

PI Major Mutations:None

PI Accessory Mutations:None

PR Other Mutations:T12S 100%  
n=1,641 • I15V 100%  
n=1,762 • L19I 100%  
n=1,813 • M36I 100%  
n=1,235 • K43KR 95.40%  
n=1,243 • L63Q 100%  
n=1,290 • H69K 100%  
n=1,262 • L89M 100%  
n=1,260 • I93L 100%  
n=1,232

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

No drug resistance mutations were found for PI.

NRTI Mutations:[A62V](#) 100%  
n=1,133 • [K65R](#) 100%  
n=1,214 • [S68N](#) 100%  
n=1,252 • [M184V](#) 100%  
n=1,795

NNRTI Mutations:[K103N](#) 100%  
n=1,267 • [V106M](#) 100%  
n=1,228

RT Other Mutations:P4T 100%  
n=1,205 • V35T 100%  
n=1,665 • E36A 100%  
n=1,665 • T39D 100%  
n=1,630 • K101R 100%  
n=1,236 • K122E 100%  
n=1,522 • D123S 100%  
n=1,522 • I135T 100%  
n=1,919 • K173T 100%  
n=1,710 • Q174K 100%  
n=1,710 • D177E 100%  
n=1,798 • T200A 100%  
n=1,517 • Q207E 100%  
n=1,517 • R211K 100%  
n=1,380 • V245Q 100%  
n=1,202 • E248D 100%  
n=1,111

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

RT comments

NRTI

- A62V** is an accessory mutation that often occurs in combination with the multi-NRTI resistance mutations **K65R** or **Q151M**. **A62V** is widespread in subtype A viruses in former Soviet Union countries but A62 is otherwise non-polymorphic.
- K65R** confers intermediate reductions in susceptibility to TDF, ABC, and 3TC/FTC. It increases AZT susceptibility. In NRTI-experienced, INSTI-naïve patients with **K65R**, TDF+3TC+DTG is usually highly effective and more effective than AZT/3TC/DTG. However, in patients receiving TDF+3TC+DTG, there is a risk of emergent DTG resistance that does not arise in NRTI-naïve patients receiving TDF+3TC+DTG.
- 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.

NNRTI

- K103N** is a non-polymorphic mutation that confers high-level reductions in NVP and EFV susceptibility. It is the most commonly transmitted DRM.
- V106M** is a non-polymorphic mutation that confers high-level resistance to NVP and EFV. It is selected in vitro and in vivo by DOR and preliminary data suggests it reduces DOR susceptibility about 3-fold.

Drug resistance mutation scores of NRTI:

Download CSV

Rule	ABC ÷	AZT ÷	D4T ÷	DDI ÷	FTC ÷	3TC ÷	TDF ÷
<a href="#">A62V</a>	3	3	3	3	0	0	3
<a href="#">K65R</a>	45	-10	60	60	30	30	30
<a href="#">M184V</a>	15	-10	-10	10	60	60	-10
<a href="#">A62V + K65R</a>	0	0	0	0	0	0	3
<a href="#">K65R + S68N</a>	0	0	0	0	0	0	3
Total	65	-15	53	73	90	90	53

Drug resistance mutation scores of NNRTI:

Download CSV

Rule	DOR ÷	EFV ÷	ETR ÷	NVP ÷	RPV ÷
<a href="#">V106M</a>	30	60	0	60	0
<a href="#">K103N</a>	0	60	0	60	0
Total	30	120	0	120	0

INSTI Major Mutations:

None

INSTI Accessory Mutations:

None

IN Other Mutations:

D6E<sup>100%</sup><sub>pos=1282</sub> • K14R<sup>100%</sup><sub>pos=1282</sub> • S17N<sup>100%</sup><sub>pos=1282</sub> • D25E<sup>100%</sup><sub>pos=1282</sub> • V31I<sup>100%</sup><sub>pos=1282</sub> • K34KR<sup>10-100%  
pos=1282</sup> • L101I<sup>100%</sup><sub>pos=1282</sub> • I113V<sup>0-100%  
pos=1282</sup> • T124N<sup>100%</sup><sub>pos=1282</sub> • K136Q<sup>100%</sup><sub>pos=1282</sub> • T206S<sup>100%</sup><sub>pos=1282</sub> • K211R<sup>100%</sup><sub>pos=1282</sub> • L234I<sup>100%</sup><sub>pos=1282</sub> • A265V<sup>100%</sup><sub>pos=1282</sub> • D278A<sup>100%</sup><sub>pos=1282</sub> • S283G<sup>100%</sup><sub>pos=1282</sub>

Integrase Strand Transfer Inhibitors

bictegravir (BIC)	Susceptible
cabotegravir (CAB)	Susceptible
dolutegravir (DTG)	Susceptible
elvitegravir (EVG)	Susceptible
raltegravir (RAL)	Susceptible

No drug resistance mutations were found for INSTI.