Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

PI Major Mutations: None
PI Accessory Mutations: None
PR Other Mutations: I13V 98% cov=33,553 • L19LI I: 67%, L: 33% cov=36,105 • P39PS P: 80%, S: 19% cov=42,703 • R41K 98% cov=42,472 • L63P 81% cov=33,661 • H69Q 91% cov=31,805 • V75I 91% cov=29,211 • V77I 92% cov=27,639 • I93L 93% cov=22,143

Protease Inhibitors	
atazanavir/r (ATV/r)	Susceptible
darunavir/r (DRV/r)	Susceptible
lopinavir/r (LPV/r)	Susceptible

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** 93% cov=13,163
NNRTI Mutations: **A98G** 95% cov=18,659 • **K101E** 96% cov=18,467 • **V108I** 96% cov=18,283 • **Y181C** 93% cov=12,993 • **G190A** 94% cov=13,527
RT Other Mutations: P4T 92% cov=21,023 • V35T 99% cov=19,134 • K49R 96% cov=19,327 • V60I 99% cov=20,143 • D121Y 96% cov=16,177 • K122E 98% cov=16,158 • I135T 96% cov=13,946 • S162C 93% cov=13,274 • I167IM I: 73%, M: 20% cov=13,121 • D177E 98% cov=12,800 • V179I 95% cov=12,941 • T200I 94% cov=15,403 • Q207E 96% cov=12,638 • R211K 95% cov=12,723 • F214L 94% cov=15,460 • K219H 94% cov=16,694 • V241L 94% cov=20,072 • V245K 95% cov=19,055 • D250E 97% cov=19,862 • I257L 94% cov=20,322 • K277R 95% cov=21,537 • L282C 97% cov=21,229 • I293V 98% cov=24,331 • Q334QN Q: 82%, N: 17% cov=58 • G335D 72% cov=57

Nucleoside Reverse Transcriptase Inhibitors	
abacavir (ABC)	Low-Level Resistance
zidovudine (AZT)	Susceptible
emtricitabine (FTC)	High-Level Resistance
lamivudine (3TC)	High-Level Resistance
tenofovir (TDF)	Susceptible

Non-nucleoside Reverse Transcriptase Inhibitors	
doravirine (DOR)	High-Level Resistance
efavirenz (EFV)	High-Level Resistance
etravirine (ETR)	High-Level Resistance
nevirapine (NVP)	High-Level Resistance
rilpivirine (RPV)	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 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

- **A98G** is a non-polymorphic accessory mutation associated with low-level reduced susceptibility to each of the NNRTIs.
- **K101E** is a non-polymorphic accessory mutation that confers intermediate resistance to NVP and RPV and low-level reductions in susceptibility to EFV, ETR, and DOR when it occurs with other NNRTI-resistance mutations.
- **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.
- **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

- **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.
- K219E/Q/N/R are accessory TAMS that usually occur in combination with multiple other TAMs. K219W is an uncommon NRTI-selected mutation. **K219H** is an unusual mutation at this position.

Mutation scoring: RT

HIVDB 9.5.1 (2023-11-05)

Drug resistance mutation scores of NRTI: Download CSV

Rule	ABC	AZT	FTC	3TC	TDF
M184V	15	-10	60	60	-10

Drug resistance mutation scores of NNRTI: Download CSV

Rule	DOR	EFV	ETR	NVP	RPV
A98G	15	15	10	30	15
A98G + Y181C	5	5	5	5	5
K101E	15	15	15	30	45
K101E + G190A	5	0	5	0	0
V108I	10	10	0	15	0
V108I + Y181C	5	0	0	0	0
Y181C	10	30	30	60	45
Y181C + G190A	10	0	10	0	10
K101E + Y181C	0	5	5	5	0
G190A	0	45	10	60	15
Total	75	125	90	205	135