HIVDB 9.5.1 (2023-11-05) Drug resistance interpretation: PR

PI Major Mutations: None PI Accessory Mutations: None

V11X - T12R - I13S - K14R - K20R - E35D - M36I - N37D - R41K - K45R - R57K - L63S - H69K - K70R - L89M PR Other Mutations:

Protease Inhibitors

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

PR comments

Other

. K20R is a highly polymorphic PI-selected accessory mutation that increases replication fitness in viruses with PI-resistance mutations.

Mutation scoring: PR

NRTI Mutations:

No drug resistance mutations were found for PI.

Drug resistance interpretation: RT

HIVDB 9.5.1 (2023-11-05)

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NNRTI Mutations: K103N - V179F - Y181C - G190A

K70E - M184I

E6D • V21I • K32I • V35T • T39K • V60I • T69N • V90I • T165I • K173S • Q174K • T200A • 1202V • Q207E • R211K • K219X • P225L • L228R • P236S • D237* • K238Q • W239V • Δ247 • E248Q • N255X • Δ263 • L264X • N265* • W266M • A267G • 1274X • Q278X • K281N • L282F • T286A RT Other Mutations:

Nucleoside Reverse Transcriptase Inhibitors

Non-nucleoside Reverse Transcriptase Inhibitors

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

RT comments

NRTI

- K70/E/Q/N/T/S/G cause low-leve resistance to ABC and TDF.
- M184V/I cause high-level in vitro resistance to 3TC and FTC and low/intermediate resistance to ABC (3-fold reduced susceptibility to AZT and TDF and are associated with clinically significant reductions in HIV-1 replication.

NNRTI

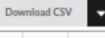
- K103N is a non-polymorphic mutation that confers high-level reductions in NVP and EFV susceptibility. It is the most commonly transmitted DRM.
- . V179F is a non-polymorphic mutation selected in combination with Y181C in persons receiving ETR. Alone it has little effect on NNRTI susceptibility, however in combination with Y181C it is associated with high-level reductions in ETR and RPV susceptibility.
- Y181C is a non-polymorphic mutation selected in persons receiving NVP, ETR and RPV. It confers high-level resistance to NVP, intermediate resistance to ETR and RPV, and low-level resistance to EFV. It does not significantly reduce DOR susceptibility.
- . 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

- . T69N/S/A/I/E are relatively non-polymorphic mutations weakly selected in persons receiving NRTIs. They may minimally contribute reduced AZT susceptibility.
- V90I is a polymorphic accessory mutation weakly selected by each of the NNRTIs. It is associated with minimal, if any, detectable reduction in NNRTI susceptibility.
- P225H is a non-polymorphic EFV-selected mutation that usually occurs in combination with K103N. The combination of P225H and K103N synergistically reduces NVP, EFV and DOR susceptibility. P225L is a highly unusual mutation at this position.
- . P236L is a rare mutation selected commonly by DLV, which appears to have little if any effect on current NNRTIs. P236S is a highly unusual mutation at this position.
- K238T/N are uncommon non-polymorphic mutations selected in persons receiving NVP and EFV usually in combination with K103N. Alone, K238T/N appear to have minimal effects on NNRTI susceptibility. K238O is a highly unusual mutation at this position.

Mutation scoring: RT HIVDB 9.5.1 (2023-11-05)

Drug resistance mutation scores of NRTI:



Rule	ABC ≑	AZT ‡	D4T ≑	DDI 🗢	FTC ÷	зтс ≑	TDF \$
<u>K70E</u>	15	0	15	15	10	10	15
M184I	15	-10	-10	10	60	60	-10
K70E + M184I	0	0	10	0	0	0	10
Total	30	-10	15	25	70	70	15

Drug resistance mutation scores of NNRTI:

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Rule	DOR ÷	EFV \$	ETR ÷	NVP \$	RPV \$
K103N + Y181C	5	0	0	0	0
<u>V179F</u>	10	10	15	15	15
<u>Y181C</u>	10	30	30	60	45
Y181C + G190A	10	0	10	0	10
K103N	0	60	0	60	0
G190A	0	45	10	60	15
<u>V179F + Y181C</u>	0	0	15	0	15
Total	35	145	80	195	100