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

PI Major Mutations: None
PI Accessory Mutations: None

PR Other Mutations: P9X • L10C • V11Y • T12G • I13P • K14E • I15E • G16K • L19P • E35D • M36I • N37K • R41K • M46R • R57K • L63T • H69K • L89M

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 Susceptible nelfinavir (NFV) saquinavir/r (SQV/r) Susceptible tipranavir/r (TPV/r) Susceptible

PR comments

tenofovir (TDF)

Other

- L10F is a common non-polymorphic, PI-selected accessory mutation associated with reduced in vitro susceptibility to LPV and DRV. L10I/V are polymorphic, PI-selected accessory mutations that increase the replication of viruses with other PI-resistance mutations. L10R/Y are rare, non-polymorphic PI-selected mutations. Their effects on PI susceptibility have not been well studied. L10C is a highly unusual mutation at this position.
- M46I/L are relatively non-polymorphic PI-selected mutations. In combination with other PI-resistance mutations, they are associated with reduced susceptibility to each of the PIs except DRV. M46R is a highly unusual mutation at this position.

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

No drug resistance mutations were found for PI.

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

NRTI Mutations: M184V • T215F

NNRTI Mutations: A98G • V108I • Y188H • G190A

Susceptible

RT Other Mutations: K11T • K20R • V21I • V35T • T39N • K43R • P52L • V60I • W88C • K101Q • K122E • D123N • I135T • K166* • K173A • D177E • V179I • Q182X • V189I • T200A • I202* • E203R • Q207A • R211S • K220N • \(\Delta 221 \) • Q222I • K223R • E224R • H235I •

P236* • D237Q • K238M • W239T • T240Y • V241S • Q242Y

Nucleoside Reverse Transcriptase Inhibitors

Non-nucleoside Reverse Transcriptase Inhibitors

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

RT comments

NRTI

- 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 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

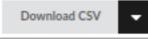
- A98G is a non-polymorphic accessory mutation associated with low-level reduced susceptibility to each of the NNRTIs.
- V108I is a relatively non-polymorphic accessory mutation selected in vitro and/or in vivo with each of the NNRTIs. It appears to contribute to reduced susceptibility to most NNRTIs only in combination with other NNRTI-resistance mutations.
- Y188H is a non-polymorphic mutation selected in persons receiving NVP and EFV. It causes about 5 to 10-fold reduced susceptibility to NVP and EFV. It appears to cause little if any reduction in susceptibility to RPV, ETR, or DOR.
- 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

- K101Q is a relatively non-polymorphic mutation that is weakly selected in persons receiving NVP and EFV. It is of uncertain phenotypic and clinical significance.
- 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.
- 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. K238M is a highly unusual mutation at this position.
- This virus is predicted to have intermediate-level reduced susceptibility to RPV. The use of the combination of CAB/RPV should be considered to be contraindicated.

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

Drug resistance mutation scores of NRTI:



Rule	ABC ≑	AZT ≑	D4T \$	DDI 💠	FTC ‡	3TC	TDF \$
M184V	15	-10	-10	10	60	60	-10
T215F	10	60	40	15	0	0	10
Total	25	50	30	25	60	60	0

Drug resistance mutation scores of NNRTI:



Rule	DOR \$	EFV \$	ETR \$	NVP ≑	RPV \$
<u>A98G</u>	15	15	10	30	15
<u>V108I</u>	10	10	0	15	0
<u>Y188H</u>	5	30	0	60	0
G190A	0	45	10	60	15
Total	30	100	20	165	30