

Supplementary Information

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

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a Pseudotyped viruses

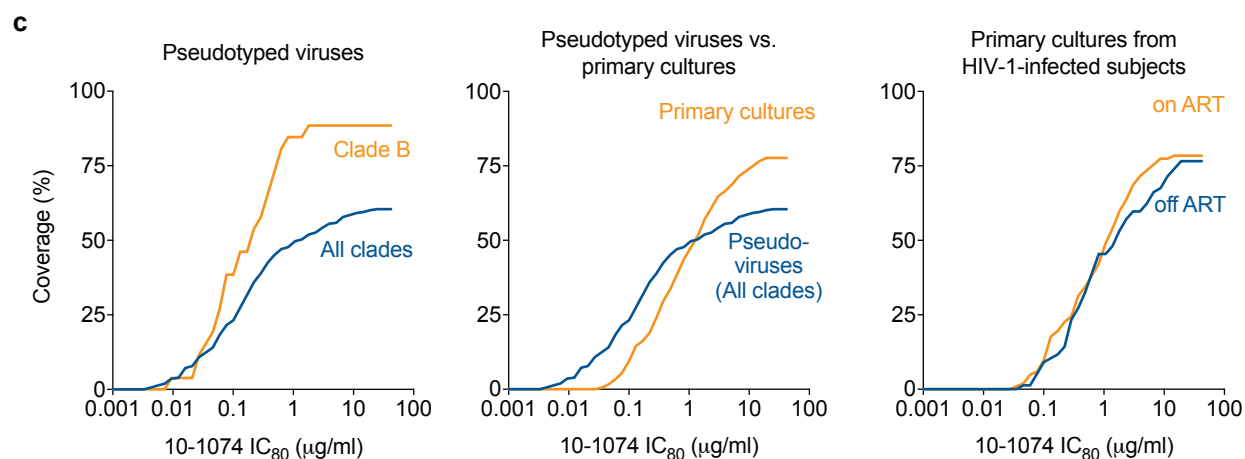
Subtype	Tested strains	Mean _{IC₈₀} *	Neutralized (%)**
A1	13	0.09	53.8
B	26	0.13	88.5
C	211	0.20	61.1
D	5	0.04	20.0
G	7	0.06	85.7
01_AE	16	n.d.	0.0
02_AG	9	0.79	77.8
07_BC	5	0.04	80.0
08_BC	2	0.97	100.0
A1C	4	n.d.	0.0
A1D	2	0.17	50.0
A1CD	1	0.06	100.0
CD	5	0.11	80.0
All	306	0.18	60.5

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

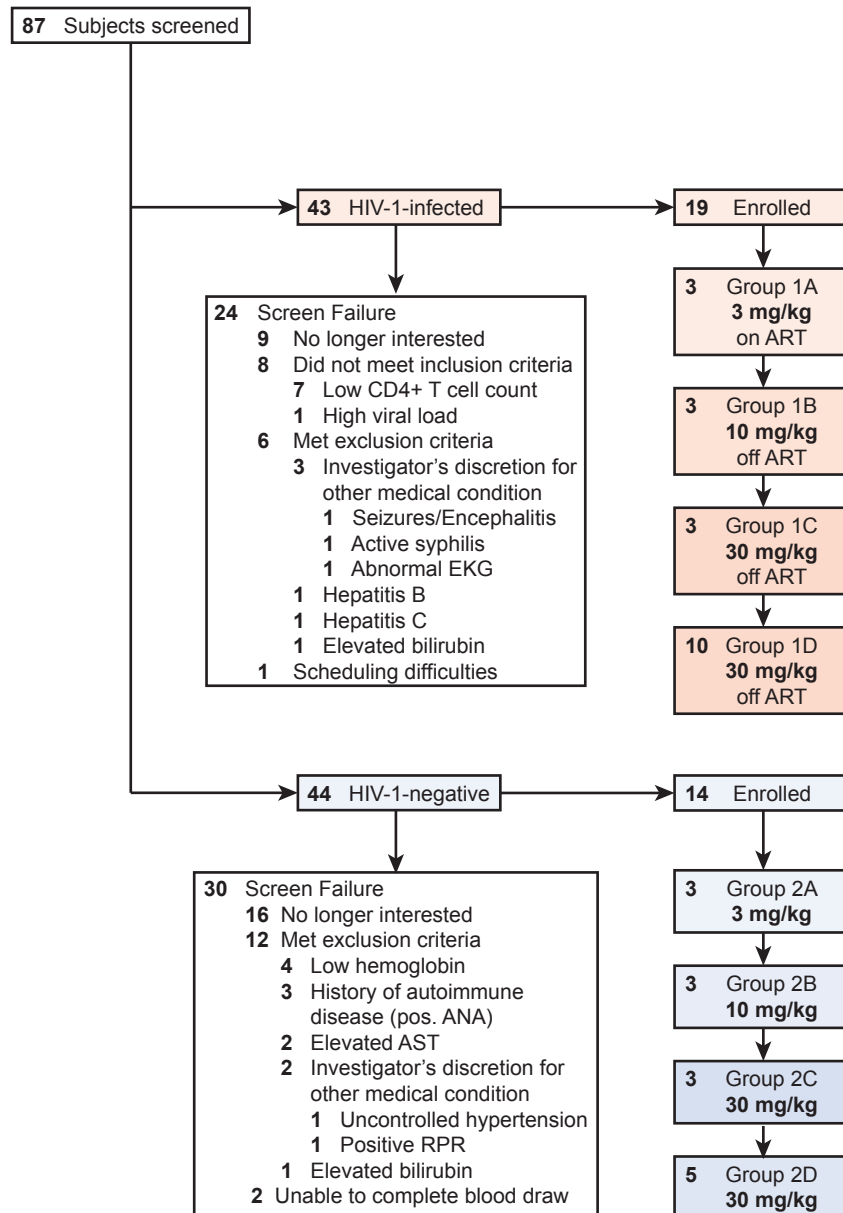
* Geometric mean of neutralized viruses.

** IC₈₀ < 20 µg/ml.



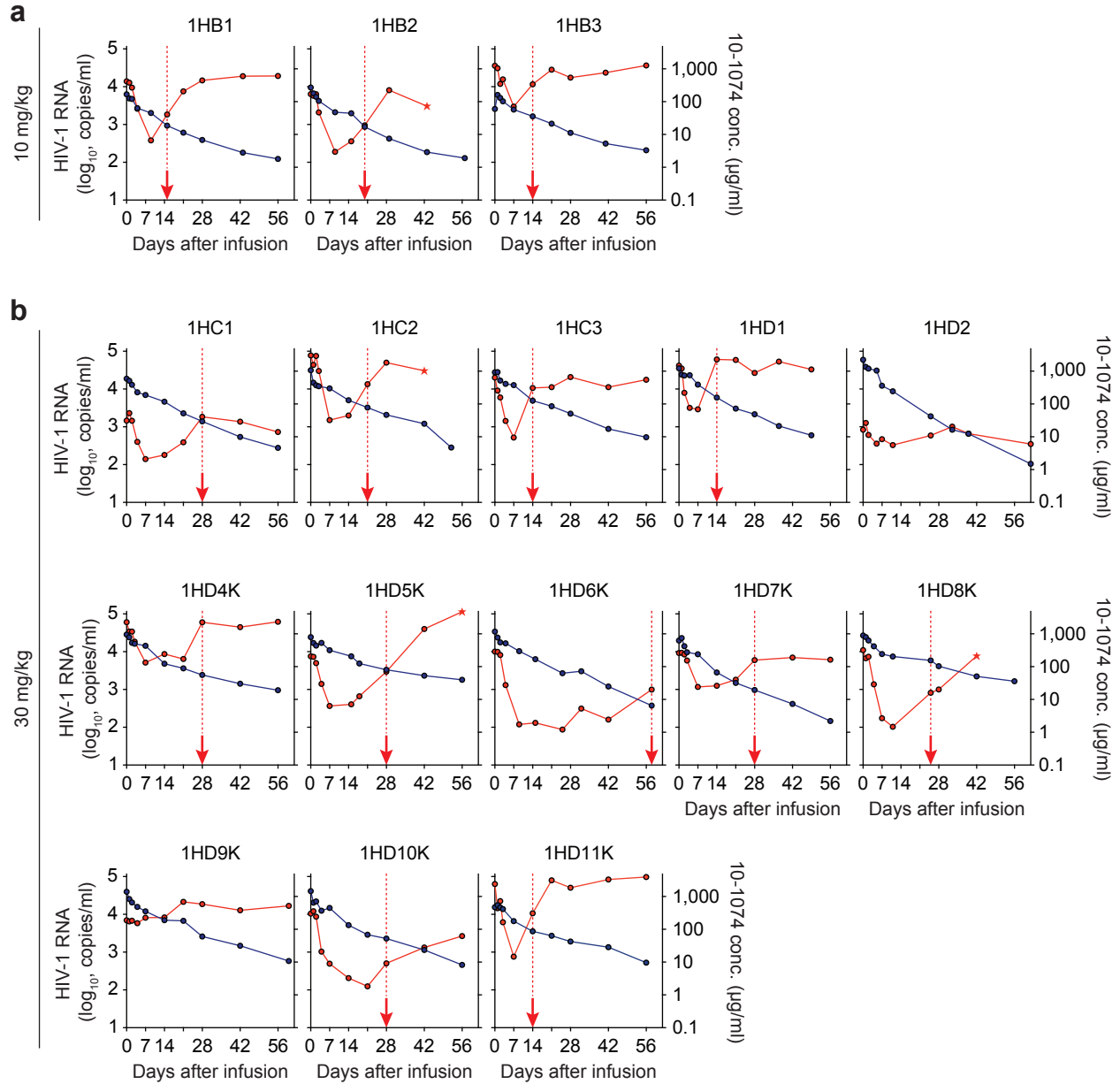
Supplementary Figure 1. HIV-1 neutralizing activity of 10-1074

(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 IC₈₀-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; values partially obtained from previous measurements, Scheid and Horwitz *et al.*, Nature 2016). 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 IC₈₀ (µg/ml; x-axis) using the data sets from (a) and (b).



Supplementary Figure 2. *Subject enrollment and study design*

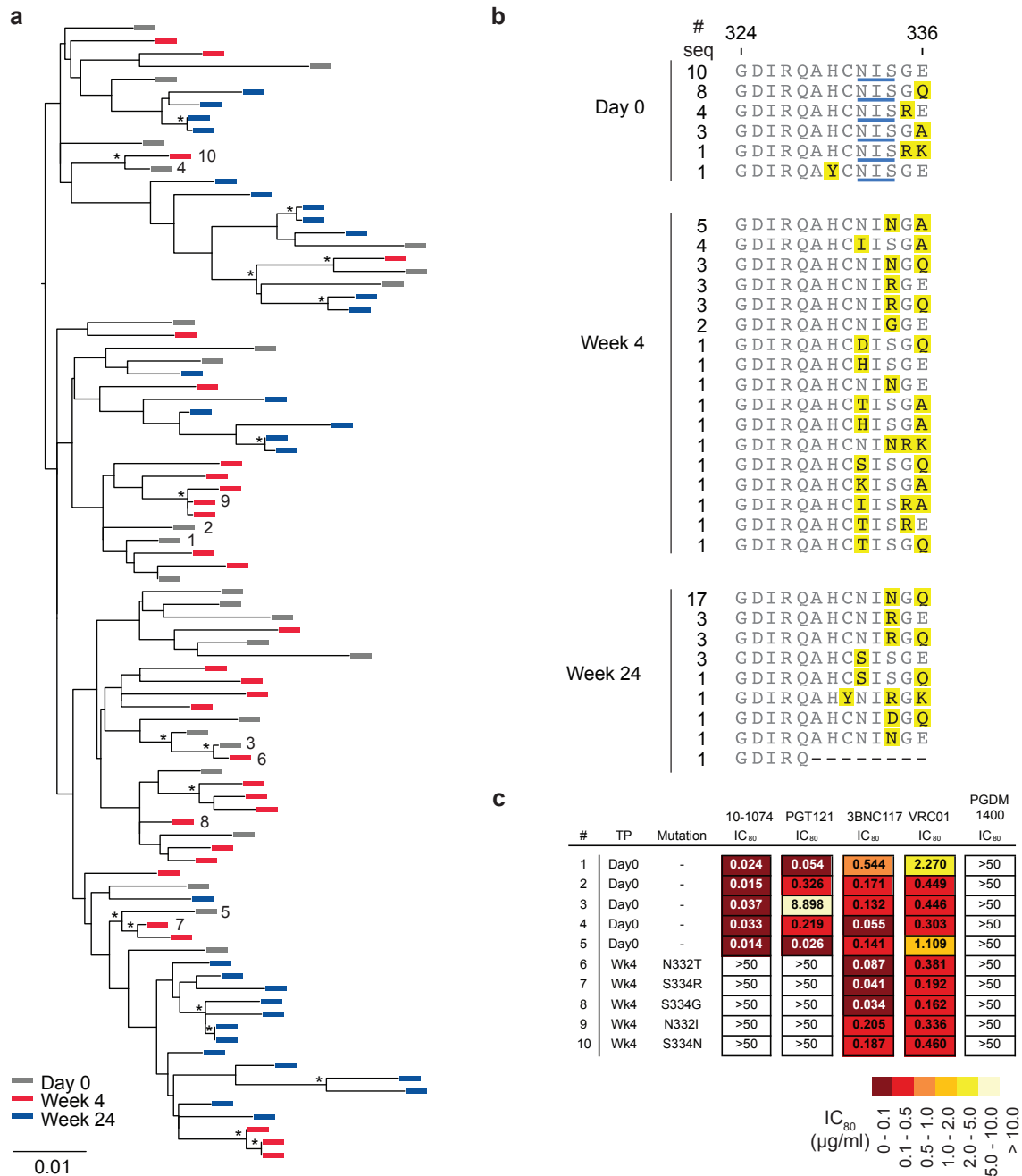
A total of 87 HIV-1-infected and -uninfected subjects were screened for study participation. In both cohorts, 10-1074 was sequentially administered at increasing doses of 3 mg/kg (groups 1A and 2A), 10 mg/kg (groups 1B and 2B), or 30 mg/kg (groups 1C-D and 2C-D) to HIV-1-infected (groups 1) and HIV-1-uninfected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

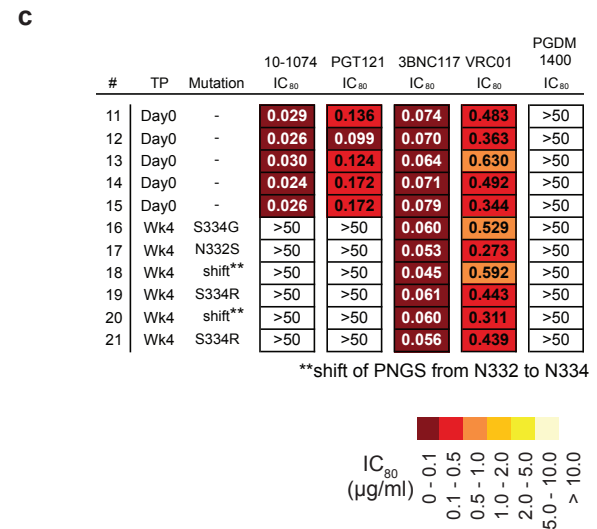
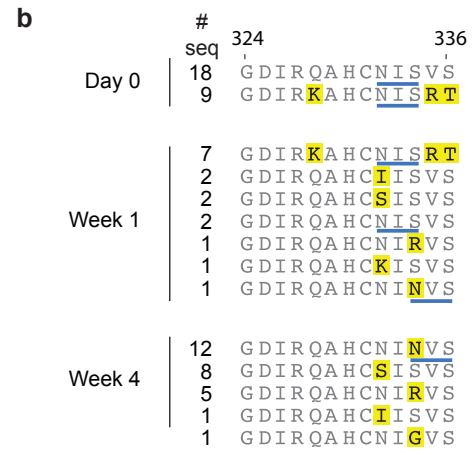
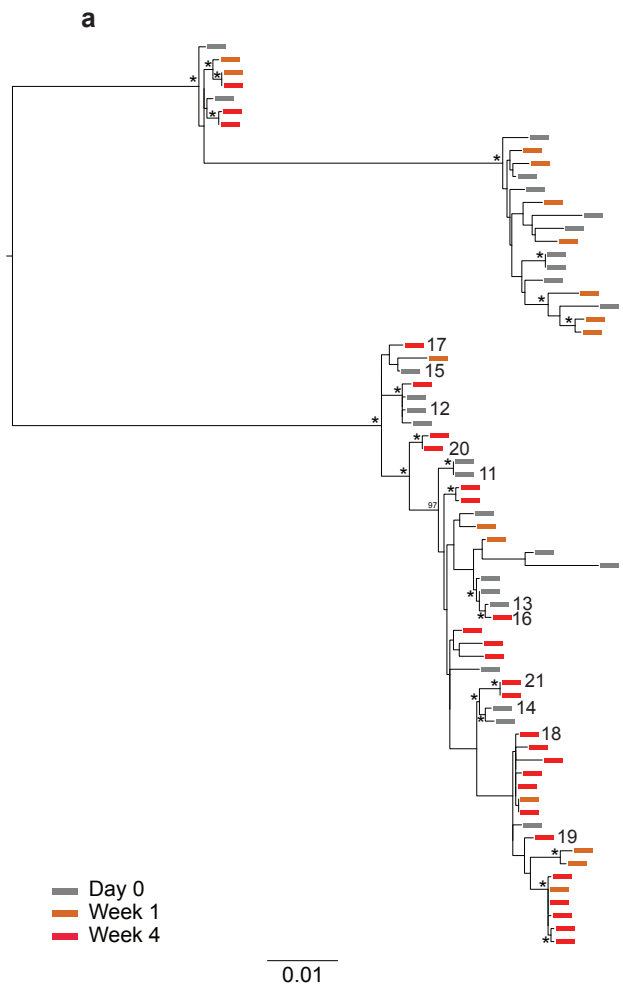
Supplementary Figure 4 (1HB1)



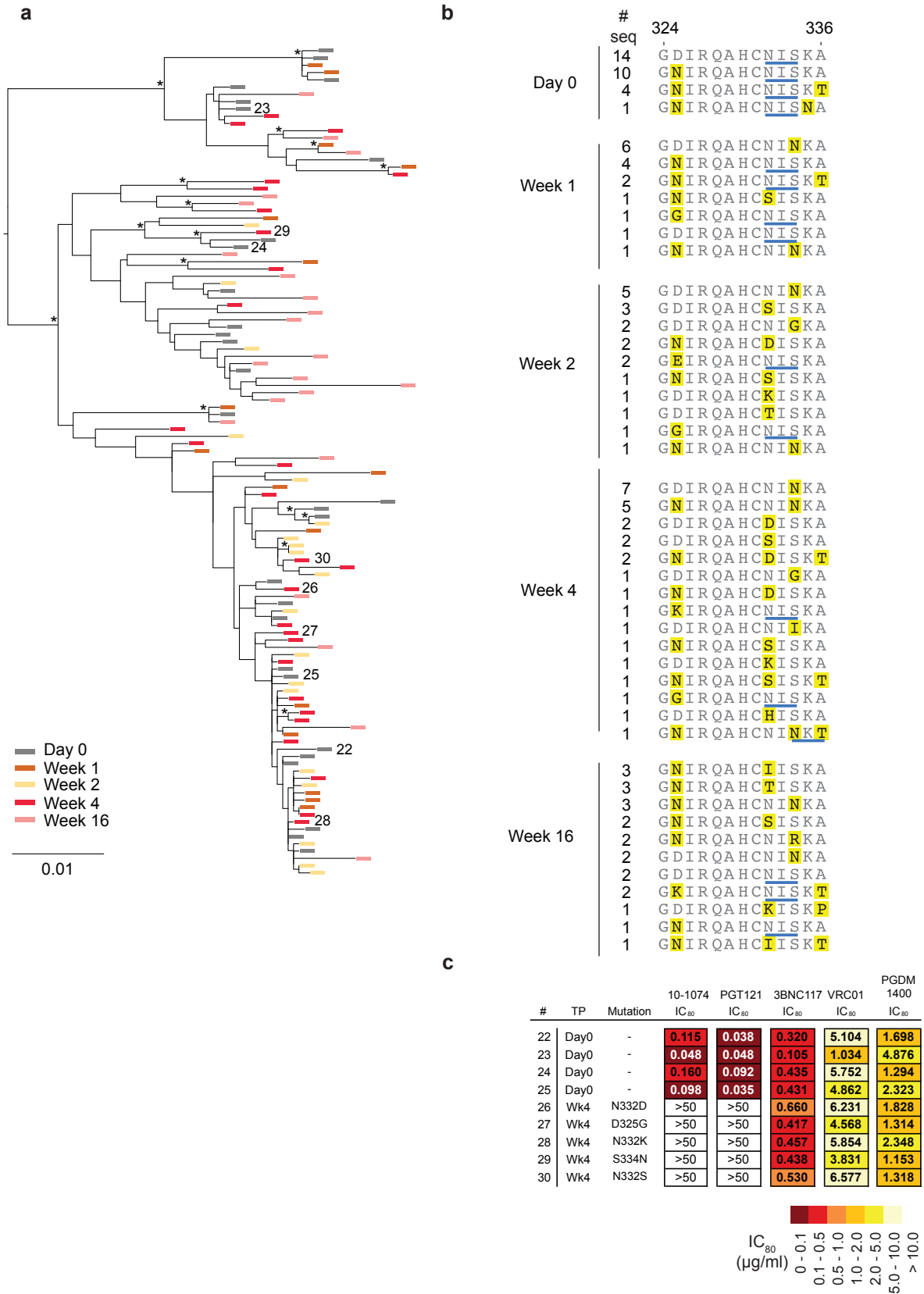
Supplementary Figure 4. Phylogenetic analysis of plasma *env* sequences obtained before and after 10-1074 infusion

(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 bootstrap support $\geq 70\%$. (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 IC₈₀ values in (μg/ml) of 5 different monoclonal antibodies that are currently in or planned for clinical testing.

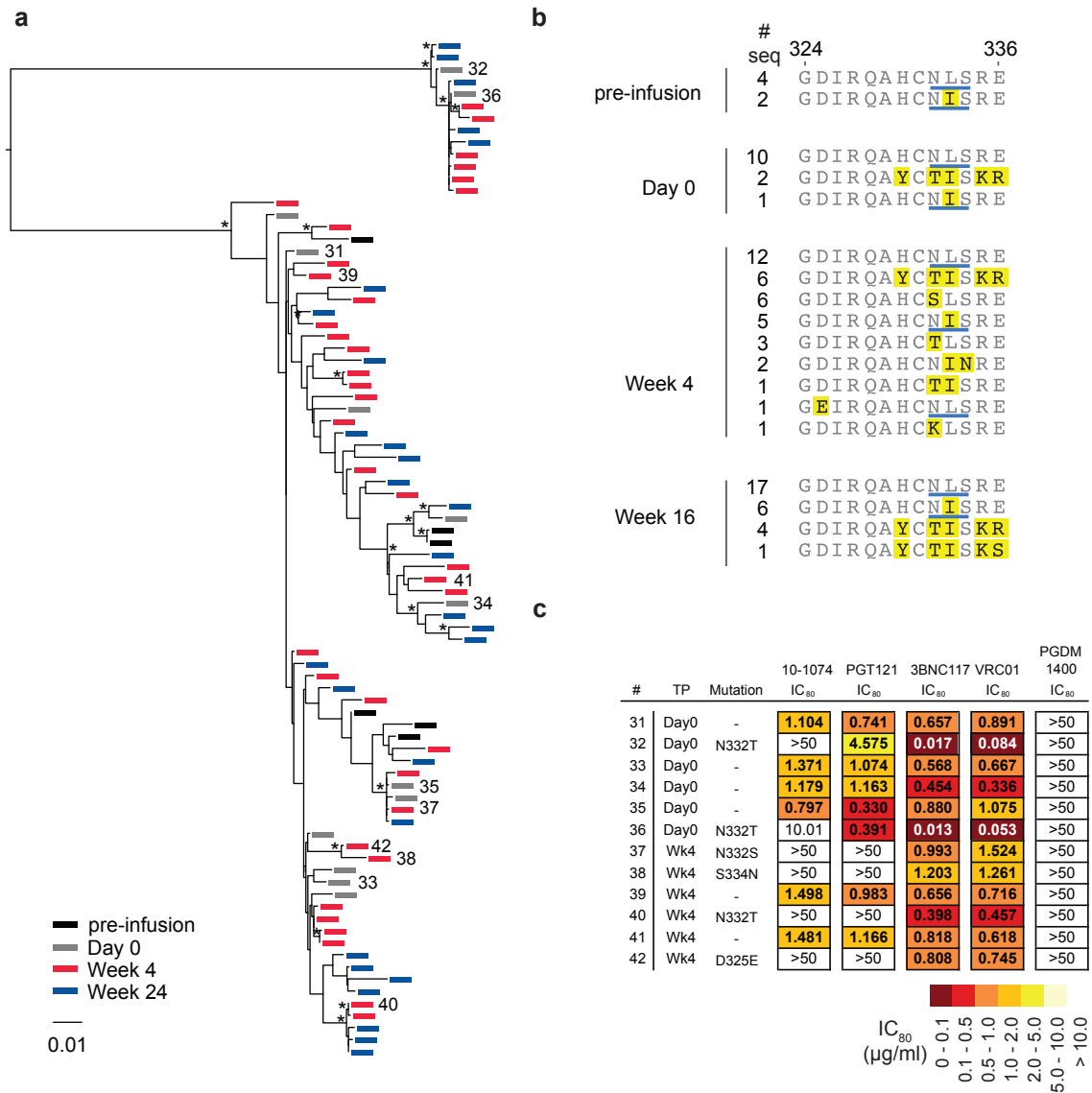
Supplementary Figure 4 continued (1HB2)



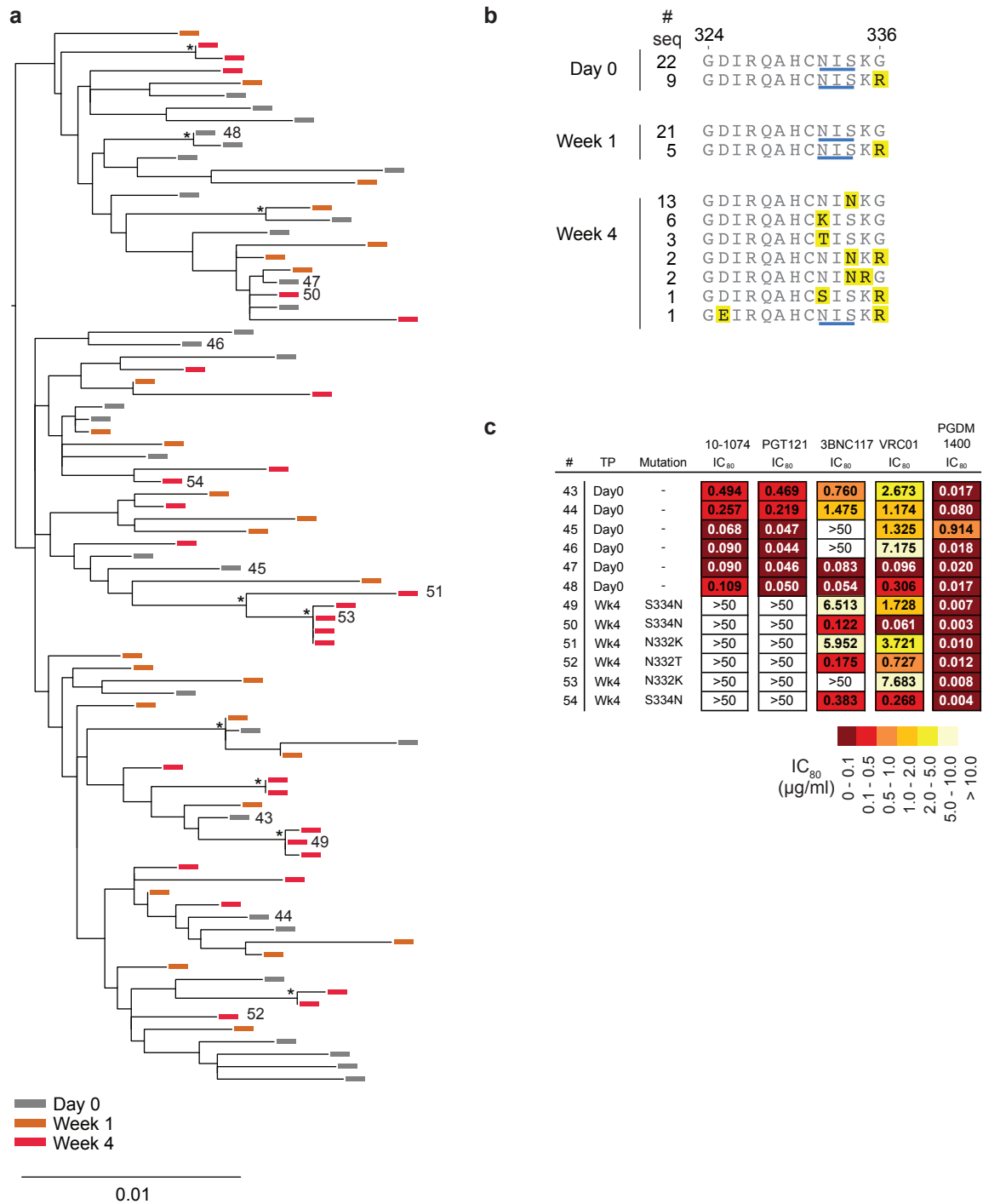
Supplementary Figure 4 continued (1HB3)



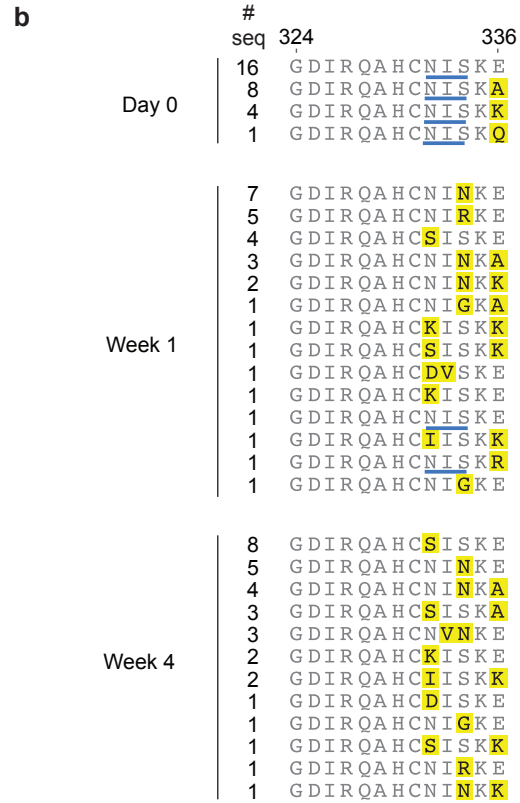
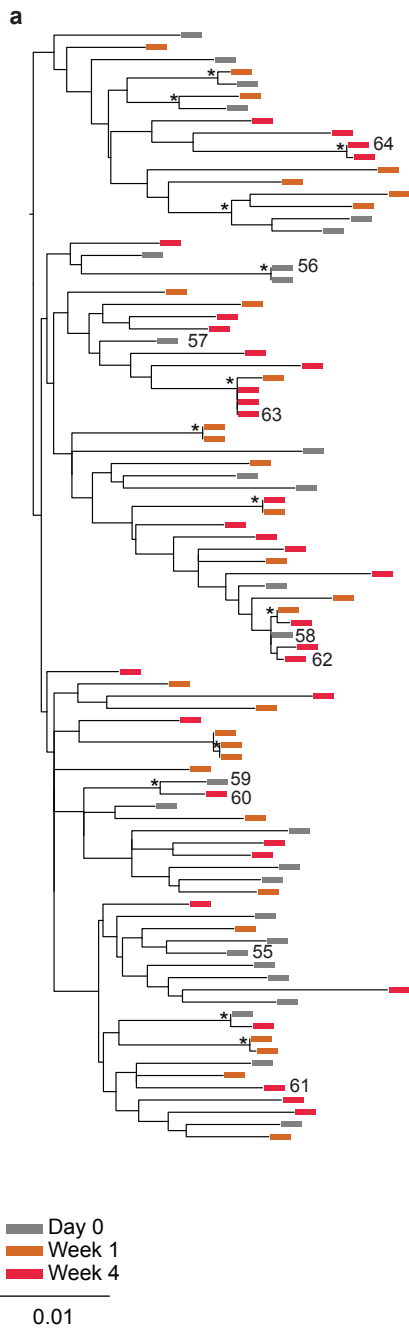
Supplementary Figure 4 continued (1HC1)



Supplementary Figure 4 continued (1HC2)



Supplementary Figure 4 continued (1HC3)

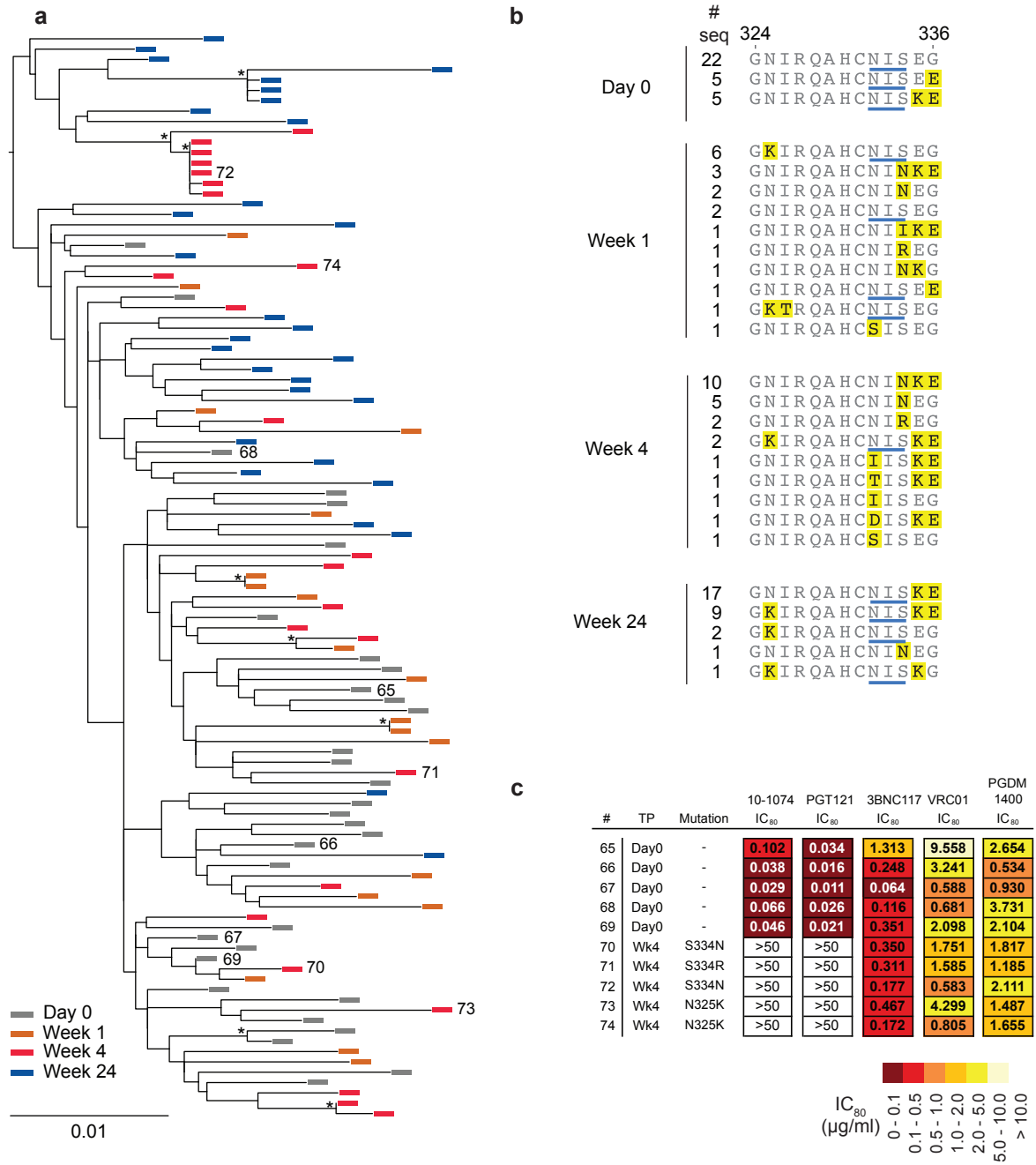


c

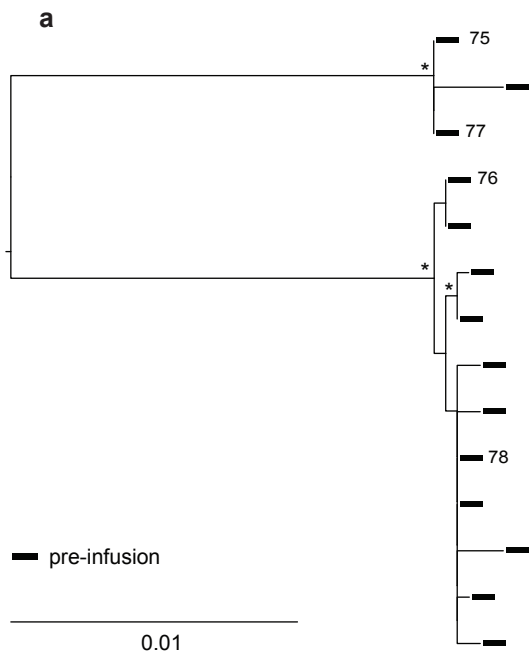
#	TP	Mutation	10-1074 IC ₈₀	PGT121 IC ₈₀	3BNC117 IC ₈₀	VRC01 IC ₈₀	PGDM 1400 IC ₈₀
55	Day0	-	0.531	0.104	3.571	2.107	0.008
56	Day0	-	0.836	0.202	1.041	1.256	0.020
57	Day0	-	0.514	0.117	42.56	2.273	0.015
58	Day0	-	0.704	0.254	0.156	0.776	0.013
59	Day0	-	0.946	0.213	0.630	1.679	0.064
60	Wk4	S334N	>50	>50	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

IC₈₀ (µg/ml) color scale:
 0 - 0.1 (dark red)
 0.1 - 0.5 (red)
 0.5 - 1.0 (orange)
 1.0 - 2.0 (yellow)
 2.0 - 5.0 (light yellow)
 5.0 - 10.0 (pale yellow)
 > 10.0 (white)

Supplementary Figure 4 continued (1HD1)



Supplementary Figure 4 continued (1HD2)



b

seq 324 336

pre-infusion | 13 GDIRRAHCTISR T
 1 GDIRRAHCTIS G T

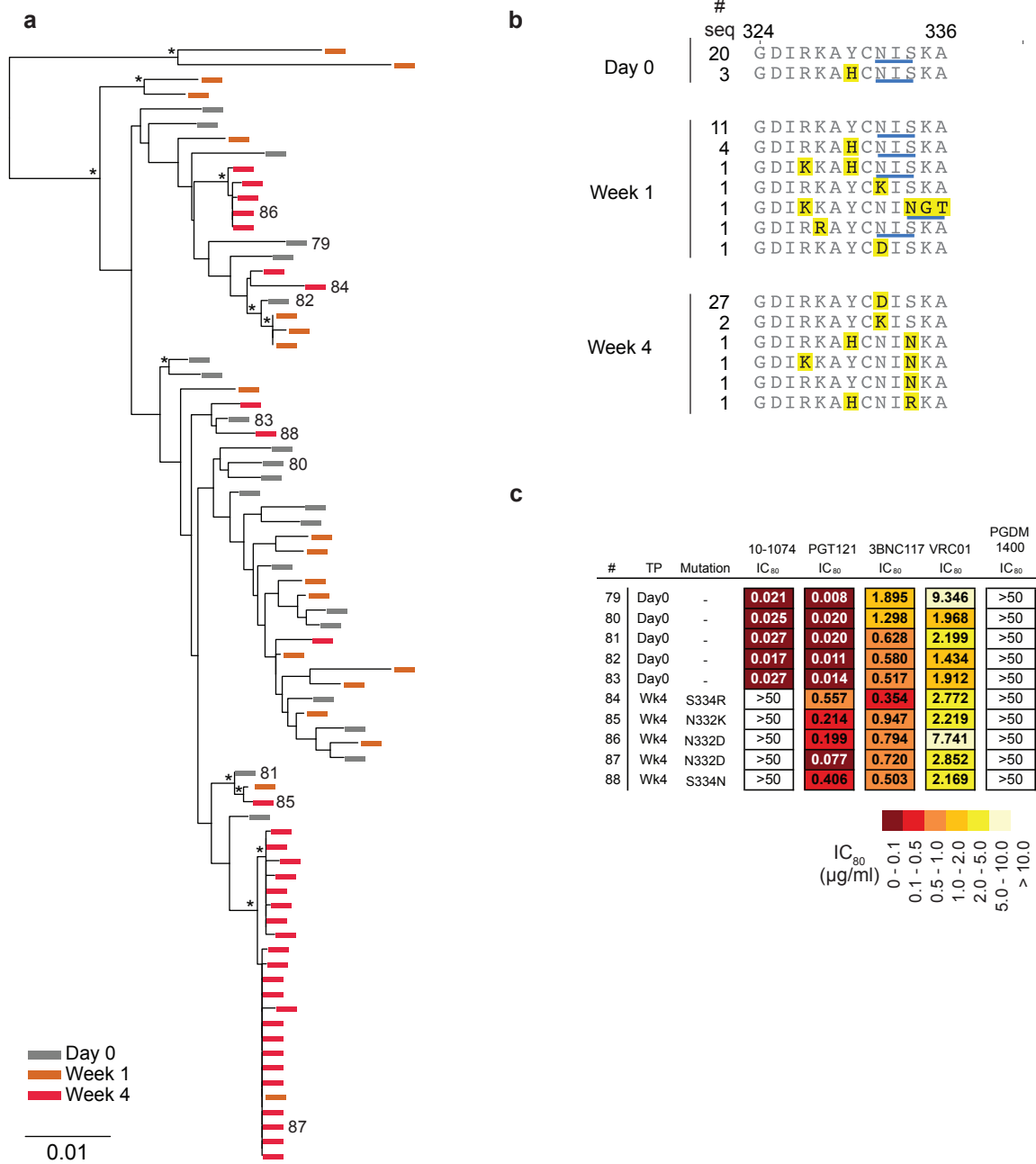
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#	TP	Mutation	10-1074 IC ₈₀	PGT121 IC ₈₀	3BNC117 IC ₈₀	VRC01 IC ₈₀	PGDM 1400 IC ₈₀
75	pre	N332T	>50	>50	0.018	0.210	10.96
76	pre	N332T	>50	>50	0.003	0.014	>50
77	pre	N332T	>50	>50	0.022	0.126	13.84
78	pre	N332T	>50	>50	0.004	0.019	>50

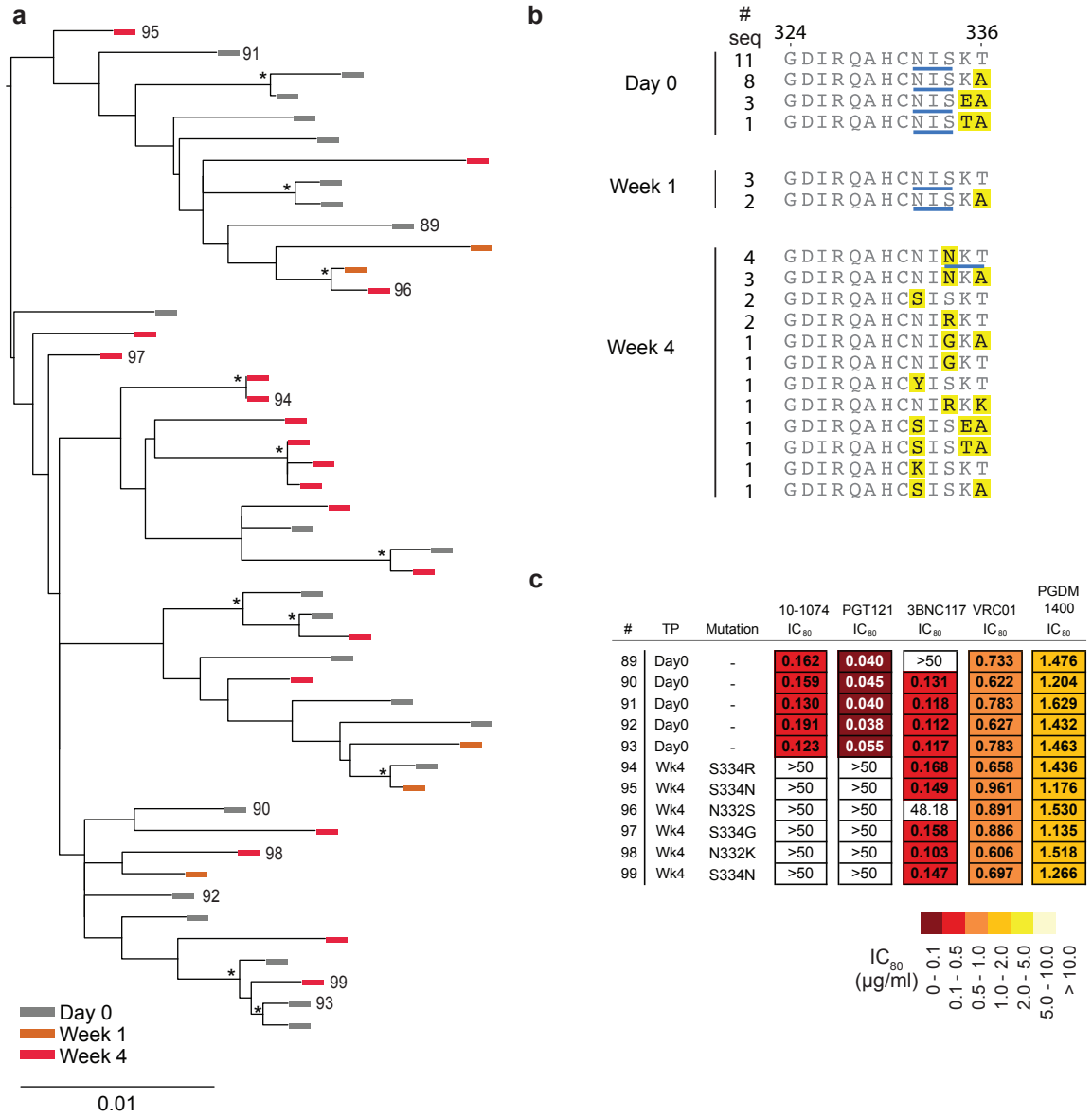
IC₈₀ (µg/ml)

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

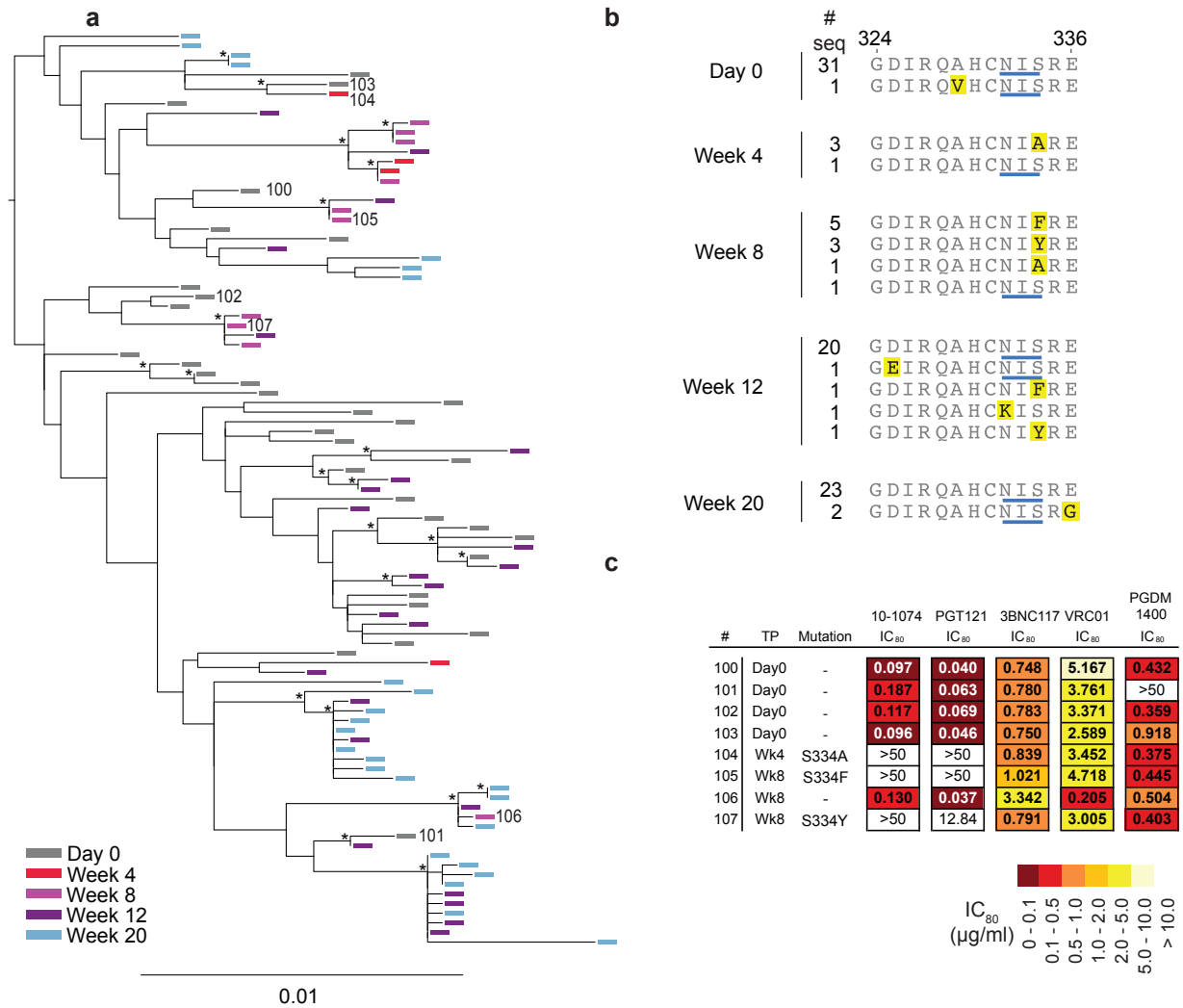
Supplementary Figure 4 continued (1HD4K)



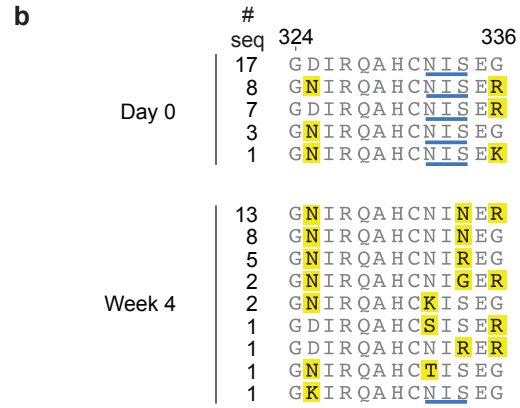
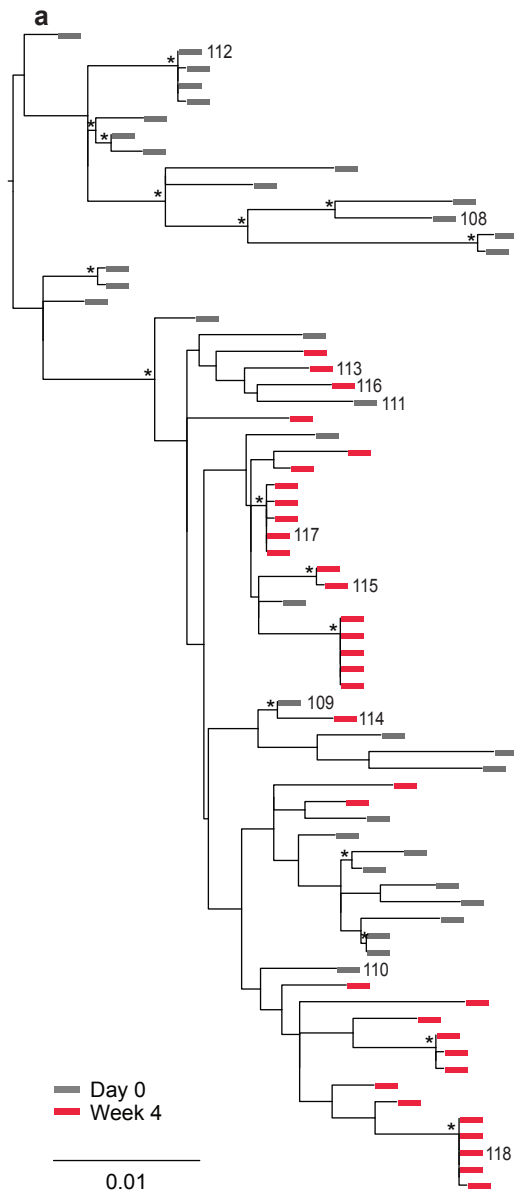
Supplementary Figure 4 continued (1HD5K)



Supplementary Figure 4 continued (1HD6K)



Supplementary Figure 4 continued (1HD8K)



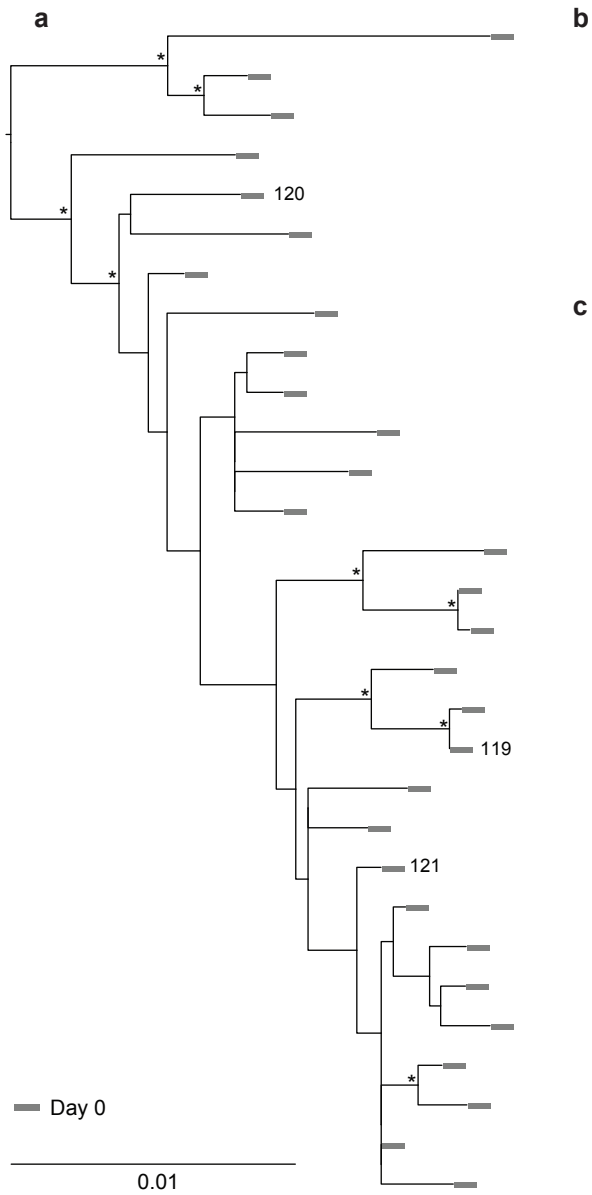
c

#	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

IC₈₀ (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)



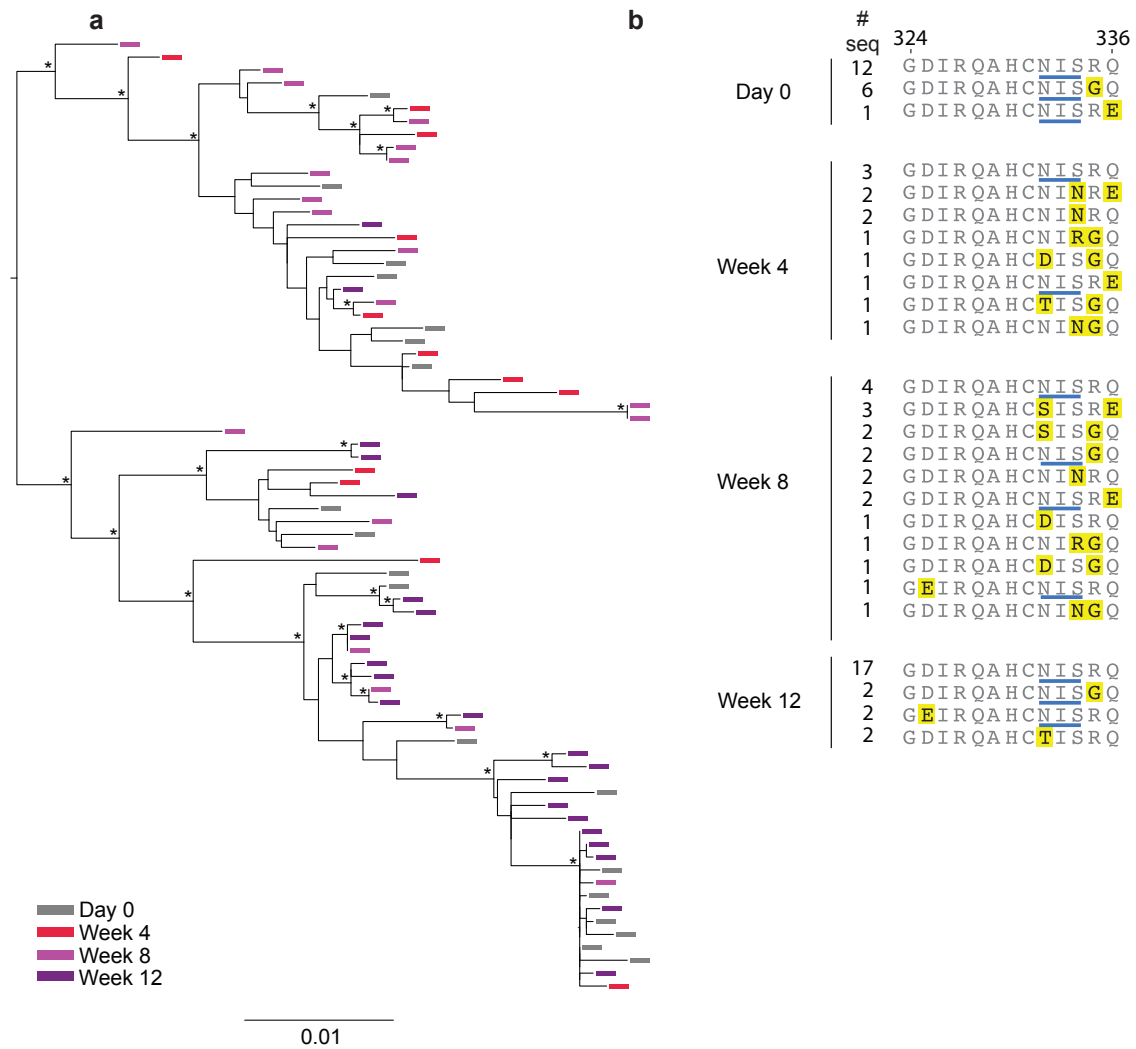
c

#	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

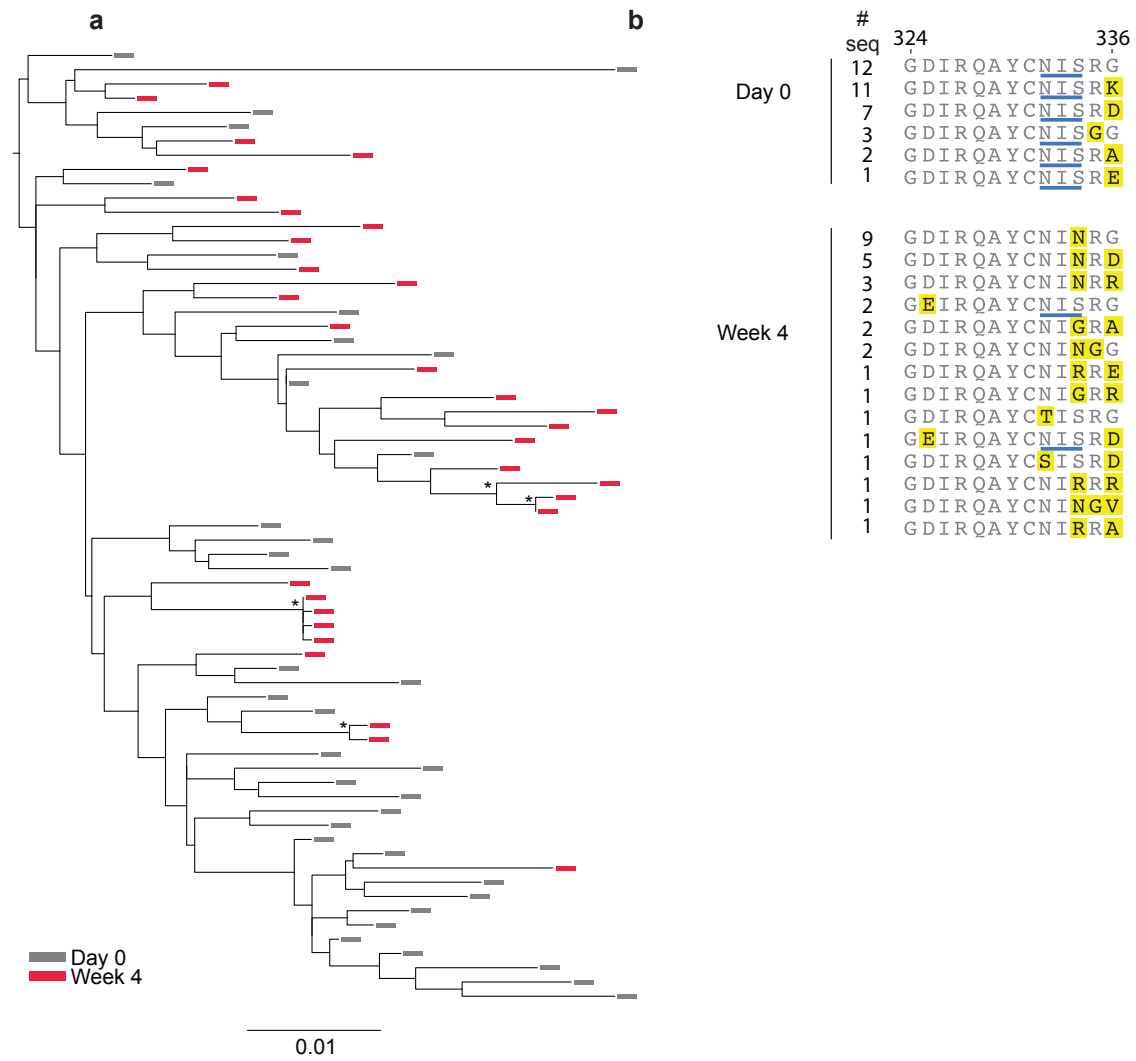
IC₈₀ (µg/ml)

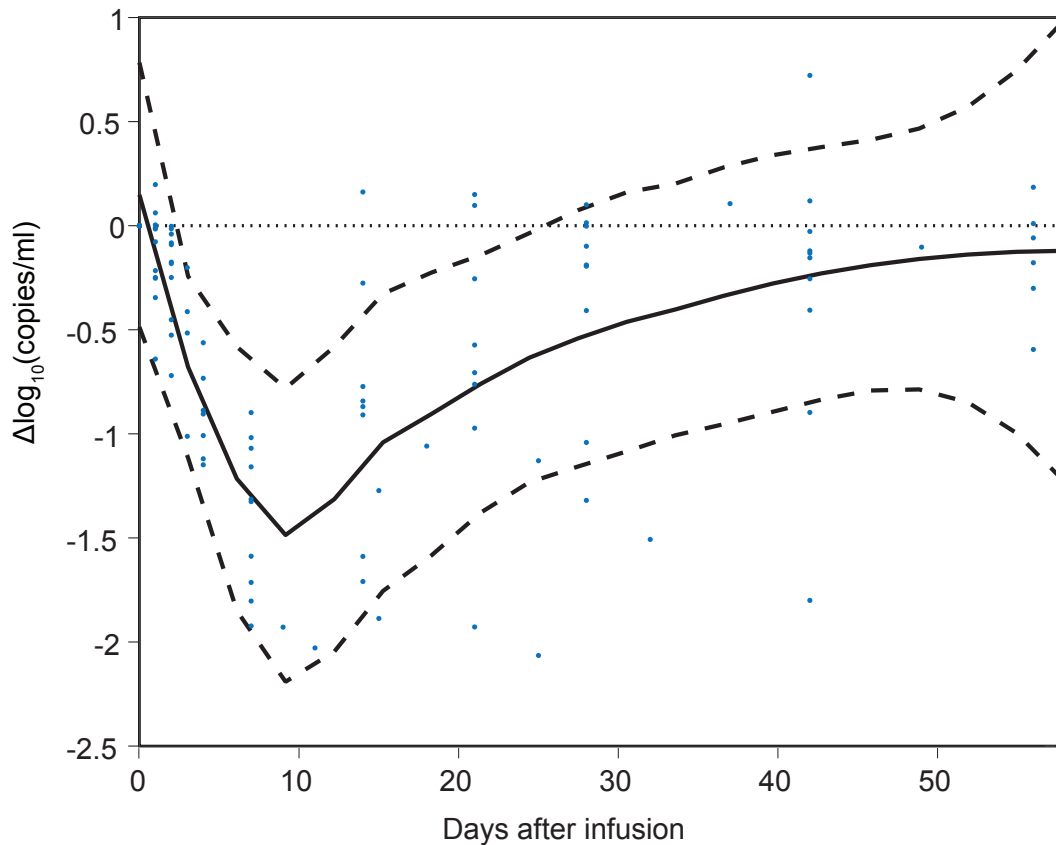
0 - 0.1
0.1 - 0.5
0.5 - 1.0
1.0 - 2.0
2.0 - 5.0
5.0 - 10.0
> 10.0

Supplementary Figure 4 continued (1HD10K)



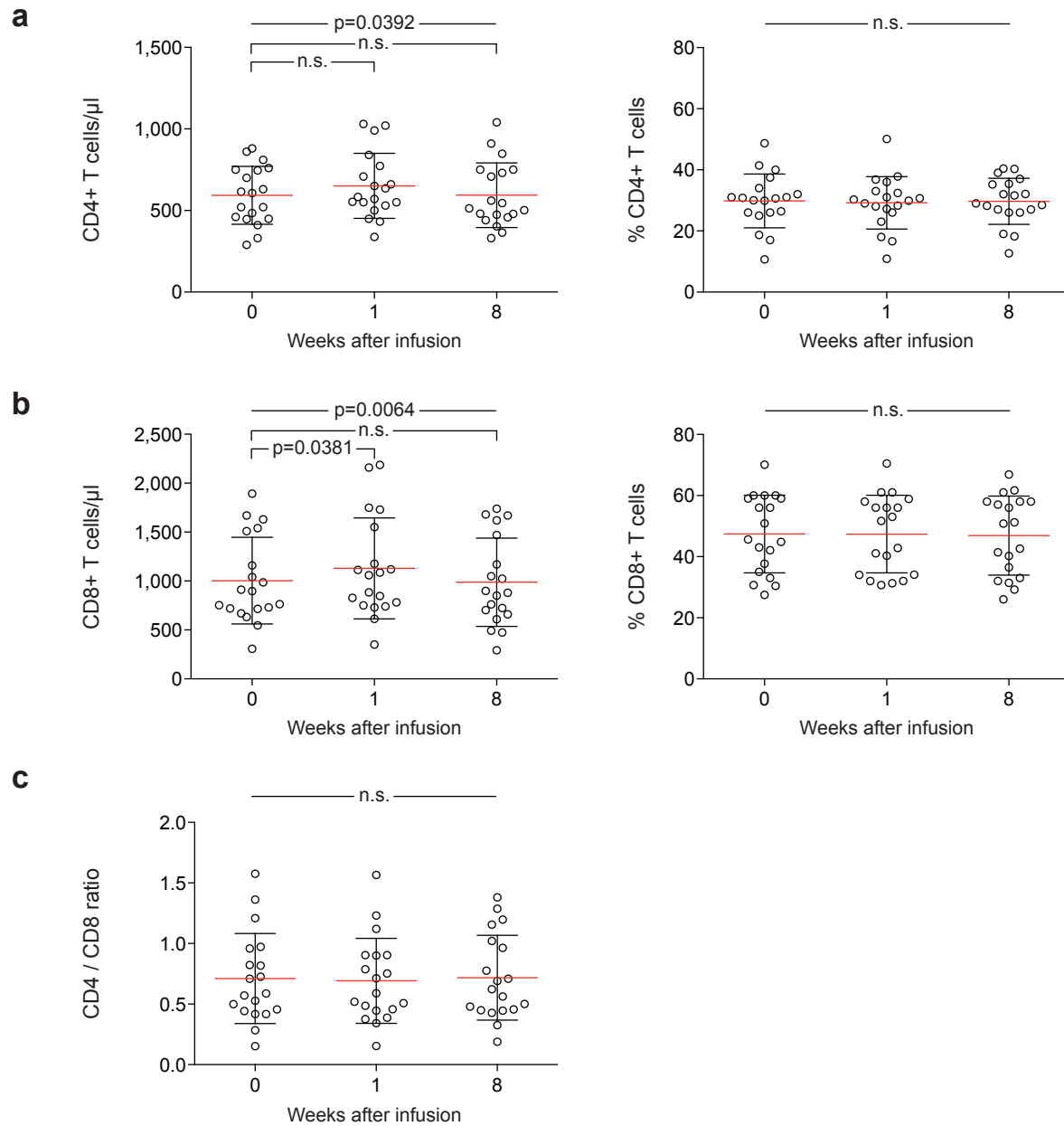
Supplementary Figure 4 continued (1HD11K)





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

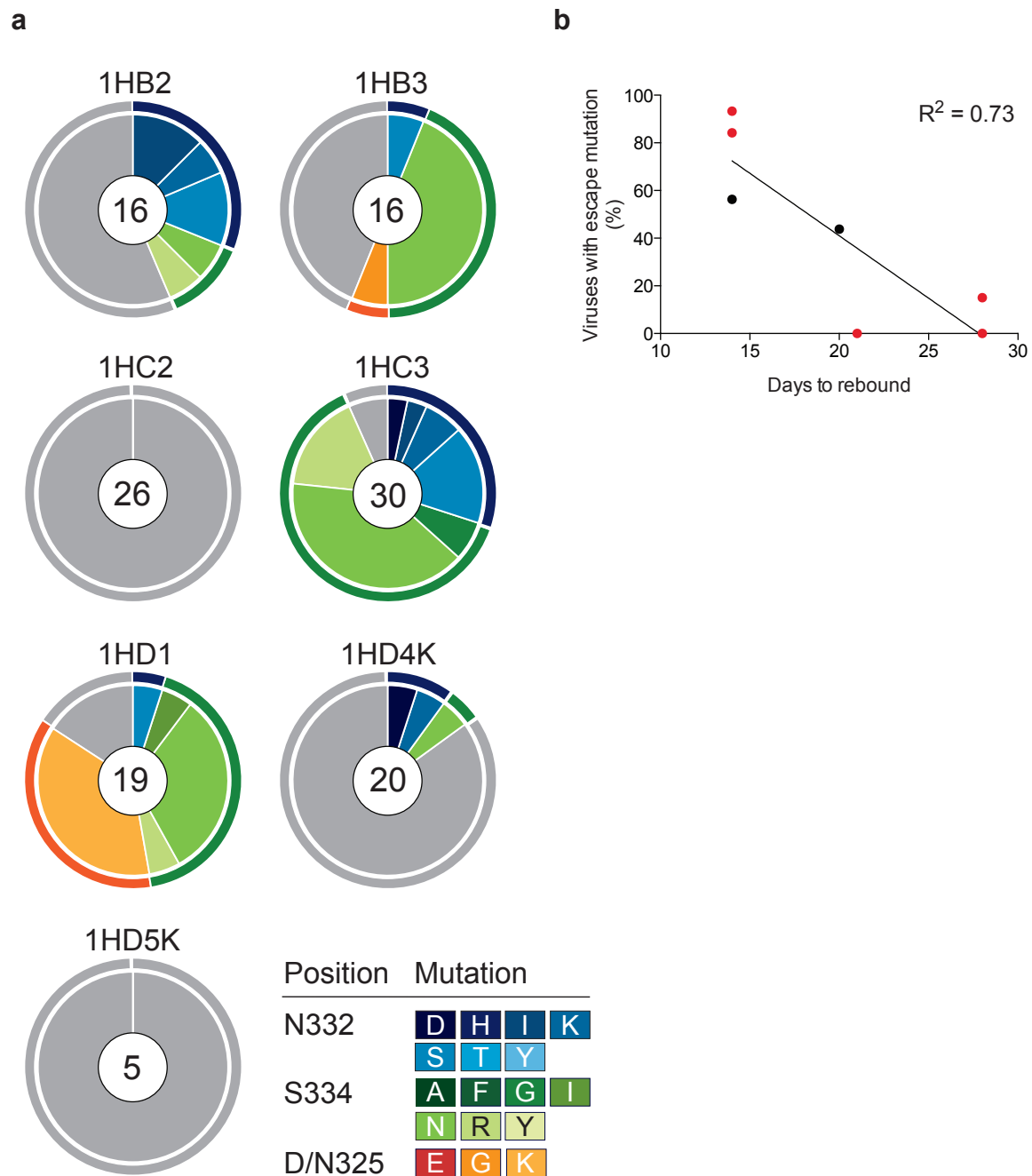
TP	# seqs	1HB1	# seqs	1HB2	# seqs	1HB3	# seqs	1HC1	# seqs	1HC2	# seqs	1HC3	# seqs	1HD1
Day 0	25	AAC ATT AGT N I S	27	AAC ATT AGT N I S	29	AAC ATT AGT N I S	5	AAC CTT AGT N L S	31	AAC ATT AGT N I S	27	AAC ATT AGT N I S	32	AAC ATT AGT N I S
Day 0	1	AAC ATT AGC N I S					5	AAT CTT AGT N L S			2	AAATTATTAGT N I S		
Day 0	1	AAATATCAGT N I S					2	ACTATTAGT T I S						
Day 0	1						1	AACATTAGT N I S						
Week 4	10	AAC ATT AAT N I N	12	AAC ATT AAT N I N	12	AAC ATT AAT N I N	7	AAC CTT AGT N L S	17	AAC ATT AAT N I N	12	AGC ATT AGT S I S	15	AAC ATT AAT N I N
Week 4	5	ATCATTAGT I I S	8	AGCATTAGT S I S	4	GACATTAGT D I S	6	AAT CTT AGT N L S	5	AAATTATTAGT K I S	10	AAC ATT AAT N I N	2	ATCATTAGT I I S
Week 4	3	AACATTAGA N I R	5	AACATTAGG N I R	3	AGCATTAGT S I S	6	ACTATTAGT T I S	3	AGCATTAGT T I S	3	AACGTTAAT N V N	2	AACATTAGG N I R
Week 4	3	AACATTAGG N I R	1	AACATTGGT N I G	2	AACATTAGT N I S	5	AACATTAGT N I S	1	AACATTAGT N I S	2	AAATTATTAGT K I S	2	AACATTAGT N I S
Week 4	3	ACCATTAGT T I S	1	ATCATTAGT I I S	1	GACATTAGT H I S	4	AGTCTTAGT S L S	1	AAATTATTAGT K I S	2	ATCATTAGT I I S	1	AGCATTAGT S I S
Week 4	2	CACATTAGT H I S			1	AACATTATT N I I	3	ACTCTTAGT T L S	1	AGCATTAGT S I S	1	AACATTGGT N I G	1	GACATTAGT D I S
Week 4	2	AACATTGGT N I G			1	AGCATTAGC S I S	2	AACATTAAAT N I N	2	AGCCTTAGT S L S	1	GACATTAGT D I S	1	ACCATTAGT T I S
Week 4	1	GACATTAGT D I S			1	AAATTATTAGT K I S	2	AGCCTTAGT S L S			1	AACATTAGA N I R		
Week 4	1	AGCATTAGT S I S			1	GACATTAGC D I S	1	AAATTATTAGT K L S						
Week 4	1	AAAATTAGT K I S			1	AACATTGGT N I G	1	ACCATTAGT T I S						
Week 4	1				1	AAATTATTAGT N I N								
TP	# seqs	1HD4K	# seqs	1HD5K	# seqs	1HD6K*	# seqs	1HD8K	# seqs	1HD10K*	# seqs	1HD11K		
Day 0	23	AAC ATC AGT N I S	23	AAC ATT AGT N I S	32	AAT ATT TCT N I S	36	AAC ATT AGT N I S	19	AAC ATT AGT N I S	36	AAC ATT AGT N I S		
Week 4*	27	GAC ATC AGT D I S	7	AAC ATT AAT N I N	5	AAT ATT TTT N I F	21	AAC ATT AAT N I N	13	AAC ATT AGT N I S	20	AAC ATT AAT N I N		
Week 4*	3	AAC ATC AAT N I N	5	AGCATTAGT S I S	4	AAT ATT GCT N I A	6	AAC ATT AGG N I R	8	AAC ATT AAT N I N	3	AAC ATT AGT N I S		
Week 4*	2	AAATCAGT K I S	2	AACATTAGG N I R	3	AAT ATT TAT N I Y	2	AAATTATTAGT K I S	5	AGCATTAGT S I S	3	AACATTAGC N I R		
Week 4*	1	AAC ATC CGT N I R	2	AACATTGGT N I G	2	AAT ATT TCT N I S	2	AAC ATT GGT N I G	3	GACATTAGT D I S	3	AAC ATT GGT N I G		
Week 4*			1	AACATTAGA N I R			1	AACATTAGT N I S	2	AACATTAGG N I R	1	AGCATTAGT S I S		
Week 4*			1	AAATTATTAGT K I S			1	AGCATTAGT S I S	1	ACCATTAGT T I S	1	ACCATTAGT T I S		
Week 4*			1	AACATTAGT Y I S			1	ACCATTAGT T I S						

Resistant subjects

	# seqs	1HD2**	# seqs	1HD9K
Day 0	14	ACCATTAGT I I S	30	AATATTAGT N I S

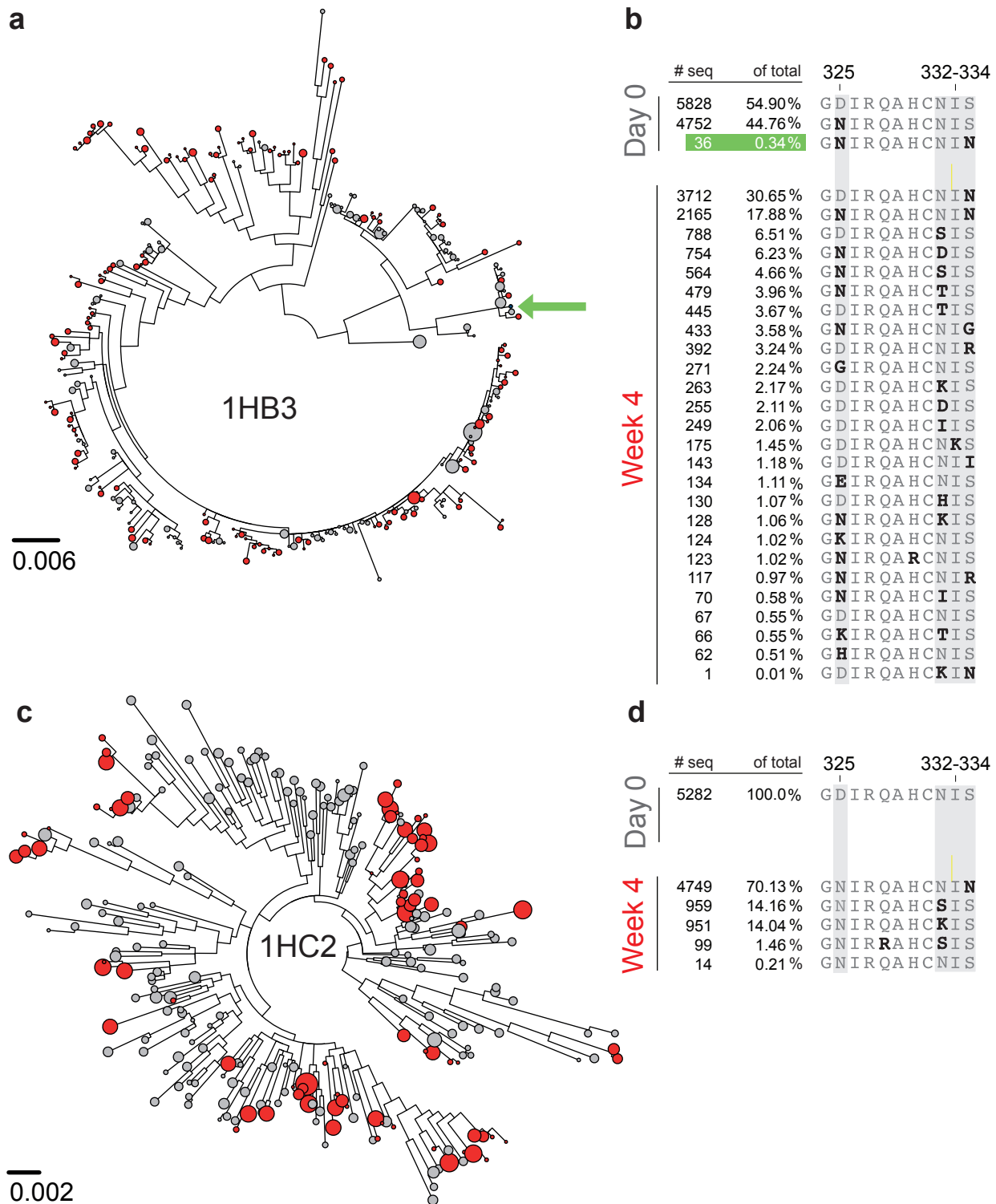
Supplementary Figure 7. Nucleotide alignment of N332 glycan region in study participants

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 turquoise 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).



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 ³³²NIN³³⁴ 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/ μ l)
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/ μ l 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	10 mg/kg	30 mg/kg	3 mg/kg	10 mg/kg	30 mg/kg
								(n=3)	(n=3)	(n=8)	(n=3)	(n=3)	(n=13)
								<i>no. of adverse events</i>			<i>no. of adverse events</i>		
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						1HA2						1HA3							
	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)		
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		
Screen	764	<20	-	-	-	-	618	<20D	-	-	-	-	702	<20	-	-	-	-	-	
Pre	-	<20D	-	-	-	-	-	<20D	-	-	-	-	-	<20	-	-	-	-	-	
Day 0 Base	750	<20D	-	<20	<0.34	<20	745	<20D	-	<20	<0.34	<20	484	<20	-	<20	<0.34	<20	<20	
Day 0 End	-	-	-	3,419	44.4	<20	-	-	-	4,329	56.3	<20	-	-	-	4,826	62.7	<20	<20	
Day 1	-	<20D	-	2,433	31.6	<20	-	<20D	-	3,298	42.9	<20	-	<20	-	4,475	58.2	<20	<20	
Day 2	-	<20	-	2,346	30.5	<20	-	<20D	-	2,391	31.1	<20	-	<20D	-	2,039	26.5	<20	<20	
Day 4	-	<20D	-	NA	NA	22	-	<20	-	1,632	21.2	<20	-	<20D	-	1,451	18.9	<20	<20	
Day 7	773	30	-	1,494	19.4	<20	-	<20D	-	919	11.9	<20	-	551	<20	-	1,193	15.5	<20	
Day 14 (-1)	837	<20	-	510	6.6	<20	-	865	<20	-	655	8.5	<20	-	305	<20	-	484	6.3	<20
Day 21	-	<20	-	290	3.8	<20	-	<20D	-	370	4.8	<20	-	<20D	-	652	8.5	<20	<20	
Day 28	676	<20D	-	217	2.8	<20	-	<20D	-	267	3.5	<20	-	419	<20	-	314	4.1	<20	
Day 42	-	<20	-	97	1.3	<20	-	<20D	-	114	1.5	<20	-	-	<20	-	149	1.9	<20	
Day 56	708	<20D	-	60	0.8	<20	-	<20D	-	73	0.9	<20	-	403	<20	-	123	1.6	<20	
Day 84	-	<20D	-	26	0.3	<20	-	<20	-	39	0.5	<20	-	-	<20	-	48	0.6	<20	
Day 112	802	<20	-	NA	NA	21	-	836	<20	-	24	0.3	<20	-	574	<20D	-	NA	NA	20
Day 140 (+1)	-	<20	-	NA	NA	25	-	<20	-	<20	<0.26	<20	-	-	<20	-	<20	<0.26	<20	
Day 168	742	<20D	-	23	0.3	<20	-	1,113	<20	-	<20	<0.26	<20	-	595	<20	-	<20	<0.26	<20

10 mg/kg	1HB1						1HB2						1HB3							
	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)		
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		
Screen	451	29,180	-	-	-	-	572	8,930	-	-	-	-	487	1,330	-	-	-	-	-	
Pre	-	21,160	-	-	-	-	-	7,310	-	-	-	-	-	8,070	-	-	-	-	-	
Day 0 Base	449	13,920	-	<20	<0.26	<20	520	6,380	-	<20	<0.26	<20	616	35,810	-	<20	<0.26	59		
Day 0 End	-	-	-	7,786	167.4	<20	-	-	-	12,586	270.6	<20	-	-	-	2,794	60.1	<20	<20	
Day 1	-	12,790	0.0	5,827	125.3	<20	-	5,780	0.0	8,300	178.5	<20	-	30,780	-0.1	7,456	160.3	<20	<20	
Day 2	-	9,450	-0.2	5,620	120.8	<20	-	6,320	0.0	6,499	139.7	<20	-	11,880	-0.5	6,050	130.1	<20	<20	
Day 4	-	2,610	-0.7	2,964	63.7	<20	-	2,090	-0.5	4,894	105.2	<20	-	15,660	-0.4	4,756	102.3	<20	<20	
Day 7 (+2)	571	380	-1.6	2,108	45.3	<20	-	583	190	-1.5	2,217	47.7	<20	-	553	2,990	-1.1	2,680	57.6	<20
Day 14 (+1)	518	1,840	-0.9	866	18.6	<20	-	509	360	-1.2	2,067	44.4	<20	-	542	11,590	-0.5	1,655	35.6	<20
Day 21	-	7,540	-0.3	532	11.4	<20	-	950	-0.8	792	17.0	<20	-	-	28,150	-0.1	990	21.3	<20	
Day 28	475	14,660	0.0	318	6.8	<20	-	749	8,110	0.1	348	7.5	<20	-	629	17,380	-0.3	523	11.2	<20
Day 42 (+1)	-	18,980	0.1	129	2.8	<20	-	-	3,050	-0.3	135	2.9	<20	-	-	23,510	-0.2	248	5.3	<20
Day 56	474	19,190	0.1	85	1.8	<20	-	458	70	-	143	1.9	<20	-	513	36,580	0.0	155	3.3	<20
Day 84 (+2)	-	11,930	-0.1	<20	<0.43	<20	-	<20	-	50	-	<20	-	-	36,990	0.0	<20	<0.43	<20	
Day 112	475	13,000	0.0	<20	<0.43	<20	-	785	<20D	-	<20	<0.26	<20	-	500	37,640	0.0	<20	<0.43	ND
Day 140 (+3)	-	27,320	0.3	<20	<0.43	<20	-	<20	-	NA	NA	28	-	-	140	-	<20	<0.26	<20	
Day 168 (+1)	501	16,600	0.1	<20	<0.43	<20	-	754	<20	-	NA	NA	21	-	656	1,110	-	<20	<0.26	<20

30 mg/kg	1HC1						1HC2						1HC3								
	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)			
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50			
Screen	342	3,300	-	-	-	-	517	45,320	-	-	-	-	322	13,480	-	-	-	-	-		
Pre	-	2,260	-	-	-	-	-	18,490	-	-	-	-	-	11,780	-	-	-	-	-		
Day 0 Base	289	1,460	-	<20	<0.26	<20	607	77,610	-	<20	<0.26	<20	411	20,140	-	<20	<0.26	<20			
Day 0 End	-	-	-	27,478	590.8	<20	-	-	-	49,761	1,069.9	<20	-	-	-	20,132	926.1	<20	<20		
Day 1	-	2,300	0.2	23,756	510.8	<20	-	43,400	-0.3	20,719	445.5	<20	-	9,090	-0.3	20,339	935.6	<20	<20		
Day 2	-	1,450	0.0	17,918	385.2	<20	-	75,000	0.0	17,233	370.5	<20	-	6,000	-0.5	11,238	516.9	<20	<20		
Day 4	-	400	-0.6	10,528	226.4	<20	-	29,990	-0.4	16,211	348.5	<20	-	1,430	-1.1	8,947	411.6	<20	<20		
Day 7	338	140	-1.0	8,763	188.4	<20	-	708	1,500	-1.7	13,913	299.1	<20	-	432	520	-1.6	8,171	375.9	<20	
Day 14	354	180	-0.9	5,450	117.2	<20	-	883	2,000	-1.6	6,039	129.8	<20	-	426	10,670	-0.3	2,751	128.5	<20	
Day 21	-	390	-0.6	2,419	52.0	<20	-	21	13,430	-0.8	3,619	77.8	<20	-	21	11,190	-0.3	1,864	85.7	<20	
Day 28	300	1,840	-0.1	1,376	29.6	<20	-	28	49,840	-0.2	2,166	46.6	<20	-	28	388	20,800	0.0	1,102	50.7	<20
Day 42	-	1,370	0.0	460	9.9	<20	-	42	30,480	-0.4	1,166	25.1	<20	-	42	-	-0.3	379	17.4	<20	
Day 56	330	730	-0.3	215	4.6	<20	-	56	40	-	358	4.7	<20	-	56	364	17,590	-0.1	211	9.7	<20
Day 84	-	1,850	0.1	47	1.0	<20	-	84	-	<20	55	0.7	<20	-	84	-	-0.2	49	2.3	<20	
Day 112 (+2)	354	5,730	0.6	<20	<0.43	<20	-	112	662	<20D	<20	<0.26	<20	-	112	478	<20	<20	<0.26	<20	
Day 140 (-4)	-	3,080	0.3	<20	<0.43	<20	-	140	<20	-	<20	<0.26	<20	-	140	<20	-	<20	<0.26	<20	
Day 168	289	1,460	0.0	<20	<0.43	<20	-	168	1,019	<20D	-	<20	<0.26	<20	-	168	467	<20	<20	<0.26	<20

30 mg/kg	1HD1						1HD2						1HD4K						
	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)	Control (MuLV)	
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	
Screen	510	64,130	-	-	-	-	455	830	-	-	-	-	380	26,000	-	-	-	-	-
Pre	-	37,350	-	-	-	-	-	2,940	-	-	-	-	-	53,300	-	-	-	-	-
Day 0 Base	520	41,770	-	<20	<0.26	<20	447	840	-	<20	<0.26	<20	330	60,300	-	<20	<0.26	<20	
Day 0 End	-	-	-	57,033	1,226.2	<20													

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

30 mg/kg

1HD5K							1HD6K							1HD7K							
Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	
Screen	540	97,700	-	-	-	-	Screen	590	8,690	-	-	-	-	Screen	830	5,950	-	-	-	-	-
Pre	-	9,720	-	-	-	-	Pre	-	14,100	-	-	-	-	Pre	-	5,350	-	-	-	-	-
Day 0 Base	630	7,570	-	<20	<0.26	-	Day 0 Base	700	10,100	-	<20	<0.26	-	Day 0 Base	860	9,250	-	<20	<0.26	-	-
Day 0 End	-	-	-	30,595	795.5	<20	Day 0 End	-	-	-	45,073	1171.9	<20	Day 0 End	-	-	-	24,017	624.4	<20	-
Day 1	-	7,300	0.0	20,152	524.0	<20	Day 1	-	9,910	0.0	29,675	771.6	<20	Day 1	-	9,330	0.0	28,574	742.9	<20	-
Day 2	-	4,980	-0.2	16,813	437.1	<20	Day 2	-	8,190	-0.1	21,180	550.7	<20	Day 2	-	8,430	0.0	16,122	419.2	<20	-
Day 4	-	1,400	-0.7	20,303	527.9	<20	Day 4	-	1,310	-0.9	19,734	513.1	<20	Day 4 (-1)	-	5,820	-0.2	10,544	274.1	<20	-
Day 7	550	367	-1.3	12,165	316.3	<20	Day 7 (+2)	840	119	-1.9	11,431	297.2	<20	Day 7	990	1,170	-0.9	9,166	238.3	<20	-
Day 14 (+1)	680	404	-1.3	7,971	207.2	<20	Day 14 (+1)	620	131	-1.9	6,497	168.9	<20	Day 14	880	1,250	-0.9	2,553	66.4	<20	-
Day 21 (-3)	-	661	-1.1	4,779	124.3	<20	Day 21 (+4)	-	87	-2.1	2,427	63.1	<20	Day 21	-	1,820	-0.7	1,230	32.0	<20	-
Day 28	630	2,960	-0.4	3,084	80.2	<20	Day 28 (+4)	890	314	-1.5	2,782	72.3	<20	Day 28	960	5,990	-0.2	748	19.4	<20	-
Day 42	-	39,900	0.7	2,034	52.9	<20	Day 42	-	160	-1.8	952	24.8	<20	Day 42	-	7,000	-0.1	282	7.3	<20	-
Day 56	580	114,000	1.2	1,523	38.6	<20	Day 56 (+2)	1,040	992	-1.0	249	6.5	<20	Day 56	750	6,140	-0.2	85	2.2	<20	-
Day 84	690	<20D	-	NA	NA	37	Day 84	-	10,100	0.0	36	0.6	<20	Day 84	-	9,880	0.0	<20	<0.36	<20	-
Day 112	680	<20	-	NA	NA	41	Day 112	1,100	5,900	-0.2	<20	<0.36	<20	Day 112	840	11,100	0.1	<20	<0.36	<20	-
Day 140	600	<20	-	NA	NA	26	Day 140 (+9)	-	11,600	0.1	<20	<0.36	<20	Day 140	-	10,900	0.1	<20	<0.36	<20	-
Day 168	600	<20	-	96	1.4	<20	Day 168	660	3,240	-0.5	<20	<0.54	<20	Day 168 (+1)	910	10,600	0.1	<20	<0.54	<20	-

1HD8K							1HD9K							1HD10K							
Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)	
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50		cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/ml	ID50	
Screen	780	9,600	-	-	-	-	Screen	830	763	-	-	-	-	Screen	630	7,100	-	-	-	-	-
Pre	-	10,800	-	-	-	-	Pre	-	5,770	-	-	-	-	Pre	-	7,390	-	-	-	-	-
Day 0 Base	880	11,000	-	<20	<0.26	-	Day 0 Base	810	6,960	-	<20	<0.64	<20	Day 0 Base	760	10,500	-	<20	<0.64	<20	-
Day 0 End	-	-	-	34,336	892.7	<20	Day 0 End	-	-	-	17,890	1395.4	<20	Day 0 End	-	-	-	18,618	1452.2	<20	-
Day 1	-	6,690	-0.2	30,519	793.5	<20	Day 1	-	6,510	0.0	10,705	835.0	<20	Day 1	-	12,100	0.1	8,339	650.4	<20	-
Day 2	-	7,350	-0.2	24,208	629.4	<20	Day 2	-	6,770	0.0	8,450	659.1	<20	Day 2	-	8,680	-0.1	9,085	708.6	<20	-
Day 4	-	1,370	-0.9	16,044	417.1	<20	Day 4	-	5,830	-0.1	6,183	482.3	<20	Day 4	-	1,030	-1.0	4,719	368.1	<20	-
Day 7	1,030	173	-1.8	9,340	242.8	<20	Day 7	660	8,120	0.1	4,514	352.1	<20	Day 7	650	496	-1.3	5,725	446.6	<20	-
Day 14 (-3)	760	103	-2.0	7,825	203.5	<20	Day 14	560	8,310	0.1	2,432	189.7	<20	Day 14	750	205	-1.7	1,718	134.0	<20	-
Day 21 (+4)	-	817	-1.1	5,950	154.7	<20	Day 21	-	21,400	0.5	2,326	181.4	<20	Day 21	-	124	-1.9	880	68.6	<20	-
Day 28	830	1,000	-1.0	3,976	103.4	<20	Day 28	640	18,600	0.4	774	60.4	<20	Day 28	800	503	-1.3	670	52.3	<20	-
Day 42	-	7,710	-0.2	1,933	50.3	<20	Day 42	-	12,800	0.3	404	31.5	<20	Day 42	-	1,330	-0.9	300	23.4	<20	-
Day 56	910	<20	-	2,576	36.1	<20	Day 56 (+4)	730	16,800	0.4	138	10.8	<20	Day 56	750	2,670	-0.6	105	8.2	<20	-
Day 84 (+7)	930	<20	-	NA	NA	92	Day 84 (-2)	-	9,910	0.2	48	0.9	<20	Day 84	-	12,900	0.1	21	0.4	<20	-
Day 112	-	<20	-	444	6.2	<20	Day 112 (-7)	660	3,840	-0.3	<20	<0.54	<20	Day 112	710	2,440	-0.6	<20	<0.54	<20	-
Day 140 (-5)	-	<20	-	296	4.1	<20	Day 140 (-3)	-	18,700	0.4	<20	<0.54	<20	Day 140	-	34,600	0.5	<20	<0.54	<20	-
Day 168	900	<20	-	95	1.4	<20	Day 168	-	-	-	-	-	-	Day 168	-	-	-	-	-	-	-

1HD11K						
Timepoint	CD4+ T cells	VL	VL	Active 10-1074 in serum (3103.v3.c10)		Control (MuLV)
	cells/ μ l	cp/ml	Δ log ₁₀	ID50	μ g/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					2HA2					2HA3				
Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)	
	ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50	
Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-
Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-
Day 0 Base	<20	<1.16	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20
Day 0 End	1,112	64.5	<20	<20	Day 0 End	1,637	130.1	<20	<20	Day 0 End	1,005	79.9	<20	<20
Day 1	915	53.1	<20	<20	Day 1	982	78.1	<20	<20	Day 1	1,013	80.5	<20	<20
Day 2	615	35.7	<20	<20	Day 2	877	69.7	<20	<20	Day 2	734	58.4	<20	<20
Day 4 (+2)	567	32.9	<20	<20	Day 4	678	53.9	<20	<20	Day 4 (+1)	395	31.4	<20	<20
Day 7	595	34.5	<20	<20	Day 7	447	35.5	<20	<20	Day 7	355	28.2	<20	<20
Day 14	259	20.6	<20	<20	Day 14	367	29.2	<20	<20	Day 14	289	23.0	<20	<20
Day 21	200	15.9	<20	<20	Day 21	244	19.4	<20	<20	Day 21	264	21.0	<20	<20
Day 28	173	13.8	<20	<20	Day 28	168	13.4	<20	<20	Day 28 (+1)	154	12.2	<20	<20
Day 42	112	8.9	<20	<20	Day 42	86	6.8	<20	<20	Day 42	121	9.6	<20	<20
Day 56	104	8.3	<20	<20	Day 56	68	5.4	<20	<20	Day 56	97	7.7	<20	<20
Day 84	46	3.7	<20	<20	Day 84 (+2)	<20	<1.59	<20	<20	Day 84 (-1)	25	2.0	<20	<20
Day 112 (+7)	21	1.7	<20	<20	Day 112 (+2)	<20	<1.59	<20	<20	Day 112 (+1)	<20	<1.59	<20	<20
Day 140 (+2)	22	1.7	<20	<20	Day 140	<20	<1.59	<20	<20	Day 140 (-5)	<20	<1.59	<20	<20
Day 168	<20	<1.59	<20	<20	Day 168	<20	<1.59	<20	<20	Day 168 (+5)	<20	<1.59	<20	<20

10 mg/kg

2HB1					2HB2					2HB3				
Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)	
	ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50	
Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-
Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-
Day 0 Base	<20	<1.16	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20
Day 0 End	6,178	358.3	<20	<20	Day 0 End	5,092	404.8	<20	<20	Day 0 End	4,163	331.0	<20	<20
Day 1	4,168	241.7	<20	<20	Day 1	2,405	191.2	<20	<20	Day 1	2,965	235.7	<20	<20
Day 2	2,405	139.5	<20	<20	Day 2	2,218	176.3	<20	<20	Day 2	2,594	206.2	<20	<20
Day 4	1,849	107.2	<20	<20	Day 4 (-1)	1,966	156.3	<20	<20	Day 4 (-1)	2,025	161.0	<20	<20
Day 7	1,449	84.0	<20	<20	Day 7	1,665	132.4	<20	<20	Day 7	1,224	97.3	<20	<20
Day 14	1,306	103.8	<20	<20	Day 14	1,555	123.6	<20	<20	Day 14	859	68.3	<20	<20
Day 21	755	60.0	<20	<20	Day 21	850	67.6	<20	<20	Day 21	637	50.6	<20	<20
Day 28	508	40.4	<20	<20	Day 28	550	43.7	<20	<20	Day 28	607	48.3	<20	<20
Day 42	335	26.6	<20	<20	Day 42 (+1)	468	37.2	<20	<20	Day 42 (-1)	283	22.5	<20	<20
Day 56 (+3)	168	13.4	<20	<20	Day 56 (+3)	306	24.3	<20	<20	Day 56 (+1)	178	14.2	<20	<20
Day 84 (+3)	109	8.7	<20	<20	Day 84 (+3)	149	11.8	<20	<20	Day 84 (-1)	103	8.2	<20	<20
Day 112	24	1.9	<20	<20	Day 112 (+3)	98	7.8	<20	<20	Day 112	46	3.7	<20	<20
Day 140 (-3)	21	1.7	<20	<20	Day 140	79	6.3	<20	<20	Day 140 (-7)	23	1.8	<20	<20
Day 168 (+1)	<20	<1.59	<20	<20	Day 168	48	3.8	<20	<20	Day 168	<20	<1.59	<20	<20

30 mg/kg

2HC1					2HC2					2HC3					2HD1				
Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)	
	ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50	
Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-
Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-
Day 0 Base	<20	<1.16	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.16	<20	<20
Day 0 End	24,299	1,409.3	<20	<20	Day 0 End	22,159	1,761.6	<20	<20	Day 0 End	25,035	1,990.3	<20	<20	Day 0 End	22,728	1,318.2	<20	<20
Day 1	13,753	797.7	<20	<20	Day 1	13,342	1,060.7	<20	<20	Day 1	17,749	1,411.0	<20	<20	Day 1	12,917	749.2	<20	<20
Day 2 (+1)	13,021	755.2	<20	<20	Day 2	11,342	901.7	<20	<20	Day 2	15,288	1,215.4	<20	<20	Day 2	8,687	503.8	<20	<20
Day 4	6,905	400.5	<20	<20	Day 4	9,697	770.9	<20	<20	Day 4	14,159	1,125.6	<20	<20	Day 4	9,290	538.8	<20	<20
Day 7 (+1)	6,083	352.8	<20	<20	Day 7	6,467	514.1	<20	<20	Day 7	4,524	359.7	<20	<20	Day 7	6,807	394.8	<20	<20
Day 14	4,575	363.7	<20	<20	Day 14	3,521	279.9	<20	<20	Day 14	3,120	248.0	<20	<20	Day 14 (+1)	5,048	401.3	<20	<20
Day 21	2,825	224.6	<20	<20	Day 21	2,715	215.8	<20	<20	Day 21	1,974	156.9	<20	<20	Day 21	1,929	153.4	<20	<20
Day 28 (+6)	1,271	101.0	<20	<20	Day 28 (+2)	2,390	190.0	<20	<20	Day 28 (+2)	1,224	97.3	<20	<20	Day 28 (+1)	1,362	108.3	<20	<20
Day 42 (+2)	786	62.5	<20	<20	Day 42 (+1)	2,907	231.1	<20	<20	Day 42 (-4)	1,462	116.2	<20	<20	Day 42 (+4)	827	65.7	<20	<20
Day 56 (+2)	407	32.4	<20	<20	Day 56 (+9)	976	77.6	<20	<20	Day 56 (+1)	439	34.9	<20	<20	Day 56	442	36.5	<20	<20
Day 84 (+2)	130	10.3	<20	<20	Day 84 (+2)	512	40.7	<20	<20	Day 84 (+2)	185	14.7	<20	<20	Day 84 (+3)	333	26.5	<20	<20
Day 112	54	4.3	<20	<20	Day 112 (+4)	221	17.6	<20	<20	Day 112 (+2)	65	5.2	<20	<20	Day 112 (+1)	112	8.9	<20	<20
Day 140	21	1.7	<20	<20	Day 140 (+4)	155	12.3	<20	<20	Day 140 (-3)	46	3.7	<20	<20	Day 140 (+1)	56	4.5	<20	<20
Day 168	<20	<1.59	<20	<20	Day 168 (+8)	72	5.7	<20	<20	Day 168 (+1)	<20	<1.59	<20	<20	Day 168 (+4)	<20	<1.26	<20	<20

2HD2					2HD3					2HD4					2HD5				
Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)		Timepoint	Active 10-1074 in serum (Du422.1)		Control (MuLV)	
	ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50			ID50	µg/ml	ID50	
Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-	Screen	-	-	-	-
Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-	Pre	-	-	-	-
Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20	Day 0 Base	<20	<1.59	<20	<20
Day 0 End	19,872	1,579.8	<20	<20	Day 0 End	17,652	1,403.3	<20	<20	Day 0 End	12,156	966.4	<20	<20	Day 0 End	8,290	659.1	<20	<20
Day 1	23,001	1,828.6	<20	<20	Day 1	12,852	1,021.7	<20	<20	Day 1	8,507	676.3	<20	<20	Day 1	5,498	437.1	<20	<20
Day 2	8,687	690.6	<20	<20	Day 2	13,275	1,055.4	<20	<20	Day 2	7,543	599.7	<20	<20	Day 2	5,823	462.9	<20	<20
Day 4	7,289	579.5	<20	<20	Day 4	4,244	337.4	<20	<20	Day 4 (-1)	9,117	724.8	<20	<20	Day 4	4,385	348.6	<20	<20
Day 7 (+1)	5,773	459.0	<20	<20	Day 7	4,176	332.0	<20	<20	Day 7 (+1)	4,567	363.1	<20	<20	Day 7	3,040	241.7	<20	<20
Day 14	4,116	327.2	<20	<20	Day 14	2,488	197.8	<20	<20	Day 14 (+1)	2,235	177.7	<20	<20	Day 14	1,916	152.3	<20	<20
Day 21 (+1)	3,205	254.8	<20	<20	Day 21 (+1)	1,399	111.2	<20	<20	Day 21 (+1)	1,787	142.1	<20						

Supplementary Table 4. Pharmacokinetics of 10-1074

a Pharmacokinetics by study subject

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_% Extrapolated
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 4. Pharmacokinetics of 10-1074 - continued**b** Pharmacokinetics 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)*

	d0	wk 1	wk 4	wk 24		d0	wk 1	wk 4	wk 24
1HB1	# (27) site mt	# (nd) site mt	# (31) site mt	# (31) site mt	1HB2	# (27) site mt	# (16) site mt	# (27) site mt	# (nd) site mt
	27 DNIS wt		10 S334 N	18 S334 N		9 DNIS wt	12 S334 N	12 S334 N	
			6 S334 R	7 S334 R		2 N332 S	8 N332 S	8 N332 S	
			5 N332 I	4 N332 S		2 N332 I	5 S334 R	5 S334 R	
			3 N332 T	1 N332 del		1 N332 K	1 S334 G	1 S334 G	
		2 N332 H	1 S334 D	1 S334 R	1 S334 N	1 N332 I			
		2 S334 G		1 S334 R	1 S334 R				
		1 N332 D							
		1 N332 K							
		1 N332 S							
1HB3	# (29) site mt	# (16) site mt	# (19/28) site mt	# (22) site mt	1HC1	# (19) site mt	# (nd) site mt	# (37) site mt	# (28) site mt
	15 NNIS wt	7 S334 N	6 / 13 S334 N	5 S334 N		14 DNLS wt	12 DNLS wt	17 DNLS wt	
	14 DNIS wt	6 NNIS wt	2 / 5 N332 D	4 N332 I		3 DNIS wt	10 N332 T	6 N332 T	6 DNIS wt
		1 DNIS wt	4 / 4 N332 T	3 N332 T		2 N332 T	6 N332 S	5 N332 S	5 N332 T
		1 D/N325 G	0 / 1 N332 H	2 DNIS wt		5 DNIS wt	6 DNIS wt	5 DNIS wt	
	1 N332 S	1 / 1 N332 K	2 D/N325 K	2 S334 N	2 S334 N	2 S334 N			
		2 / 1 S334 G	2 S334 R	2 S334 R	1 N332 K	1 N332 K			
		0 / 1 S334 I	2 N332 S	2 N332 S	1 N332 K	1 D/N325 E			
		1 / 1 D/N325 G	1 N332 K	1 N332 K					
		0 / 1 D/N325 K	1 NNIS wt	1 NNIS wt					
		2 / 0 D/N325 E							
		1 / 0 N332 T							
1HC2	# (31) site mt	# (26) site mt	# (28) site mt	# (nd) site mt	1HC3	# (29) site mt	# (30) site mt	# (32) site mt	# (nd) site mt
	31 DNIS wt	26 DNIS wt	17 S334 N			29 DNIS wt	12 S334 N	13 S334 N	
			6 N332 K			5 S334 R	12 N332 S	12 N332 S	
			3 N332 T			5 N332 S	2 N332 I	2 N332 I	
			1 N332 S			2 N332 K	2 N332 K	2 N332 K	
		1 D/N325 E		2 S334 G	1 N332 D	1 N332 D			
				2 DNIS wt	1 S334 R	1 S334 R			
				1 N332 I	1 N332 I	1 N332 I			
				1 N332 D	1 N332 D	1 N332 D			
1HD1	# (32) site mt	# (19) site mt	# (24) site mt	# (30) site mt	1HD2	# (14) site mt	# (nd) site mt	# (nd) site mt	# (nd) site mt
	32 NNIS wt	7 D/N325 K	15 S334 N	17 NNIS wt		14 N332 T			
		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							
1HD4K	# (23) site mt	# (20) site mt	# (33) site mt	# (nd) site mt	1HD5K	# (23) site mt	# (5) site mt	# (19) site mt	# (nd) site mt
	23 DNIS wt	17 DNIS wt	27 N332 D			23 DNIS wt	5 DNIS wt	7 S334 N	
		1 N332 D	3 S334 N					5 N332 S	
		1 N332 K	2 N332 K					3 S334 R	
		1 S334 N	1 S334 R					2 S334 G	
						1 N332 K			
						1 N332 Y			
1HD6K	# (32) site mt	# (nd) site mt	# (4/10) site mt	# (24/25) site mt	1HD8K	# (36) site mt	# (nd) site mt	# (34) site mt	# (nd) site mt
	32 DNIS wt		3 / 1 S334 A	20 / 25 DNIS wt		36 DNIS wt		21 S334 N	
			1 / 1 DNIS wt	1 / 0 S334 Y		12 NNIS wt		6 S334 R	
			0 / 5 S334 F	1 / 0 S334 F				2 N332 K	
			0 / 3 S334 Y	1 / 0 N332 K				2 S334 G	
			1 / 0 D/N325 E			1 N332 S			
						1 D/N325 K			
						1 N332 T			
1HD9K	# (30) site mt	# (nd) site mt	# (nd) site mt	# (nd) site mt	1HD10K	# (19) site mt	# (nd) site mt	# (12/20) site mt	# (23) site mt
	30 D/N325 E					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	# (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																											
				10-1074		PGT121		3BCN117		VRC01		PGDM1400															
#*	SGS Sequence ID	TP	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	#*	SGS Sequence ID	TP	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀	IC ₅₀	IC ₈₀		
1HB1																											
1	1HB1-D0-10216-B4_S3	Day0	0.005	0.024	0.012	0.054	0.186	0.544	0.440	2.270	>50	>50	>50	>50	11	1HB2-D0-102316-C3_S1	Day0	0.014	0.029	0.050	0.036	0.026	0.074	0.172	0.483	>50	>50
2	1HB1-D0-10216-C7_S6	Day0	0.002	0.015	0.038	0.326	0.034	0.171	0.086	0.443	>50	>50	>50	>50	12	1HB2-D0-102316-C7_S2	Day0	0.009	0.026	0.029	0.099	0.020	0.070	0.081	0.363	>50	>50
3	1HB1-D0-10216-F10_S11	Day0	0.008	0.037	0.981	8.898	0.030	0.132	0.095	0.446	>50	>50	>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
4	1HB1-D0-10216-B2_S21	Day0	0.008	0.033	0.040	0.219	0.020	0.055	0.083	0.303	>50	>50	>50	>50	14	1HB2-D0-102615-C8_S18	Day0	0.012	0.024	0.051	0.172	0.025	0.071	0.214	0.482	>50	>50
5	1HB1-D0-10216-G6_S32	Day0	0.004	0.014	0.004	0.026	0.034	0.141	0.216	1.109	>50	>50	>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
6	1HB1-W4-012016-D10_S47	Wk4	>50	>50	>50	>50	0.027	0.087	0.102	0.381	>50	>50	>50	>50	16	1HB2-W4-103015-A11_S74	Wk4	>50	>50	>50	>50	0.016	0.060	0.109	0.529	>50	>50
7	1HB1-W4-020416-A6_S52	Wk4	>50	>50	>50	>50	0.014	0.041	0.039	0.192	>50	>50	>50	>50	17	1HB2-W4-103015-C9_S80	Wk4	>50	>50	>50	>50	0.013	0.053	0.051	0.273	>50	>50
8	1HB1-W4-020416-B2_S54	Wk4	>50	>50	>50	>50	0.008	0.034	0.030	0.162	>50	>50	>50	>50	18	1HB2-W4-103015-D11_S85	Wk4	>50	>50	>50	>50	0.013	0.045	0.113	0.582	>50	>50
9	1HB1-W4-020416-D3_S58	Wk4	>50	>50	>50	>50	0.042	0.205	0.061	0.336	>50	>50	>50	>50	19	1HB2-W4-103015-D7_S84	Wk4	>50	>50	>50	>50	0.020	0.051	0.127	0.443	>50	>50
10	1HB1-W4-020416-H6_S65	Wk4	>50	>50	>50	>50	0.039	0.197	0.118	0.460	>50	>50	>50	>50	20	1HB2-W4-103015-F1_S87	Wk4	>50	>50	>50	>50	0.025	0.060	0.058	0.311	>50	>50
21	1HB2-W4-103015-F2_S88	Wk4	>50	>50	>50	>50	>50	>50	>50	>50	0.015	0.056	0.140	0.439	>50	>50											
1HB3																											
22	1HB3-D0-102316-G10_S34	Day0	0.041	0.115	0.012	0.038	0.117	0.320	0.989	5.104	0.443	1.688	>50	>50	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
23	1HB3-D0-102915-B2_S49	Day0	0.011	0.048	0.007	0.048	0.032	0.105	0.306	1.034	0.339	4.876	>50	>50	32	1HC1-D0-061516-B5_S69	Day0	>50	>50	0.512	4.675	0.004	0.017	0.019	0.084	>50	>50
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	>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
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	>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
26	1HB3-W4-10216-F7_S45	Wk4	>50	>50	>50	>50	0.184	0.660	2.235	6.231	0.470	1.828	>50	>50	35	1HC1-D0-070516-F10_S90	Day0	0.242	0.797	0.069	0.330	0.263	0.880	0.234	1.075	>50	>50
27	1HB3-W4-110215-C10_S52e	Wk4	>50	>50	>50	>50	0.159	0.417	1.284	4.568	0.382	1.314	>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
28	1HB3-W4-110215-C7_S50e	Wk4	>50	>50	>50	>50	0.161	0.457	1.716	5.854	0.492	2.348	>50	>50	37	1HC1-W4-070116-B8_S30	Wk4	>50	>50	>50	>50	0.389	0.993	0.377	1.524	>50	>50
29	1HB3-W4-110215-G3_S43	Wk4	>50	>50	>50	>50	0.161	0.458	1.009	3.831	0.245	1.153	>50	>50	38	1HC1-W4-070516-B4_S96	Wk4	>50	>50	>50	>50	0.345	1.203	0.265	1.261	>50	>50
30	1HB3-W4-110216-H3_S67	Wk4	>50	>50	>50	>50	0.153	0.530	1.423	6.577	0.255	1.318	>50	>50	39	1HC1-W4-070516-F1_S97	Wk4	0.557	1.498	0.219	0.983	0.187	0.656	0.187	0.716	>50	>50
43	1HC2-D0-102016-A5_S39	Day0	0.104	0.494	0.067	0.469	0.103	0.780	0.270	2.673	0.004	0.617	>50	>50	40	1HC1-W4-070516-P3-A3_S14	Wk4	>50	>50	>50	>50	0.107	0.398	0.090	0.457	>50	>50
44	1HC2-D0-102016-B4_S39	Day0	0.100	0.257	0.066	0.219	0.199	1.475	0.196	1.174	0.022	0.080	>50	>50	41	1HC1-W4-071216-D3_S66	Wk4	0.446	1.481	0.245	1.166	0.236	0.818	0.172	0.618	>50	>50
45	1HC2-D0-10216-C11_S66	Day0	0.023	0.068	0.016	0.047	>50	>50	0.137	1.325	0.169	0.914	>50	>50	42	1HC1-W4-071216-F7_S69	Wk4	>50	>50	>50	>50	0.318	0.808	0.202	0.745	>50	>50
46	1HC2-D0-10216-D1_S67	Day0	0.037	0.090	0.012	0.044	0.659	>50	0.282	7.175	0.004	0.018	>50	>50	55	1HC3-D0-102016-F7_S31	Day0	0.150	0.531	0.027	0.104	0.637	3.571	0.588	2.107	0.062	0.008
47	1HC2-D0-10216-F9_S75	Day0	0.029	0.090	0.012	0.046	0.018	0.083	0.031	0.096	0.003	0.020	>50	>50	56	1HC3-D0-102016-G2_S34	Day0	0.243	0.836	0.041	0.202	0.137	1.041	0.256	1.256	0.005	0.020
48	1HC2-D0-10216-H10_S82	Day0	0.032	0.109	0.011	0.050	0.016	0.054	0.070	0.306	0.005	0.017	>50	>50	57	1HC3-D0-10216-B1_S40	Day0	0.148	0.514	0.023	0.117	2.728	42.56	0.432	2.273	0.004	0.015
49	1HC2-W4-012016-F6_S83	Wk4	>50	>50	>50	>50	0.373	6.513	0.347	1.728	>50	>50	>50	>50	58	1HC3-D0-10216-E10_S40	Day0	0.293	0.940	0.072	0.254	0.043	0.156	0.212	0.776	0.003	0.013
50	1HC2-W4-012016-H12_S93	Wk4	>50	>50	>50	>50	0.012	0.122	0.014	0.061	>50	>50	>50	>50	59	1HC3-D0-10216-G3_S52	Day0	0.284	0.946	0.060	0.213	0.132	0.630	0.456	1.679	0.022	0.064
51	1HC2-W4-012216-A10_S11	Wk4	>50	>50	>50	>50	0.051	5.852	0.396	3.721	0.002	0.010	>50	>50	60	1HC3-W4-012016-G1_S19	Wk4	>50	>50	>50	>50	0.054	0.016	0.441	1.667	0.016	0.053
52	1HC2-W4-012216-A6_S95	Wk4	>50	>50	>50	>50	0.051	0.755	0.125	0.227	0.003	0.012	>50	>50	61	1HC3-W4-012016-H5_S21	Wk4	>50	>50	>50	>50	1.125	9.426	0.726	3.600	0.017	0.041
53	1HC2-W4-012216-E4_S9	Wk4	>50	>50	>50	>50	>50	>50	0.314	7.683	>50	>50	>50	>50	62	1HC3-W4-012616-C7_S77	Wk4	>50	>50	>50	>50	0.129	0.634	0.261	1.095	0.002	0.012
54	1HC2-W4-012216-G5_S14	Wk4	>50	>50	>50	>50	0.009	0.363	0.015	0.268	>50	>50	>50	>50	63	1HC3-W4-012616-F1_S85	Wk4	>50	>50	>50	>50	0.576	5.043	0.583	2.245	0.017	0.058
65	1HD1-D0-102016-A4_S67	Day0	0.019	0.102	0.007	0.034	0.202	1.313	1.772	9.558	0.387	2.654	>50	>50	64	1HC3-W4-012616-G4_S89	Wk4	>50	>50	>50	>50	0.610	3.033	0.805	2.914	0.001	0.006
66	1HD1-D0-102016-D6_S73	Day0	0.008	0.038	0.004	0.016	0.048	0.248	0.399	3.241	0.114	0.534	>50	>50	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
67	1HD1-D0-102016-H4_S83	Day0	0.003	0.011	0.012	0.064	0.120	0.588	0.200	0.930	>50	>50	>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
68	1HD1-D0-102176-B1_S14	Day0	0.014	0.066	0.005	0.026	0.018	0.116	0.076	0.681	0.396	3.731	>50	>50	81	1HD4K-D0-061616-P1-D4_S83	Day0	0.006	0.027	0.006	0.020	0.175	0.628	0.613	2.199	>50	>50
69	1HD1-D0-102176-B7_S16	Day0	0.014	0.046	0.004	0.021	0.071	0.351	0.388	2.098	0.724	2.104	>50	>50	82	1HD4K-D0-061616-P2-A4_S53	Day0	0.005	0.017	0.003	0.011	0.167	0.580	0.404	1.434	>50	>50
70	1HD1-W4-012016-C11_S93	Wk4	>50	>50	>50	>50	0.074	0.350	0.355	1.751	0.404	1.817	>50	>50	83	1HD4K-D0-061616-P2-C2_S57	Day0	0.009	0.027	0.004	0.014	0.146	0.517	0.509	1.912	>50	>50
71	1HD1-W4-012016-C12_S94	Wk4	>50	>50	>50	>50	0.048	0.311	0.293	1.585	0.327	1.185	>50	>50	84	1HD4K-W4-062316-P3-A3_S25	Wk4	>50	>50	0.064	0.557	0.123	0.356	0.559	2.772	>50	>50
72	1HD1-W4-012616-A6_S94	Wk4	>50	>50	>50	>50	0.057	0.177	0.155	0.583	0.452	2.111	>50	>50	85	1HD4K-W4-062316-P3-B1_S27	Wk4	>50	>50	0.090	0.214	0.150	0.547	0.537	2.219	>50	>50
73	1HD1-W4-012616-D9_S8	Wk4	>50	>50	>50	>50	0.086	0.467	0.741	4.299	0.310	1.487	>50	>50	86	1HD4K-W4-062316-P3-B9_S29	Wk4	>50	>50	0.024	0.199	0.029	0.194	1.600	7.741	>50	

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

Subject	Day 0				Week 4		
	# 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							week 4								
site	mut	SGS		PrimerID Deep Seq		SMRT		site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs			%	# of seqs	%	# of seqs	%	# of seqs
NNIS	-	51.72%	15	39.19%	145	44.76%	4,752	S334	N	46.43%	13	43.50%	97	49.03%	5,877
DNIS	-	48.28%	14	60.81%	225	54.90%	5,828	N332	D	17.86%	5	4.04%	9	8.42%	1,009
S334	N	-	-	-	-	0.34%	36	N332	S	14.29%	4	19.28%	43	11.28%	1,352
Total # of seqs		29		370		10,616		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							week 4								
site	mut	SGS		PrimerID Deep Seq		SMRT		site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs			%	# of seqs	%	# of seqs	%	# of seqs
DNIS	-	100.00%	31	100.00%	622	100.00%	5,282	S334	N	60.71%	17	54.37%	274	70.27%	4,749
Total # of seqs		31		622		5,282		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	-	-	-	-	-	-	
								NNIS	-	-	-	-	-	0.21%	14
Total # of seqs		28		504		6,772									

1HD1

day 0							week 4								
site	mut	SGS		PrimerID Deep Seq		SMRT		site	mut	SGS		PrimerID Deep Seq		SMRT	
		%	# of seqs	%	# of seqs	%	# of seqs			%	# of seqs	%	# of seqs	%	# of seqs
NNIS	-	100.00%	32	99.19%	611	99.28%	14,707	S334	N	62.50%	15	55.08%	325	47.69%	5,212
DNIS	-	-	-	0.32%	2	0.46%	68	D/N325	K	8.33%	2	18.64%	110	16.69%	1,824
NNLS	-	-	-	0.49%	3	-	-	N332	S	4.17%	1	6.78%	40	6.36%	695
D/N325	K	-	-	-	-	0.15%	22	S334	R	8.33%	2	5.08%	30	2.32%	253
S334	R	-	-	-	-	0.11%	16	S334	G	-	-	4.24%	25	13.11%	1,433
Total # of seqs		32		616		14,813		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									