

Table S1. Main and Alternate Primers Used for Nested PCR Amplification of PR/RT and IN

Gene	Primer Name	Primer	Direction	HXB2 Numbering
PR/RT	MAW-26	TTGGAAATGTGGAAAGGAAGGAC	Sense	2028→2050
	RT21	CTGTATTTCTGCTATTAAGTCTTTTGATGGG	Antisense	3509←3539
	PRO-1	CAGAGCCAACAGCCCCACCA	Sense	2147→2166
	RT20	CTGCCAGTTCTAGCTCTGCTTC	Antisense	3441←3462
	ProF1	CCTCAAATCATCCTTTGGCARCG	Sense	2253→2275
	RTR1	ATCCCTGCATAAATCTGACTTGC	Antisense	3348←3370
	ProF2	CTTTGGCAACGACCCCTYGTCWCA	Sense	2265→2288
	RTR2	CTTCTGTATGTCATTGACAGTCC	Antisense	3304←3326
IN	IN12	GCAGGATTCGGGATTAGAAG	Sense	4007→4026
	IN13	CTTTCTCCTGTATGCAGACC	Antisense	5251←5270
	IN1	AAGGTCTATCTGGCATGGGTA	Sense	4137→4157
	BH4	TCCCCTAGTGGGATGTGTACTTC	Antisense	5200←5222
	INFORI	GGAATCATTCAAGCACAACCAGA	Sense	4059→4081
	INREV-I	TCTCCTGTATGCAGACCCCAATAT	Antisense	5244←5267
	HIV+4141	TCTACCTGGCATGGGTACCA	Sense	4141→4160
	INREVII	CCTAGTGGGATGTGTACTTCTGA	Antisense	5197←5219

Table S2. List of nucleoside RT inhibitor (NRTI), non-nucleoside RT inhibitor (NNRTI), protease inhibitor (PI), and integrase (IN) strand transfer inhibitor (INSTI) drug-resistance mutations (DRMs) detected by Sanger genotypic resistance testing in 138 PR/RT and 39 IN sequences with corresponding penalty scores

NRTI DRM	#	%	% HIVDB	3TC	ABC	AZT	TDF	NNRTI DRM	#	%	% HIVDB	EFV	ETR	RPV
M184V	67	48.6	53.6	60	15	-10	-10	K103N	46	33.3	29.5	60	0	0
M41L	52	37.7	27.3	0	5	15	5	Y181C	28	20.3	16.9	30	30	45
D67N	41	29.7	26	0	5	15	5	K101E	17	12.3	6.9	15	15	45
T215Y	38	27.5	24.6	0	10	40	10	G190A	14	10.1	13.5	45	10	15
L210W	31	22.5	16.6	0	5	15	5	V108I	14	10.1	7.7	10	0	0
K70R	29	21	17.6	0	5	30	5	P225H	12	8.7	4.2	45	0	0
K219Q	27	19.6	10.5	0	5	10	5	H221Y	11	8	6.7	10	10	15
L74V	20	14.5	7.5	0	30	0	0	L100I	9	6.5	3.4	60	30	60
K65R	19	13.8	6	30	45	-15	60	A98G	8	5.8	6.4	15	10	15
T215F	19	13.8	9.1	0	10	40	10	K101P	7	5.1	1.1	60	60	60
K219E	10	7.2	5.8	0	5	10	5	K238T	6	4.3	1.9	30	0	0
L74I	10	7.2	3.7	0	30	0	5	Y188L	6	4.3	3.7	60	10	60
E44D	10	7.2	7.2	0	0	0	0	Y181I	4	2.9	0.7	30	60	60
T69D	9	6.5	5.4	0	0	0	0	E138A	4	2.9	3.3	0	10	15
D67G	8	5.8	2.3	0	5	10	5	G190S	4	2.9	2	60	10	15
T69ins	7	5.1	0.7	0	0	0	0	Y188F	3	2.2	0.1	60	0	30
A62V	7	5.1	4.5	5	5	5	5	V179F	3	2.2	0.2	10	15	15
T215D	5	3.6	0.5	0	5	20	5	K101H	2	1.4	0.9	10	10	10
K219R	4	2.9	2.4	0	5	10	5	Y188C	2	1.4	0.6	60	0	0
M184I	4	2.9	2	60	15	-10	-10	E138K	2	1.4	0.5	10	10	45
K219N	4	2.9	2.6	0	5	10	5	G190E	2	1.4	0.4	60	45	60
Y115F	3	2.2	3	0	60	0	15	K238N	2	1.4	0.3	10	0	0
V75M	3	2.2	3.2	0	0	10	0	F227L	2	1.4	2.7	15	0	0
E44A	3	2.2	1.3	0	0	0	0	K103S	2	1.4	1.1	45	0	0
K70G	3	2.2	0.3	10	15	-10	15	M230L	2	1.4	1.7	45	30	60
K70E	3	2.2	1	10	15	-10	15	Y181F	1	0.7	0	15	15	30
T215E	3	2.2	0.1	0	5	20	5	Y188H	1	0.7	0.3	30	0	0
K70Q	2	1.4	0.3	10	15	0	15	V179L	1	0.7	0.1	10	10	15
E40F	2	1.4	0.5	0	0	0	0	E138Q	1	0.7	1.1	10	10	15
V75I	2	1.4	2.8	5	5	5	5	V106A	1	0.7	1.2	45	0	0
F77L	2	1.4	1.7	5	5	10	5	V179E	1	0.7	1.1	10	10	10
D67H	2	1.4	0.2	0	5	10	5	L100V	1	0.7	0.1	30	10	15
T215L	1	0.7	0.1	0	5	20	5	V106M	1	0.7	5.1	60	0	0
D67E	1	0.7	0.4	0	5	10	5	V179D	1	0.7	2.4	10	10	10
T215I	1	0.7	1.3	0	5	20	5							
Q151M	1	0.7	2.6	15	60	60	15							
F116Y	1	0.7	2.1	5	10	10	5							
T215A	1	0.7	0.1	0	5	20	5							
V75T	1	0.7	1.1	0	0	0	0							
T215C	1	0.7	0.5	0	5	20	5							

PI DRM	#	%	% HIVDB	ATV/r	DRV/r	LPV/r	INSTI DRM	#	%	% HIVDB	DTG	EVG	RAL
L90M	27	19.6	25.8	25	0	15	N155H	11	28.2	29.9	10	60	60
M46I	19	13.8	19.7	10	0	10	G140S	5	12.8	24.6	10	30	30
V82A	17	12.3	20.5	15	0	30	T97A	5	12.8	12.2	0	10	10
L10F	14	10.1	7.6	0	5	5	E92Q	5	12.8	6	10	60	30
I54V	14	10.1	21.8	15	0	15	Q148R	5	12.8	7.1	25	60	60
L33F	11	8	11.5	5	5	5	Q148H	4	10.3	22	25	60	60
K43T	10	7.2	0.1	0	0	0	E138K	4	10.3	0.5	10	15	15
I84V	9	6.5	1	60	15	30	G163K	3	7.7	1.7	0	15	15
N88D	9	6.5	4.9	10	0	0	G163R	2	5.1	7	0	15	15
D30N	8	5.8	5.3	0	0	0	G140A	2	5.1	1.7	10	30	30
V32I	6	4.3	4.6	15	15	15	E138A	2	5.1	3.3	10	15	15
I47V	6	4.3	0	10	10	15	E157Q	2	5.1	7.4	0	10	10
G73S	5	3.6	6.6	10	0	5	Y143R	2	5.1	6.6	5	10	60
L23I	5	3.6	1.3	0	0	0	Y143C	2	5.1	3.9	5	10	60
M46L	5	3.6	8	10	0	10	S147G	2	5.1	1.5	0	60	0
L89V	4	2.9	3.2	0	5	0	T66I	1	2.6	1.2	0	60	15
V82T	4	2.9	2.1	30	0	30	L74M	1	2.6	0	0	0	0
G48V	3	2.2	2.8	30	0	10	S230R	1	2.6	3.5	0	15	15
V11I	3	2.2	2.7	0	0	0	L74I	1	2.6	3.7	0	0	0
F53L	3	2.2	5.6	10	0	0	Q95K	1	2.6	1.4	0	10	10
I54M	3	2.2	1.9	15	20	20	T66A	1	2.6	0.5	0	60	15
I50V	3	2.2	1.3	0	20	30	Q148N	1	2.6	0.2	0	15	10
I54L	3	2.2	2.6	15	20	20							
G73T	3	2.2	1.9	10	0	5							
K20T	2	1.4	0	5	0	0							
G73A	2	1.4	0.4	10	0	5							
L76V	2	1.4	3.5	0	20	30							
Q58E	2	1.4	6.3	0	0	0							
N88S	2	1.4	1.5	60	-5	0							
V82S	2	1.4	0.9	30	0	30							
T74P	2	1.4	1.8	10	5	5							
I54S	1	0.7	0.5	15	0	15							
L24I	1	0.7	5.2	10	0	10							
I50L	1	0.7	0	60	-10	-10							
I54T	1	0.7	0.6	15	0	15							
G48M	1	0.7	0.4	30	0	10							
I47A	1	0.7	0.5	0	10	60							
V82M	1	0.7	0.4	10	0	25							
I54A	1	0.7	1	15	0	15							
L24M	1	0.7	0.1	5	0	5							
V82F	1	0.7	1.6	15	15	30							