## Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

| | |
|---|---|
| PI Major Mutations: | D30DN |
| PI Accessory Mutations: | K20T • G73GS |
| PR Other Mutations: | I13V • G16GR • E35D • M36I • G40GE • R41K • W42W* • R57RK • I62V • L63P • G68GR • H69K • T74S • G86GR • L89M • G94GS |

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

**PR comments**

**Major**

- **D30N** is a non-polymorphic mutation NFV-selected mutation that causes high-level resistance to NFV but not to other PIs.

**Accessory**

- **K20T** is a non-polymorphic accessory PI-selected mutation associated with reduced susceptibility to ATV and LPV.
- **G73S/T/C/A** are common non-polymorphic accessory mutations selected primarily by most PIs. They are associated with minimally reduced susceptibility to each of the PIs.

**Other**

- **T74S** is a PI-selected accessory mutation that is polymorphic in most non-B subtypes.

## Mutation scoring: PR

HIVDB 9.5.1 (2023-11-05)

*Drug resistance mutation scores of PI:* Download CSV

| Rule | ATV/r | DRV/r | FPV/r | IDV/r | LPV/r | NFV | SQV/r | TPV/r |
|---|---|---|---|---|---|---|---|---|
| K20T | 5 | 0 | 5 | 5 | 0 | 15 | 5 | 0 |
| G73GS | 10 | 0 | 10 | 15 | 5 | 15 | 15 | 0 |
| D30DN | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 0 |
| Total | 15 | 0 | 15 | 20 | 5 | 90 | 20 | 0 |

## Drug resistance interpretation: RT

HIVDB 9.5.1 (2023-11-05)

| | |
|---|---|
| NRTI Mutations: | None |
| NNRTI Mutations: | K103N |
| RT Other Mutations: | E6D • G15GR • M16MI • V35T • M41MI • E44EK • K49R • G51GR • V60I • W71W* • G93GR • G99GE • G112GE • K122E • D123S • I135T • K173S • Q174K • D177E • I178M • V179I • T200A • Q207A • P243A • V245Q • D250E • A272S • K281R • S519N • Q520H • Q524K • K527EQ • E529D • A534S • A554S |

| Nucleoside Reverse Transcriptase Inhibitors | |
|---|---|
| **abacavir (ABC)** | Susceptible |
| **zidovudine (AZT)** | Susceptible |
| **stavudine (D4T)** | Susceptible |
| **didanosine (DDI)** | Susceptible |
| **emtricitabine (FTC)** | Susceptible |
| **lamivudine (3TC)** | Susceptible |
| **tenofovir (TDF)** | Susceptible |

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

**RT comments**

**NNRTI**

- **K103N** is a non-polymorphic mutation that confers high-level reductions in NVP and EFV susceptibility. It is the most commonly transmitted DRM.

**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.

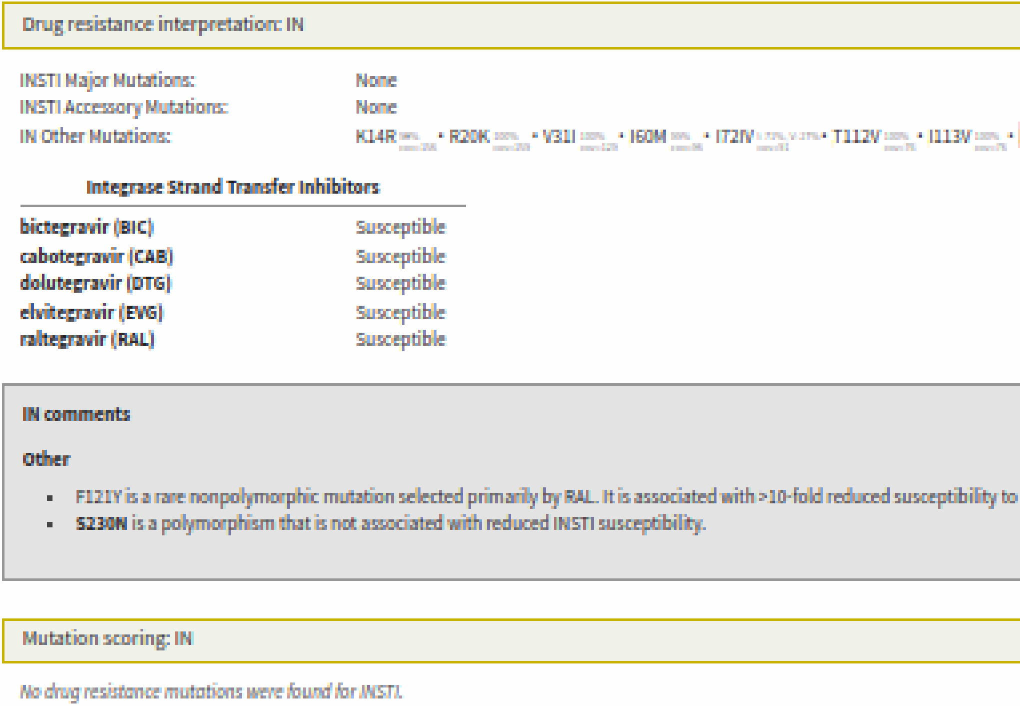
## Mutation scoring: RT

HIVDB 9.5.1 (2023-11-05)

*No drug resistance mutations were found for NRTI.*

*Drug resistance mutation scores of NNRTI:* Download CSV

| Rule | DOR | EFV | ETR | NVP | RPV |
|---|---|---|---|---|---|
| K103N | 0 | 60 | 0 | 60 | 0 |



## Drug resistance interpretation: IN

| | |
|---|---|
| INSTI Major Mutations: | None |
| INSTI Accessory Mutations: | None |
| IN Other Mutations: | K14R • R20K • V31I • I60M • I72IV • T112V • I113V • |

| Integrase Strand Transfer Inhibitors | |
|---|---|
| **bictegravir (BIC)** | Susceptible |
| **cabotegravir (CAB)** | Susceptible |
| **dolutegravir (DTG)** | Susceptible |
| **elvitegravir (EVG)** | Susceptible |
| **raltegravir (RAL)** | Susceptible |

### IN comments

#### Other

- F121Y is a rare nonpolymorphic mutation selected primarily by RAL. It is associated with >10-fold reduced susceptibility to
- **S230N** is a polymorphism that is not associated with reduced INSTI susceptibility.

## Mutation scoring: IN

*No drug resistance mutations were found for INSTI.*

F121FV • T124A • T125A • V126F • G134N • I135V • K136Q • F139Y • V150VG • V201I

RAL but has minimal if any effect on susceptibility to CAB, DTG, and BIC. F121C is an extremely rare mutation. Preliminary data su

• K211R • T218S • K219N • N222K • S230SN • L234I • I268L • S283G

ggests it may confers high level phenotypic resistance to RAL, EVG, and possibly CAB. **F121V** is an unusual mutation at this position.