Supplemental Material Table S1. HIV-1 genotype based on Sanger sequencing.

Group [a]	Patient ID	HIV-1 drug resistance mutations in the RT identified by Sanger sequencing
(I) Treatment failure in the presence of drug resistance mutations detected by Sanger Sequencing (n=27)	0113-13	K103N, M184I
	135-13	K103N
	137-13	K103N, Y181C, G190A
	dr-83-13	K103N
	dr-92-13	K103N, M184V/I
	96-13	Y181C
	223-13	M184I
	176-13	L74I, K103N, M184V, P225H
	200-13	D67N, V106A, M184V, G190A, E138A, F227L
	EN-7-13	K103N
	42-13	K103N, M184V, G190A, A98G
	143-12	K103N, M184V, P225H
	186-12	K103N, M184V, V179T
	65-12	K103N, V179I, K219Q
	70-12	D67N, K70R, M184V, G190A
	106-12	M41L, M184V, T215F, K219W, V179I
	109-12	K103N
	123-12	K103N, Y188L
	124-12	M184I
	134-12	K103N
	193-12	K103N, E138A
	207-12	K103N, M184V
	DR-31-11	M41L, K70R, K103N/S, Y181C, M184V, G190A, T215F, V108I
	DR-18-11	K70E, V75I, K101H, V108I, Y181C, M184V, G190A, F227L
	DR-286-08	K103N
	DR-371-08	Y181I, M184V
	DR-30-11	M41L, K70R, M184V
(II) Treatment failure in the absence of drug resistance mutations detected by Sanger Sequencing (n=21)	109-13	None
	89-13	None
	106-13	None
	156-13	None
	214-13	None
	218-13	None
	81-13	None
	177-13	None
	EN-10-13	None
	72-12	None
	dr-82-12	None

	110-12	None
	111-12	None
	135-12	None
	170-12	None
	172-12	None
	dr-0036-08	None
	DR-0115-11	None
	DR-193-11	None
	DR-269-08	None
	DR-50-11	None
(III) Treatment failure in the absence of drug resistance mutations detected by Sanger or deep sequencing (n=12)	216-13	None
	38-13	None
	66-13	None
	130-12	None
	30-12	None
	22-12	None
	14-12	None
	64-12	None
	205-12	None
	dr-0043-11	None
	DR-212-11	None
	DR-001-09	None
(IV) Treatment success (n=5)	62-12	None
	27-12	None
	23-12	None
	197-12	None
	215-12	None

[a] Group of patients clustered by their response to treatment with antiretroviral drugs in the presence or absence of drug resistance mutations detected using HIV-1 genotyping assays based on Sanger or deep sequencing (DEEPGEN). Patient-derived PCR products corresponding to the RT-coding region were originally sequenced as described in Materials and Methods (1). HIV-1 sequences were interpreted, and drug resistance profiles generated, with the help of the Stanford University HIV Drug Resistance Database (http://hivdb.stanford.edu).

1. **Kyeyune F, Nankya I, Metha S, Akao J, Ndashimye E, Tebit DM, Rodriguez B, Kityo C, Salata RA, Mugyenyi P, Arts E.** 2013. Treatment failure and drug resistance is more frequent in HIV-1 subtype D versus subtype A-infected Ugandans over a 10-year study period. AIDS **27:**1899-1909.

Group	Sample ID	Protein	Mutation	Prevalence
I	1	RT	K103N	97.3
I	1	RT	V118I	66.16
I	1	RT	M184I	65.77
I	1	RT	M230I	65.19
I	1	PROT	I84V	1.16
I	2	RT	D67N	12.82
I	2	RT	K70R	13.86
I	2	RT	K103N	31.35
I	2	RT	E138A	98.18
I	2	RT	M184V	19.69
I	2	RT	T215I	4.43
I	2	RT	K219Q	16.25
I	2	RT	P225H	5.18
I	2	RT	M230I	2.16
I	2	RT	K238T	12.35
I	2	PROT	L10F	2.43
I	2	INT	R263K	1.6
I	3	RT	K103N	99.01
I	3	RT	Y181C	81.3
I	3	RT	M184V	3.29
I	3	RT	G190A	80.54
I	3	RT	T215I	1.1
I	3	RT	K219Q	3.95
I	3	RT	K238T	2.59
I	3	PROT	F53L	1.08
I	4	RT	K103N	98.62
I	4	PROT	N83D	1.01
I	5	RT	K103N	88.75
I	5	RT	M184I	30.6
I	5	RT	M184V	59.1
I	5	RT	K219E	57.28
I	5	RT	P225H	65.99
I	5	RT	K238T	99.47
I	6	RT	Y181C	99.61
I	6	PROT	F53L	1.22
I	6	PROT	I54T	1.07
I	7	RT	M184I	84.92
I	7	RT	M230I	87.19
I	7	PROT	G73S	79.93
I	7	PROT	N88S	3.31
I	7	INT	G140S	1.88

I	7	INT	G163R	95.39
I	8	RT	L74I	58.75
I	8	RT	L100I	2.4
I	8	RT	K103N	54.4
I	8	RT	K103S	10.47
I	8	RT	M184V	48.43
I	8	RT	G190A	9.39
I	8	RT	P225H	58.42
I	8	RT	F227L	1.04
I	8	PROT	K20I	98.43
I	8	INT	T97A	60.65
I	9	RT	D67N	98.38
I	9	RT	K70G	99.1
I	9	RT	K101E	22.98
I	9	RT	V106A	98.39
I	9	RT	E138A	98.77
I	9	RT	V179E	70.69
I	9	RT	M184V	98.08
I	9	RT	G190A	99.07
I	9	RT	K219Q	98.58
I	9	RT	F227L	98.24
I	9	PROT	Q58E	99.05
I	10	RT	D67N	1.42
I	10	RT	K70G	1.16
I	10	RT	K103N	96.35
I	10	RT	V106A	1.55
I	10	RT	E138A	1.66
I	10	RT	V179E	1.85
I	10	RT	M184V	2.71
I	10	RT	G190A	2.74
I	10	RT	K219Q	3.07
I	10	RT	F227L	4.3
I	10	PROT	F53L	1.1
I	10	PROT	Q58E	1
I	11	RT	K70R	98.98
I	11	RT	A98G	97.23
I	11	RT	K103N	66.73
I	11	RT	M184V	93.62
I	11	RT	G190A	33.65
I	11	RT	K219*	8.5
I	12	RT	K103N	98.55
I	12	RT	M184V	99.03

I	12	RT	P225H	98.15
I	12	RT	K238N	99.34
I	12	PROT	F53L	1.01
I	13	RT	K103N	36.36
I	13	RT	E138A	6.67
I	13	RT	V179T	44.44
I	13	RT	V179E	3.7
I	13	RT	M184V	43.33
I	13	RT	G190A	3.33
I	13	RT	P225H	21.62
I	13	RT	F227L	2.7
I	13	RT	K238N	17.95
I	13	INT	T97A	8.33
I	14	RT	K103N	28.69
I	14	RT	M184I	4.34
I	14	RT	G190A	1.66
I	14	RT	M230I	1.33
I	14	PROT	G73S	1.61
I	14	INT	G163R	1.24
I	15	RT	D67N	73.88
I	15	RT	K70R	78.46
I	15	RT	M184V	76.51
I	15	RT	G190A	77.98
I	15	RT	K219Q	79.31
I	15	PROT	K20I	96.37
I	16	RT	M41L	97.19
I	16	RT	M184V	99.43
I	16	RT	T215F	99.77
I	16	RT	K219W	99.09
I	16	INT	T97A	1.24
I	16	INT	Y143H	1.6
I	17	RT	K103N	62.49
I	17	INT	T97A	30.03
I	18	RT	K103N	98.54
I	18	RT	Y188L	98.9
I	18	PROT	K20T	92.12
I	19	RT	D67N	1.12
I	19	RT	M184I	41.32
I	19	RT	M230I	40.19
I	20	RT	K103N	98.2
I	20	PROT	K20I	85.46
I	21	RT	K103N	97.49

I	21	RT	E138A	99.93
I	21	PROT	F53L	1.36
I	22	RT	M41L	14.91
I	22	RT	D67G	13.45
I	22	RT	T69N	99.66
I	22	RT	K70E	82.31
I	22	RT	K70R	15.45
I	22	RT	V75L	15.24
I	22	RT	K103N	98.72
I	22	RT	V108I	15.87
I	22	RT	M184V	98.95
I	22	RT	G190A	5.83
I	22	RT	T215I	4.03
I	22	RT	K219E	4.86
I	22	RT	K219R	93.98
I	22	RT	P225H	93.87
I	22	INT	N155S	1.37
I	23	RT	M41L	31.87
I	23	RT	T69N	99.2
I	23	RT	K70R	89.1
I	23	RT	A98G	47.73
I	23	RT	K101E	2.19
I	23	RT	K103N	66.94
I	23	RT	K103S	28.44
I	23	RT	V108I	92.42
I	23	RT	Y181C	66.88
I	23	RT	M184V	99.04
I	23	RT	G190A	27.59
I	23	RT	T215I	2.06
I	23	RT	T215F	38.4
I	23	RT	K219Q	94.84
I	23	RT	H221Y	12.53
I	23	PROT	K20T	95.08
I	23	PROT	L90M	99.36
I	23	INT	T97A	98.95
I	24	RT	D67N	1.63
I	24	RT	K70E	36.98
I	24	RT	V75I	37.32
I	24	RT	K101H	51.36
I	24	RT	V108I	36.82
I	24	RT	Y181C	41.21
I	24	RT	M184V	54.25

I	24	RT	G190A	54.22
I	24	RT	F227L	40.34
I	25	RT	D67N	1.26
I	25	RT	K103N	24.91
I	26	RT	D67N	1.39
I	26	RT	Y181I	96.73
I	26	RT	M184V	99.03
I	27	RT	M41L	43.36
I	27	RT	K70R	68.99
I	27	RT	M184V	69.21
I	27	RT	N348I	1.99
I	27	PROT	F53L	4.08

Group	Sample ID	Protein	Mutation	Prevalence
II	028-1	RT	K65R	2.53
II	028-1	RT	T69N	1.8
II	028-1	RT	L74I	1.6
II	028-1	RT	K103N	11.14
II	028-1	RT	V118I	6.87
II	028-1	RT	M184I	6.85
II	028-1	RT	M184V	6.24
II	028-1	RT	P225H	1.26
II	028-1	RT	M230I	8.73
II	028-1	PROT	L10F	67.84
II	028-1	PROT	K20I	2.34
II	028-1	PROT	K20T	65.68
II	028-1	PROT	F53L	24
II	028-1	PROT	I54V	57.08
II	028-1	PROT	V82A	58.76
II	034-1	RT	L100I	2.16
II	037-1	RT	M184V	3.58
II	037-1	PROT	F53L	1.27
II	037-1	INT	L74I	93.73
II	038-1	RT	M184V	2.08
II	038-1	RT	M184I	5.57
II	038-1	RT	M230I	8.2
II	038-1	PROT	G73S	1.46
II	038-1	INT	T97A	68.32
II	038-1	INT	G163R	1.36
II	039-1	RT	K103R	1.39
II	039-1	RT	E138G	3.11
II	039-1	RT	V179L	2.15
II	039-1	RT	V179T	89.5
II	039-1	PROT	F53L	1.05
II	045-1	RT	D67G	2.99
II	045-1	RT	M184I	16
II	045-1	RT	M230I	21.44
II	045-1	PROT	F53L	1.1
II	045-1	PROT	G73S	13.34
II	045-1	INT	G163R	49
II	044-1	RT	D67N	1.04
II	044-1	RT	M184I	1.55
II	044-1	RT	M230I	1.55
II	044-1	INT	G163R	2.5
II	048-1	RT	D67N	1.04

II	048-1	RT	E138G	1.42
II	048-1	RT	E138K	10.96
II	048-1	RT	M184I	16.8
II	048-1	RT	M230I	18.8
II	048-1	PROT	F53L	1.36
II	048-1	PROT	G73S	14.83
II	048-1	INT	G163K	15.43
II	051-1	RT	K103N	1.04
II	051-1	PROT	K20I	96.79
II	069-1	RT	D67N	1.48
II	069-1	RT	V118I	99.56
II	069-1	PROT	K20I	99.26
II	069-1	PROT	F53L	2.08
II	070-1	RT	E138A	99.64
II	070-1	RT	V179T	2.83
II	070-1	RT	F227L	1.32
II	074-1	RT	F227L	1.02
II	074-1	PROT	K20T	9.92
II	075-1	RT	E44D	89.33
II	075-1	RT	Y188C	1.03
II	075-1	RT	K219E	5.1
II	075-1	PROT	L33F	98.67
II	075-1	PROT	E35G	2.15
II	075-1	PROT	N83D	1
II	075-1	INT	H51Y	1.06
II	075-1	INT	N155S	2.41
II	079-1	RT	M41L	5.81
II	079-1	RT	D67N	3.46
II	079-1	RT	V179D	99.51
II	079-1	RT	Y181C	11.33
II	079-1	RT	M184V	11.11
II	079-1	RT	H221Y	9.92
II	079-1	RT	F227L	1.36
II	079-1	INT	G163R	2.38
II	081-1	RT	F227L	6.49
II	081-1	INT	L74I	99.68
II	081-1	INT	Q148R	1.11
II	082-1	RT	D67N	1.16
II	026-2	RT	D67N	1.31
II	026-2	PROT	F53L	4.21
II	026-2	INT	E138K	1.4
II	026-2	INT	G163R	40.28

II	026-2	INT	R263K	16.27
II	029-2	RT	D67N	1.05
II	029-2	RT	K70N	14.12
II	029-2	RT	K101E	7.49
II	029-2	RT	V118I	27.03
II	029-2	RT	M184V	4.97
II	029-2	RT	K219E	2.61
II	029-2	RT	M230L	4.54
II	029-2	INT	L74I	99.26
II	031-02	RT	K65E	1.26
II	031-02	RT	M230I	2.05
II	031-02	PROT	G73S	2.82
II	032-2	RT	M41L	2.6
II	032-2	RT	D67N	2.46
II	032-2	RT	K70R	2.49
II	032-2	RT	V75I	2.57
II	032-2	RT	Y181C	2.46
II	032-2	RT	M184V	2.38
II	032-2	RT	T215F	2.24
II	032-2	RT	K219E	2.63
II	032-2	RT	N348I	92.9
II	032-2	PROT	F53L	4.81

Group	Sample ID	Protein	Mutation	Prevalence
III	052-1	PROT	L10F	2.12
III	054-1	PROT	M46I	99.19
III	054-1	PROT	L76V	99.48
III	054-1	INT	L74I	99.5
III	061-1	PROT	F53L	1.04
III	064-1	RT	E44D	95.48
III	064-1	PROT	L33F	1.31
III	064-1	PROT	F53L	1.12
III	065-1	PROT	I50V	1.06
III	066-1	RT	V118I	98.01
III	066-1	PROT	V11I	100
III	066-1	PROT	K20I	99.18
III	085-1	PROT	L10F	99.83
III	085-1	INT	G163R	96.44
III	027-2	RT	D67N	1.14
III	027-2	PROT	F53L	5.04
III	030-2	RT	K65E	4.93
III	030-2	RT	K103R	42.06
III	030-2	PROT	F53L	4.34

Group	Sample ID	Protein	Mutation	Prevalence
IV	056-1	RT	E138A	99.64
IV	063-1	PROT	F53L	1.15
IV	084-1	PROT	I47V	2.46
IV	087-1	RT	E44D	100
IV	087-1	INT	S230R	1.02