1	S334	G	2	S334	R
						0 / 1	S334	I	2	N332	S
						1 / 1	D/N325	G	1	N332	K
						0 / 1	D/N325	K	1	NNIS	wt
						2 / 0	D/N325	E			
						1 / 0	N332	T			

1HC1

d0 and d-34			wk 1			wk 4			wk 24		
# (19)	site	mt	# (nd)	site	mt	# (37)	site	mt	# (28)	site	mt
14	DNLS	wt				12	DNLS	wt	17	DNLS	wt
3	DNIS	wt				10	N332	T	6	DNIS	wt
2	N332	T				6	N332	S	5	N332	T
						5	DNIS	wt			
						2	S334	N			
						1	N332	K			
						1	D/N325	E			

1HC2

d0			wk 1			wk 4			wk 24		
# (31)	site	mt	# (26)	site	mt	# (28)	site	mt	# (nd)	site	mt
31	DNIS	wt	26	DNIS	wt	17	S334	N			
						6	N332	K			
						3	N332	T			
						1	N332	S			
						1	D/N325	E			

1HC3

d0			wk 1			wk 4			wk 24		
# (29)	site	mt	# (30)	site	mt	# (32)	site	mt	# (nd)	site	mt
29	DNIS	wt	12	S334	N	13	S334	N			
			5	S334	R	12	N332	S			
			5	N332	S	2	N332	I			
			2	N332	K	2	N332	K			
			2	S334	G	1	N332	D			
			2	DNIS	wt	1	S334	G			
			1	N332	I	1	S334	R			
			1	N332	D						

1HD1

d0			wk 1			wk 4			wk 24		
# (32)	site	mt	# (19)	site	mt	# (24)	site	mt	# (30)	site	mt
32	NNIS	wt	7	D/N325	K	15	S334	N	17	NNIS	wt
			6	S334	N	2	D/N325	K	12	D/N325	K
			3	NNIS	wt	2	N332	I	1	S334	N
			1	S334	I	2	S334	R			
			1	S334	R	1	N332	D			
			1	N332	S	1	N332	S			
						1	N332	T			

1HD2

d0			wk 1			wk 4			wk 24		
# (14)	site	mt	# (nd)	site	mt	# (nd)	site	mt	# (nd)	site	mt
14	N332	T									

1HD4K

d0			wk 1			wk 4			wk 24		
# (23)	site	mt	# (20)	site	mt	# (33)	site	mt	# (nd)	site	mt
23	DNIS	wt	17	DNIS	wt	27	N332	D			
			1	N332	D	3	S334	N			
			1	N332	K	2	N332	K			
			1	S334	N	1	S334	R			

1HD5K

d0			wk 1			wk 4			wk 24		
# (23)	site	mt	# (5)	site	mt	# (19)	site	mt	# (nd)	site	mt
23	DNIS	wt	5	DNIS	wt	7	S334	N			
						5	N332	S			
						3	S334	R			
						2	S334	G			
						1	N332	K			
						1	N332	Y			

1HD6K

d0			wk 1			wk 4 / wk 8			wk 12 / wk 20		
# (32)	site	mt	# (nd)	site	mt	# (4/10)	site	mt	# (24/25)	site	mt
32	DNIS	wt				3 / 1	S334	A	20 / 25	DNIS	wt
						1 / 1	DNIS	wt	1 / 0	S334	Y
						0 / 5	S334	F	1 / 0	S334	F
						0 / 3	S334	Y	1 / 0	N332	K
									1 / 0	D/N325	E

1HD8K

d0			wk 1			wk 4			wk 24		
# (36)	site	mt	# (nd)	site	mt	# (34)	site	mt	# (nd)	site	mt
24	DNIS	wt				21	S334	N			
12	NNIS	wt				6	S334	R			
						2	N332	K			
						2	S334	G			
						1	N332	S			
						1	D/N325	K			
						1	N332	T			

1HD9K

d0			wk 1			wk 4			wk 24		
# (30)	site	mt	# (nd)	site	mt	# (nd)	site	mt	# (nd)	site	mt
30	D/N325	E									

1HD10K

d0			wk 1			wk 4 / wk 8			wk 12		
# (19)	site	mt	# (nd)	site	mt	# (12/20)	site	mt	# (23)	site	mt
19	DNIS	wt				5 / 3	S334	N	19	DNIS	wt
						4 / 8	DNIS	wt	2	N332	T
						1 / 0	N332	T	2	D/N325	E
						1 / 1	S334	R			
						1 / 2	N332	D			
						0 / 5	N332	S			
						0 / 1	D/N325	E			

1HD11K

d0			wk 1			wk 4			wk 24		
# (36)	site	mt	# (nd)	site	mt	# (31)	site	mt	# (nd)	site	mt
36	DNIS	wt				20	S334	N			
						3	S334	G			
						3	D/N325	E			
						3	S334	R			
						1	N332	S			
						1	N332	T			

*Sequences containing premature stopcodons or large internal deletions that would compromise Env functionality were excluded from this and all other downstream analyses.

Supplementary Table 6. *Pseudovirus neutralization data of subjects' plasma envelopes*

Responders

	#*	SGS Sequence ID	TP	10-1074		PGT121		3BNC117		VRC01		PGDM1400	
				IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}
1HB1	1	1HB1-D0-012016-B4_S3	Day0	0.005	0.024	0.012	0.054	0.166	0.544	0.440	2.270	>50	>50
	2	1HB1-D0-012016-C7_S6	Day0	0.002	0.015	0.038	0.326	0.034	0.171	0.086	0.449	>50	>50
	3	1HB1-D0-012016-F10_S11	Day0	0.008	0.037	0.981	8.898	0.030	0.132	0.095	0.446	>50	>50
	4	1HB1-D0-012216-B2_S21	Day0	0.008	0.033	0.040	0.219	0.020	0.055	0.083	0.303	>50	>50
	5	1HB1-D0-012216-G6_S32	Day0	0.004	0.014	0.004	0.026	0.034	0.141	0.218	1.109	>50	>50
	6	1HB1-W4-012016-D10_S47	Wk4	>50	>50	>50	>50	0.027	0.087	0.102	0.381	>50	>50
	7	1HB1-W4-020416-A6_S52	Wk4	>50	>50	>50	>50	0.014	0.041	0.039	0.192	>50	>50
	8	1HB1-W4-020416-B2_S54	Wk4	>50	>50	>50	>50	0.008	0.034	0.030	0.162	>50	>50
	9	1HB1-W4-020416-D3_S58	Wk4	>50	>50	>50	>50	0.042	0.205	0.061	0.336	>50	>50
	10	1HB1-W4-020416-H6_S65	Wk4	>50	>50	>50	>50	0.039	0.187	0.118	0.460	>50	>50
1HB3	22	1HB3-D0-102315-G10_S34	Day0	0.041	0.115	0.012	0.038	0.117	0.320	0.989	5.104	0.443	1.698
	23	1HB3-D0-102915-B2_S49	Day0	0.011	0.048	0.007	0.048	0.032	0.105	0.306	1.034	0.399	4.876
	24	1HB3-D0-102915-B6_S51	Day0	0.032	0.160	0.013	0.092	0.128	0.435	1.514	5.752	0.273	1.294
	25	1HB3-D0-102915-C7_S56	Day0	0.028	0.098	0.008	0.035	0.099	0.431	1.037	4.862	0.491	2.323
	26	1HB3-W4-102815-F7_S45	Wk4	>50	>50	>50	>50	0.184	0.660	2.235	6.231	0.470	1.828
	27	1HB3-W4-110215-C10_S52e	Wk4	>50	>50	>50	>50	0.159	0.417	1.284	4.568	0.382	1.314
	28	1HB3-W4-110215-C7_S50e	Wk4	>50	>50	>50	>50	0.161	0.457	1.716	5.854	0.492	2.348
	29	1HB3-W4-110215-G3_S63	Wk4	>50	>50	>50	>50	0.161	0.438	1.009	3.831	0.245	1.153
	30	1HB3-W4-110215-H3_S67	Wk4	>50	>50	>50	>50	0.133	0.530	1.423	6.577	0.285	1.318
1HC2	43	1HC2-D0-012016-A5_S39	Day0	0.104	0.494	0.067	0.469	0.103	0.760	0.270	2.673	0.004	0.017
	44	1HC2-D0-012016-F5_S52	Day0	0.100	0.257	0.066	0.219	0.199	1.475	0.186	1.174	0.022	0.080
	45	1HC2-D0-012216-C11_S66	Day0	0.023	0.068	0.016	0.047	>50	>50	0.137	1.325	0.169	0.914
	46	1HC2-D0-012216-D1_S67	Day0	0.037	0.090	0.012	0.044	0.659	>50	0.282	7.175	0.004	0.018
	47	1HC2-D0-012216-F9_S75	Day0	0.029	0.090	0.012	0.046	0.018	0.083	0.031	0.096	0.003	0.020
	48	1HC2-D0-012216-H10_S82	Day0	0.032	0.109	0.011	0.050	0.016	0.054	0.070	0.306	0.005	0.017
	49	1HC2-W4-012016-F6_S83	Wk4	>50	>50	>50	>50	0.373	6.513	0.347	1.728	<0.001	0.007
	50	1HC2-W4-012016-H12_S93	Wk4	>50	>50	>50	>50	0.012	0.122	0.014	0.061	<0.001	0.003
	51	1HC2-W4-012216-A10_S1	Wk4	>50	>50	>50	>50	0.501	5.952	0.306	3.721	0.002	0.010
	52	1HC2-W4-012216-A6_S95	Wk4	>50	>50	>50	>50	0.051	0.175	0.125	0.727	0.003	0.012
	53	1HC2-W4-012216-E4_S9	Wk4	>50	>50	>50	>50	>50	>50	0.314	7.683	<0.001	0.008
	54	1HC2-W4-012216-G5_S14	Wk4	>50	>50	>50	>50	0.009	0.383	0.015	0.268	<0.001	0.004
1HD1	65	1HD1-D0-012016-A4_S67	Day0	0.019	0.102	0.007	0.034	0.202	1.313	1.772	9.558	0.387	2.654
	66	1HD1-D0-012016-D6_S73	Day0	0.008	0.038	0.004	0.016	0.048	0.248	0.399	3.241	0.114	0.534
	67	1HD1-D0-012016-H4_S83	Day0	0.008	0.029	0.003	0.011	0.012	0.064	0.120	0.588	0.200	0.930
	68	1HD1-D0-012716-B1_S14	Day0	0.014	0.066	0.005	0.026	0.018	0.116	0.076	0.681	0.396	3.731
	69	1HD1-D0-012716-B7_S16	Day0	0.014	0.046	0.004	0.021	0.071	0.351	0.368	2.098	0.724	2.104
	70	1HD1-W4-012016-C11_S93	Wk4	>50	>50	45.41	>50	0.074	0.350	0.355	1.751	0.404	1.817
	71	1HD1-W4-012016-C12_S94	Wk4	>50	>50	>50	>50	0.048	0.311	0.293	1.585	0.327	1.185
	72	1HD1-W4-012616-A6_S94	Wk4	>50	>50	25.63	>50	0.037	0.177	0.155	0.583	0.452	2.111
	73	1HD1-W4-012616-D9_S6	Wk4	>50	>50	>50	>50	0.095	0.467	0.741	4.299	0.310	1.487
	74	1HD1-W4-012616-F9_S11	Wk4	>50	>50	>50	>50	0.036	0.172	0.161	0.805	0.367	1.655
1HD5K	89	1HD5K-D0-061016-C5_S3	Day0	0.054	0.162	0.012	0.040	6.836	>50	0.204	0.733	0.409	1.476
	90	1HD5K-D0-061416PI1-F1_S17	Day0	0.054	0.159	0.010	0.045	0.035	0.131	0.166	0.622	0.335	1.204
	91	1HD5K-D0-061416PI2-D11_S27	Day0	0.037	0.130	0.008	0.040	0.034	0.118	0.210	0.783	0.469	1.629
	92	1HD5K-D0-061416PI2-D12_S28	Day0	0.054	0.191	0.007	0.038	0.040	0.112	0.142	0.627	0.392	1.432
	93	1HD5K-D0-061616-F6_S42	Day0	0.046	0.123	0.013	0.055	0.042	0.117	0.158	0.783	0.440	1.463
	94	1HD5K-W4-061416-A6_S32e	Wk4	>50	>50	>50	>50	0.048	0.168	0.149	0.658	0.310	1.436
	95	1HD5K-W4-061616-A12_S44	Wk4	>50	>50	>50	>50	0.043	0.149	0.281	0.961	0.348	1.176
	96	1HD5K-W4-061616-C11_S49	Wk4	>50	>50	>50	>50	0.355	48.18	0.229	0.891	0.429	1.530
	97	1HD5K-W4-061616-C12_S50	Wk4	>50	>50	>50	>50	0.040	0.158	0.316	0.886	0.420	1.135
	98	1HD5K-W4-062316-D10_S59	Wk4	>50	>50	>50	>50	0.033	0.103	0.155	0.606	0.328	1.518
	99	1HD5K-W4-062916-A6_S61	Wk4	>50	>50	>50	>50	0.043	0.147	0.156	0.697	0.340	1.266
1HD8K	108	1HD8K-D0-061616-B4_S93	Day0	0.001	0.006	0.001	0.005	0.098	0.281	0.642	3.195	>50	>50
	109	1HD8K-D0-062916-A4_S69	Day0	0.007	0.024	0.028	0.100	0.017	0.048	0.146	0.664	>50	>50
	110	1HD8K-D0-062916-A9_S72	Day0	0.002	0.016	0.013	0.037	0.057	0.166	0.474	2.447	>50	>50
	111	1HD8K-D0-062916-F6_S90	Day0	0.057	0.155	0.089	0.303	0.171	0.595	1.085	3.949	>50	>50
	112	1HD8K-D0-062916-H6_S95	Day0	0.001	0.007	0.003	0.013	0.072	0.212	0.408	2.013	>50	>50
	113	1HD8K-W4-070116PI3-C6_S63	Wk4	>50	>50	15.91	>50	0.197	0.922	0.570	2.858	>50	>50
	114	1HD8K-W4-070116PI3-G12_S77	Wk4	>50	>50	>50	>50	0.017	0.048	0.075	0.369	>50	>50
	115	1HD8K-W4-070116PI3-H8_S80	Wk4	>50	>50	31.84	>50	0.035	0.102	0.212	0.819	>50	>50
	116	1HD8K-W4-070116PI4-E1_S86	Wk4	>50	>50	>50	>50	0.048	0.136	0.108	0.583	>50	>50
	117	1HD8K-W4-070116PI4-E9_S87	Wk4	>50	>50	38.60	>50	0.040	0.126	0.292	1.365	>50	>50
	118	1HD8K-W4-070116PI4-F7_S89	Wk4	>50	>50	>50	>50	0.017	0.044	0.156	0.562	>50	>50

	#*	SGS Sequence ID	TP	10-1074		PGT121		3BNC117		VRC01		PGDM1400	
				IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}
1HB2	11	1HB2-D0-102315-C3_S1	Day0	0.014	0.029	0.050	0.136	0.026	0.074	0.172	0.483	>50	>50
	12	1HB2-D0-102315-C7_S2	Day0	0.009	0.026	0.029	0.099	0.020	0.070	0.081	0.363	>50	>50
	13	1HB2-D0-102615-B11_S13	Day0	0.007	0.030	0.032	0.124	0.017	0.064	0.129	0.630	>50	>50
	14	1HB2-D0-102615-C8_S18	Day0	0.012	0.024	0.051	0.172	0.025	0.071	0.214	0.492	>50	>50
	15	1HB2-D0-102615-E9_S22	Day0	0.013	0.026	0.058	0.172	0.028	0.079	0.094	0.344	>50	>50
	16	1HB2-W4-103015-A11_S74	Wk4	>50	>50	>50	>50	0.016	0.060	0.109	0.529	>50	>50
	17	1HB2-W4-103015-C9_S80	Wk4	>50	>50	>50	>50	0.013	0.053	0.051	0.273	>50	>50
	18	1HB2-W4-103015-D11_S85	Wk4	>50	>50	>50	>50	0.013	0.045	0.113	0.592	>50	>50
	19	1HB2-W4-103015-D7_S84	Wk4	>50	>50	>50	>50	0.020	0.061	0.127	0.443	>50	>50
	20	1HB2-W4-103015-F1_S87	Wk4	>50	>50	>50	>50	0.025	0.060	0.098	0.311	>50	>50
	21	1HB2-W4-103015-F2_S88	Wk4	>50	>50	>50	>50	0.015	0.056	0.140	0.439	>50	>50
1HC1	31	1HC1-D0-061516-A1_S68	Day0	0.305	1.104	0.148	0.741	0.179	0.657	0.180	0.891	>50	>50
	32	1HC1-D0-061516-B5_S69	Day0	>50	>50	0.512	4.575	0.004	0.017	0.019	0.084	>50	>50
	33	1HC1-D0-061516-C4_S70	Day0	0.286	1.371	0.154	1.074	0.160	0.568	0.125	0.667	>50	>50
	34	1HC1-D0-061616-G4_S15	Day0	0.337	1.179	0.175	1.163	0.134	0.454	0.092	0.336	>50	>50
	35	1HC1-D0-070516-F10_S90	Day0	0.242	0.797	0.069	0.330	0.263	0.880	0.294	1.075	>50	>50
	36	1HC1-D0-070516-F11_S91	Day0	0.878	10.01	0.036	0.391	0.003	0.013	0.016	0.053	>50	>50
	37	1HC1-W4-070116-B8_S30	Wk4	>50	>50	>50	>50	0.369	0.993	0.377	1.524	>50	>50
	38	1HC1-W4-070516PI2-B4_S96	Wk4	>50	>50	>50	>50	0.345	1.203	0.265	1.261	>50	>50
	39	1HC1-W4-070516PI2-G5_S11	Wk4	0.557	1.498	0.217	0.983	0.187	0.656	0.187	0.716	>50	>50
	40	1HC1-W4-070516PI3-A3_S14	Wk4	>50	>50	>50	>50	0.107	0.398	0.090	0.457	>50	>50
	41	1HC1-W4-071216-D3_S66	Wk4	0.446	1.481	0.245	1.166	0.238	0.818	0.172	0.618	>50	>50
	42	1HC1-W4-071216-F7_S69	Wk4	>50	>50	>50	>50	0.316	0.808	0.202	0.745	>50	>50
1HC3	55	1HC3-D0-012016-F7_S31	Day0	0.150	0.531	0.027	0.104	0.637	3.571	0.588	2.107	0.002	0.008
	56	1HC3-D0-012016-G2_S34	Day0	0.243	0.836	0.041	0.202	0.137	1.041	0.256	1.256	0.005	0.020
	57	1HC3-D0-012216-B1_S40	Day0	0.148	0.514	0.023	0.117	2.728	42.56	0.432	2.273	0.004	0.015
	58	1HC3-D0-012216-E10_S49	Day0	0.203	0.704	0.072	0.254	0.043	0.156	0.212	0.776	0.003	0.013
	59	1HC3-D0-012216-G3_S52	Day0	0.284	0.946	0.060	0.213	0.132	0.630	0.456	1.679	0.022	0.064
	60	1HC3-W4-012016-G1_S19	Wk4	>50	>50	>50	>50	0.184	0.816	0.441	1.667	0.019	0.053
	61	1HC3-W4-012016-H5_S21	Wk4	>50	>50	5.232	>50	1.125	9.426	0.726	3.600	0.017	0.041
	62	1HC3-W4-012616-C7_S77	Wk4	>50	>50	>50	>50	0.129	0.634	0.281	1.095	0.002	0.012
	63	1HC3-W4-012616-F1_S85	Wk4	>50	>50	>50	>50	0.576	5.043	0.583	2.245	0.017	0.058
	64	1HC3-W4-012616-G4_S89	Wk4	>50	>50	>50	>50	0.610	3.033	0.805	2.914	0.001	0.006
1HD4K	79	1HD4K-D0-061516-E3_S53	Day0	0.006	0.021	0.002	0.008	0.540	1.895	2.468	9.346	>50	>50
	80	1HD4K-D0-061516-F7_S57	Day0	0.006	0.025	0.005	0.020	0.280	1.298	0.526	1.968	>50	>50
	81	1HD4K-D0-061616PI1-D4_S83	Day0	0.006	0.027	0.006	0.020	0.175	0.628	0.613	2.199	>50	>50
	82	1HD4K-D0-061616PI2-A4_S53	Day0	0.005	0.017	0.003	0.011	0.167	0.580	0.404	1.434	>50	>50
	83	1HD4K-D0-061616PI2-C2_S57	Day0	0.009	0.027	0.004	0.014	0.146	0.517	0.509	1.912	>50	>50
	84	1HD4K-W4-062316PI3-A3_S25	Wk4	>50	>50	0.064	0.557	0.123	0.354	0.559	2.772	>50	>50
	85	1HD4K-W4-062316PI3-B1_S27	Wk4	>50	>50	0.030	0.214	0.150	0.947	0.537	2.219	>50	>50
	86	1HD4K-W4-062316PI3-B9_S29	Wk4	>50	>50	0.024	0.199	0.288	0.794	1.600	7.741	>50	>50
	87	1HD4K-W4-062316PI4-A11_S47	Wk4	>50	>50	0.006	0.077	0.195	0.720	0.713	2.852	>50	>50
	88	1HD4K-W4-062316PI4-A3_S44	Wk4	>50	>50	0.067	0.406	0.183	0.503	0.605	2.169	>50	>50
1HD6K	100	1HD6K-D0-061016-B3_S9	Day0	0.025	0.097	0.013	0.040	0.226	0.748	1.075	5.167	0.159	0.432
	101	1HD6K-D0-061416-F12_S50	Day0	0.053	0.187	0.021	0.063	0.243	0.780	0.843	3.761	2.449	>50
	102	1HD6K-D0-061616-C10_S24	Day0	0.032	0.117	0.018	0.069	0.228	0.783	0.656	3.371	0.130	0.359
	103	1HD6K-D0-061616-C6_S21	Day0	0.026	0.096	0.015	0.046	0.215	0.750	0.673	2.589	0.274	0.918
	104	1HD6K-W4-070516-G5_S26	Wk4	>50	>50	9.092	>50	0.184	0.839	0.653	3.452	0.108	0.375
	105	1HD6K-W8-072616-D6_S65	Wk4	>50	>50	1.539	>50	0.303	1.021	0.889	4.718	0.133	0.445
	106	1HD6K-W8-072616-F2_S69	Wk4	0.044	0.130	0.013	0.037	0.350	3.342	0.040	0.205	0.185	0.504
	107	1HD6K-W8-072616-G10_S70	Wk4	>50	>50	1.034	12.84	0.241	0.791	0.824	3.005	0.153	0.403

Non-responders

	#*	SGS Sequence ID	TP	10-1074		PGT121		3BNC117		VRC01		PGDM1400	
				IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}	IC_{50}	IC_{80}
1HD2	75	1HD2-preinf-051916-A12_S61	pre	>50	>50	>50	>50	0.005	0.018	0.050	0.210	3.358	10.96
	76	1HD2-preinf-051916-B4_S62	pre	>50	>50	2.903	>50	0.001	0.003	0.004	0.014	>50	>50
	77	1HD2-preinf-051916-D8_S66	pre	>50	>50	>50	>50	0.006	0.022	0.029	0.126	1.968	13.84
	78	1HD2-preinf-051916-H4_S73	pre	>50	>50	2.380	>50	0.001	0.004	0.005	0.019	>50	>50
1HD9K	119	1HD9K-D0-070816-B3_S30	Day0	>50	>50	>50	>50	0.030	0.087	0.284	1.587	0.153	0.873
	120	1HD9K-D0-070816-C3_S35	Day0	>50	>50	>50	>50	0.040	0.147	0.576	2.221	0.120	0.625
	121	1HD9K-D0-071116PI6-A10_S86	Day0	>50	>50	>50	>50	0.011	0.034	0.111	0.401	0.159	0.827

*Pseudoviruses are continually numbered by subject ID (from 1HB1-1HD9K). Pseudovirus numbers correspond to numbering in phylogenetic trees of Figure S4.

Supplementary Table 7. *Primer-ID deep sequencing of V3 loop (HXB2 nt 6854 - 7356)*

	Day 0				Week 4		
Subject	**# IDs (total)**	**Sequence motif**	**# IDs**	**of total**	**# IDs (total)**	**# IDs**	**of total**
1HB1	344	G(N/D)IR - NxS	344	**100%**	286	0	**0.00%**
		N332 mutation	0	0%		40	**13.99%**
		S334 mutation	0	0%		246	**86.01%**
		D/N325 mutation	0	0%		0	0%
1HB3	370	G(N/D)IR - NxS	370	**100%**	223	0	**0.00%**
		N332 mutation	0	0%		95	**42.60%**
		S334 mutation	0	0%		127	**56.95%**
		D/N325 mutation	0	0%		1	**0.45%**
1HC2	622	G(N/D)IR - NxS	622	**100%**	504	2	**0.40%**
		N332 mutation	0	0%		220	**43.65%**
		S334 mutation	0	0%		279	**55.35%**
		D/N325 mutation	0	0%		3	**0.60%**
1HC3	125	G(N/D)IR - NxS	125	**100%**	241	0	**0.00%**
		N332 mutation	0	0%		82	**34.02%**
		S334 mutation	0	0%		159	**65.98%**
		D/N325 mutation	0	0%		0	0%
1HD1	616	G(N/D)IR - NxS	616	**100%**	590	1	**0.17%**
		N332 mutation	0	0%		90	**15.25%**
		S334 mutation	0	0%		389	**65.93%**
		D/N325 mutation	0	0%		110	**18.64%**

IDs: Number of distinct primer IDs (coverage > 10) that yielded an unambiguous majority consensus.

Supplementary Table 8. *Comparison of sequencing methods*

1HB3

day 0

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
NNIS	-	51.72%	15	39.19%	145	44.76%	4,752
DNIS	-	48.28%	14	60.81%	225	54.90%	5,828
S334	**N**	-	-	-	-	0.34%	36
Total # of seqs			**29**		**370**		**10,616**

week 4

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
S334	**N**	46.43%	13	43.50%	97	49.03%	5,877
N332	**D**	17.86%	5	4.04%	9	8.42%	1,009
N332	**S**	14.29%	4	19.28%	43	11.28%	1,352
S334	**G**	3.57%	1	6.28%	14	3.61%	433
S334	**I**	3.57%	1	1.35%	3	1.19%	143
N332	**K**	3.57%	1	-	-	3.26%	391
D/N325	**K**	3.57%	1	-	-	1.03%	124
N332	**H**	3.57%	1	-	-	1.08%	130
D/N325	**G**	3.57%	1	-	-	2.26%	271
N332	**I**	-	-	15.25%	34	2.66%	319
S334	**R**	-	-	5.83%	13	4.25%	509
N332	**T**	-	-	4.04%	9	7.71%	924
D/N325	**H**	-	-	0.45%	1	0.52%	62
DNIS	-	-	-	-	-	0.56%	67
DNKS	-	-	-	-	-	1.46%	175
D/N325	**E**	-	-	-	-	1.12%	134
KTIS	**K/T**	-	-	-	-	0.55%	66
DKIN	**K/N**	-	-	-	-	0.01%	1
NNIS	-	-	-	-	-	1.03%	123
Total # of seqs			**28**		**223**		**12,110**

1HC2

day 0

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
DNIS	-	100.00%	31	100.00%	622	100.00%	5,282
Total # of seqs			**31**		**622**		**5,282**

week 4

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
S334	**N**	60.71%	17	54.37%	274	70.27%	4,749
N332	**K**	21.43%	6	14.48%	73	14.07%	951
N332	**T**	10.71%	3	12.30%	62	-	-
N332	**S**	3.57%	1	13.69%	69	15.66%	1,058
D/N325	**E**	3.57%	1	0.20%	1	-	-
N332	**I**	-	-	1.98%	10	-	-
S334	**R**	-	-	0.99%	5	-	-
N332	**H**	-	-	0.79%	4	-	-
N332	**D**	-	-	0.40%	2	-	-
D/N325	**G**	-	-	0.40%	2	-	-
DNIS	-	-	-	0.40%	2		
NNIS	-	-	-	-	-	0.21%	14
Total # of seqs			**28**		**504**		**6,772**

1HD1

day 0

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
NNIS	-	100.00%	32	99.19%	611	99.28%	14,707
DNIS	-	-	-	0.32%	2	0.46%	68
NNLS	-	-	-	0.49%	3	-	-
D/N325	**K**	-	-	-	-	0.15%	22
S334	**R**	-	-	-	-	0.11%	16
Total # of seqs			**32**		**616**		**14,813**

week 4

site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs
S334	**N**	62.50%	15	55.08%	325	47.69%	5,212
D/N325	**K**	8.33%	2	18.64%	110	16.69%	1,824
N332	**S**	4.17%	1	6.78%	40	6.36%	695
S334	**R**	8.33%	2	5.08%	30	2.32%	253
S334	**G**	-	-	4.24%	25	13.11%	1,433
N332	**D**	4.17%	1	4.07%	24	6.03%	659
N332	**I**	8.33%	2	2.03%	12	1.56%	171
S334	**I**	-	-	1.53%	9	2.42%	264
N332	**T**	4.17%	1	1.36%	8	0.70%	77
NNIS	-	-	-	0.17%	1	0.04%	4
N332	**H**	-	-	0.68%	4	1.41%	154
N332	**K**	-	-	0.34%	2	1.18%	129
N332	**Y**	-	-			0.48%	53
Total # of seqs			**24**		**590**		**10,928**