## Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

PI Major Mutations: I54V • V82A • L90M
PI Accessory Mutations: None
PR Other Mutations: L10I • K14R • R41K • D60E • L63P • I64V • A71V • I93L

| Protease Inhibitors | |
|---|---|
| **atazanavir/r (ATV/r)** | High-Level Resistance |
| **darunavir/r (DRV/r)** | Susceptible |
| **fosamprenavir/r (FPV/r)** | High-Level Resistance |
| **indinavir/r (IDV/r)** | High-Level Resistance |
| **lopinavir/r (LPV/r)** | High-Level Resistance |
| **nelfinavir (NFV)** | High-Level Resistance |
| **saquinavir/r (SQV/r)** | High-Level Resistance |
| **tipranavir/r (TPV/r)** | Low-Level Resistance |

**PR comments**

**Major**

- **I54V** is a non-polymorphic PI-selected mutation that contributes reduced susceptibility to each of the PIs except DRV.
- **V82A** is a non-polymorphic mutation selected primarily by IDV and LPV. It is associated with reduced susceptibility to LPV and to a lesser extent ATV. It increases DRV susceptibility.
- **L90M** is a non-polymorphic PI-selected mutation that reduces susceptibility to ATV and to a lesser extent LPV.

**Other**

- **L10I/V** are polymorphic, PI-selected accessory mutations that increase the replication of viruses with other PI-resistance mutations.
- **A71V/T** 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)

*Drug resistance mutation scores of PI:*

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| Rule | ATV/r | DRV/r | FPV/r | IDV/r | LPV/r | NFV | SQV/r | TPV/r |
|---|---|---|---|---|---|---|---|---|
| I54V | 15 | 0 | 10 | 15 | 15 | 20 | 15 | 20 |
| I54V + V82A | 10 | 0 | 10 | 10 | 10 | 10 | 10 | 0 |
| I54V + L90M | 10 | 0 | 10 | 10 | 5 | 10 | 10 | 0 |
| V82A | 15 | 0 | 15 | 30 | 30 | 30 | 15 | 0 |
| V82A + L90M | 10 | 0 | 10 | 10 | 5 | 10 | 10 | 0 |
| L90M | 25 | 0 | 20 | 30 | 15 | 60 | 45 | 0 |
| Total | 85 | 0 | 75 | 105 | 80 | 140 | 105 | 20 |

## Drug resistance interpretation: RT

HIVDB 9.5.1 (2023-11-05)

NRTI Mutations: D67N • K70R • T215F • K219Q
NNRTI Mutations: None
RT Other Mutations: K32N • T39A • A98AS • D121Y • K122E • I135K • K173Q • I178L • V245Q

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

| Non-nucleoside Reverse Transcriptase Inhibitors | |
|---|---|
| **doravirine (DOR)** | Susceptible |
| **efavirenz (EFV)** | Susceptible |
| **etravirine (ETR)** | Susceptible |
| **nevirapine (NVP)** | Susceptible |
| **rilpivirine (RPV)** | Susceptible |

**RT comments**

**NRTI**

- **D67N** is a non-polymorphic TAM associated with low-level resistance to AZT.
- **K70R** is a TAM that confers intermediate resistance to AZT and contributes to reduced ABC and TDF susceptibility in combination with other TAMs.
- **T215Y/F** are TAMs that causes intermediate/high-level resistance to AZT and potentially low-level resistance to ABC and TDF.
- **K219E/Q/N/R** are accessory TAMS that usually occur in combination with multiple other TAMs.

Mutation scoring: RT

HIVDB 9.5.1 (2023-11-05)

*Drug resistance mutation scores of NRTI:*

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| Rule | ABC | AZT | D4T | DDI | FTC | 3TC | TDF |
|---|---|---|---|---|---|---|---|
| D67N | 5 | 15 | 15 | 5 | 0 | 0 | 5 |
| D67N + K70R + K219Q | 10 | 15 | 10 | 10 | 10 | 10 | 10 |
| D67N + T215F + K219Q | 5 | 5 | 5 | 5 | 0 | 0 | 5 |
| K70R | 5 | 30 | 15 | 10 | 0 | 0 | 5 |
| T215F | 10 | 60 | 40 | 15 | 0 | 0 | 10 |
| K219Q | 5 | 10 | 10 | 5 | 0 | 0 | 5 |
| K70R + T215F | 0 | 0 | 5 | 5 | 0 | 0 | 0 |
| Total | 40 | 135 | 100 | 55 | 10 | 10 | 40 |

*No drug resistance mutations were found for NNRTI.*