

PI Major Mutations:None

PI Accessory Mutations:None

PI Other Mutations:L10V 0.47% (1.18%)
seen=2,377 • I13V 100%
seen=11,328 • E35D 100%
seen=21,806 • M36I 100%
seen=21,806 • R41K 100%
seen=22,328 • R57K 10%
seen=20,289 • D60E 100%
seen=17,875 • Q61E 100%
seen=17,863 • L63P 100%
seen=14,772 • H69K 10%
seen=15,932 • L89I 100%
seen=12,803

Protease Inhibitors	
atazanavir/r (ATV/r)	Susceptible
darunavir/r (DRV/r)	Susceptible
fosamprenavir/r (FPV/r)	Susceptible
indinavir/r (IDV/r)	Susceptible
lopinavir/r (LPV/r)	Susceptible
nelfinavir (NFV)	Susceptible
saquinavir/r (SQV/r)	Susceptible
tipranavir/r (TPV/r)	Susceptible

PR comments

Other

- L10I/V are polymorphic, PI-selected accessory mutations that increase the replication of viruses with other PI-resistance mutations.

No drug resistance mutations were found for PI.

NRTI Mutations:M41L 100%
seen=12,090 • M184V 100%
seen=12,090 • T215F 10%
seen=600

NNRTI Mutations:K103S 10%
seen=3,247 • G190A 100%
seen=7,828

RT Other Mutations:V35T 100%
seen=11,309 • V60I 100%
seen=7,725 • K102KR 5.13% (6.20%)
seen=3,476 • K122E 100%
seen=8,324 • D123NT 3.47% (6.12%)
seen=8,317 • I135T 100%
seen=20,570 • E169D 10%
seen=22,886 • K173S 100%
seen=12,320 • Q174K 100%
seen=12,320 • D177E 100%
seen=12,222 • V179I 100%
seen=12,191 • G196E 10%
seen=7,228 • T200A 100%
seen=8,182 • I202V 100%
seen=8,182 • Q207A 100%
seen=1,628 • R211S 10%
seen=5,186 • F214L 10%
seen=671

Nucleoside Reverse Transcriptase Inhibitors		Non-nucleoside Reverse Transcriptase Inhibitors	
abacavir (ABC)	Intermediate Resistance	doravirine (DOR)	Susceptible
zidovudine (AZT)	High-Level Resistance	efavirenz (EFV)	High-Level Resistance
stavudine (D4T)	Intermediate Resistance	etravirine (ETR)	Potential Low-Level Resistance
didanosine (DDI)	Intermediate Resistance	nevirapine (NVP)	High-Level Resistance
emtricitabine (FTC)	High-Level Resistance	rilpivirine (RPV)	Low-Level Resistance
lamivudine (3TC)	High-Level Resistance		
tenofovir (TDF)	Low-Level Resistance		

RT comments

NRTI

- M41L is a TAM that usually occurs with T215Y. In combination, **M41L** plus T215Y confer intermediate / high-level resistance to AZT and d4T and contribute to reduced ddi, ABC and TDF susceptibility.
- M184V/I cause high-level in vitro resistance to 3TC and FTC and low/intermediate resistance to ABC (3-fold reduced susceptibility). **M184V/I** are not contraindications to continued treatment with 3TC or FTC because they increase susceptibility to AZT and TDF and are associated with clinically significant reductions in HIV-1 replication.
- T215Y/F are TAMs that causes intermediate/high-level resistance to AZT and potentially low-level resistance to ABC and TDF.

NNRTI

- K103S is a non-polymorphic mutation that causes high-level reductions in NVP susceptibility but intermediate reductions in EFV susceptibility. Because **K103S** is a 2-bp change from the wildtype K and a 1-bp change from K103N, persons with **K103S** may be likely to have once had K103N.
- G190A is a non-polymorphic mutation that causes high-level resistance to NVP and intermediate resistance to EFV. It does not significantly reduce susceptibility to RPV, ETR, or DOR.

Other

- V179I is a polymorphic mutation that is frequently selected in persons receiving ETR and RPV. However, it has little, if any, direct effect on NNRTI susceptibility.
- This virus is predicted to have low-level reduced susceptibility to **RPV**. The use of the combination of CAB/**RPV** should be considered to be relatively contraindicated.

Drug resistance mutation scores of NRTI:

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Rule	ABC	AZT	D4T	DDI	FTC	3TC	TDF
M41L	5	15	15	10	0	0	5
M41L + M184V + T215F	10	0	0	0	0	0	0
M41L + T215F	10	10	10	10	5	5	10
M184V	15	-10	-10	10	60	60	-10
T215F	10	60	40	15	0	0	10
Total	50	75	55	45	65	65	15

Drug resistance mutation scores of NNRTI:

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Rule	DOR	EFV	ETR	NVP	RPV
K103S	0	45	0	60	0
G190A	0	45	10	60	15
Total	0	90	10	120	15