Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

PI Major Mutations: None
PI Accessory Mutations: None
PR Other Mutations: L10V 93% (cov:12,771) • T12V 100% (cov:14,790) • I13V 100% (cov:14,790) • G16E 100% (cov:20,863) • E35D 100% (cov:21,169) • M36I 100% (cov:21,167) • R41K 100% (cov:21,176) • R57K 99% (cov:19,802) • L63T 100% (cov:17,575) • I64L 100% (cov:17,573) • H69K 99% (cov:20,562) • L89M 100% (cov:13,052)

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.

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: M184MV 0.40%, M: 11% (cov:1,781)
NNRTI Mutations: G190A 100% (cov:1,042)
RT Other Mutations: E6N 100% (cov:9,611) • V35T 99% (cov:2,758) • I50V 99% (cov:1,611) • V60I 100% (cov:1,585) • D177E 100% (cov:777) • I178M 100% (cov:777) • V179I 99% (cov:777) • E194D 99% (cov:1,622) • Q207K 99% (cov:917) • R211K 99% (cov:1,626) • V245K 91% (cov:1,014) • D250E 100% (cov:1,033) • I257L 100% (cov:1,033) • Y271H 100% (cov:1,051) • A272S 99% (cov:1,051) • L282C 99% (cov:1,034) • I293V 91% (cov:1,033) • H315Y 100% (cov:1,073) • I329V 0.46%, V: 13% (cov:2,172) • S519N 99% (cov:2,619) • Q524K 99% (cov:2,739) • K527G 100% (cov:3,021) • E529DN 0.73%, N: 10% (cov:1,910) • A534S 98% (cov:4,764) • A554S 99% (cov:6,034)

Nucleoside Reverse Transcriptase Inhibitors	
abacavir (ABC)	Low-Level Resistance
zidovudine (AZT)	Susceptible
stavudine (D4T)	Susceptible
didanosine (DDI)	Potential Low-Level Resistance
emtricitabine (FTC)	High-Level Resistance
lamivudine (3TC)	High-Level Resistance
tenofovir (TDF)	Susceptible

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

- **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.

Mutation scoring: RT

HIVDB 9.5.1 (2023-11-05)

Drug resistance mutation scores of NRTI: Download CSV

Rule	ABC	AZT	D4T	DDI	FTC	3TC	TDF
M184MV	15	-10	-10	10	60	60	-10

Drug resistance mutation scores of NNRTI: Download CSV

Rule	DOR	EFV	ETR	NVP	RPV
G190A	0	45	10	60	15

Drug resistance interpretation: IN

HIVDB 9.5.1 (2023-11-05)

INSTI Major Mutations: None
INSTI Accessory Mutations: T97TA 1.69%, A: 30% (cov:1,227)
IN Other Mutations: E11D 100% (cov:1,031) • K14R 99% (cov:1,487) • V31I 99% (cov:1,041) • S39H 100% (cov:1,519) • L45I 100% (cov:1,525) • I72V 100% (cov:1,187) • T112V 100% (cov:1,478) • I113V 100% (cov:1,478) • T124A 100% (cov:1,225) • T125A 100% (cov:1,225) • V126F 100% (cov:1,225) • G134D 99% (cov:1,175) • I135V 99% (cov:1,175) • K136NQ 0.47%, N: 40% (cov:1,175) • V201I 100% (cov:4,351) • K211R 99% (cov:4,351) • K219N 100% (cov:4,228) • N222K 100% (cov:4,351) • L234I 99% (cov:4,765)

Integrase Strand Transfer Inhibitors	
bictegravir (BIC)	Susceptible
cabotegravir (CAB)	Susceptible
dolutegravir (DTG)	Susceptible
elvitegravir (EVG)	Potential Low-Level Resistance
raltegravir (RAL)	Potential Low-Level Resistance

IN comments

Accessory

- **T97A** is a polymorphic INSTI-selected mutation that, depending on subtype, occurs in 1% to 5% of viruses from untreated persons. Alone, it has minimal effects on INSTI susceptibility but in combination with other major resistance mutations, it synergistically reduces susceptibility to each of the INSTIs.

Mutation scoring: IN

HIVDB 9.5.1 (2023-11-0

Drug resistance mutation scores of INSTI: Download CSV

Rule	BIC	CAB	DTG	EVG	RAL
T97TA	0	0	0	10	10