Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

PI Major Mutations: None
PI Accessory Mutations: None
PR Other Mutations: I13V • K14R • L33V • M36I • N37D • P39Q • R41K • R57K • D60E • I62V • L63P • I64V

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

PR comments

Other

- **L33I/V** are minimally polymorphic mutations that do not appear to be selected by PIs or to reduce their susceptibility.

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: K70KEQ • L74LI • M184V
NNRTI Mutations: K103N • E138EG • V179L • Y181YC • H221HY
RT Other Mutations: K20R • V35I • K49R • V60I • K102HY • D121HY • K122E • D123DG • I135T • I142IL • S162C • D177E • I178FL • T200A • Q207EG • R211K • D237E • V245Q • D250E • A272P • K277R • L282C • L283I • V292VI • I293V • E297A

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

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

RT comments

NRTI

- **K70/E/Q/N/T/S/G** cause low-leve resistance to ABC and TDF.
- L74V causes intermediate ABC resistance. **L74I** causes low-level ABC resistance.
- **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.
- **E138Q/G** are non-polymorphic accessory mutations selected by ETR occasionally NVP and EFV. They cause low-level reductions in susceptibility to NVP, RPV, and ETR.
- **V179L** is a rare non-polymorphic mutation listed as a RPV-associated resistance mutation by the FDA package insert. Its effects on NNRTI susceptibility have not been well studied.
- **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.
- **H221Y** is a non-polymorphic accessory mutation selected primarily by NVP, RPV, and DOR. It frequently occurs in combination with Y181C.

Mutation scoring: RT

HIVDB 9.5.1 (2023-11-05)

Drug resistance mutation scores of NRTI: Download CSV

Rule	ABC	AZT	FTC	3TC	TDF
K70KEQ	15	0	10	10	15
L74LI	15	0	0	0	5
M184V	15	-10	60	60	-10
K70KEQ + M184V	0	0	0	0	10
Total	45	-10	70	70	20

Drug resistance mutation scores of NNRTI: Download CSV

Rule	DOR	EFV	ETR	NVP	RPV
K103N + Y181YC	5	0	0	0	0
Y181YC	10	30	30	60	45
Y181YC + H221HY	10	0	0	0	10
H221HY	10	10	10	15	15
K103N	0	60	0	60	0
E138EG	0	10	10	10	15
V179L	0	10	10	10	15
Total	35	120	60	155	100