

# NGS-Based HIV Drug Resistance Report

## Sequence summary

**Query ID:** DRR030218

**Sequence includes:** PR, RT, IN

**Sequence subtype:** B

## Basic pipeline parameters

**Minimum mutation frequency:** 0.01

**Minimum percentage a base needs to be incorporated into the consensus sequence:** 20

**Minimum read depth:** 100

## Drug Resistance Interpretation: PR

**First AA:** 1

**Last AA:** 99

**Algorithm version:** HIVDB 9.2 (2022-10-25)

**PI Major Mutations:** M46I, I84V, L90M

**PI Accessory Mutations:** G73S

**PR Other Mutations:** I13V, K14KR, R41K, K43R, K55KR, I62IV, L63P, A71V, I72T, V77I, I84IV, I93L

**Comments:**

M46I/L are relatively non-polymorphic PI-selected mutations. In combination with other PI-resistance mutations, they are associated with reduced susceptibility to each of the PIs except DRV.

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.

I84V is a nonpolymorphic substrate-cleft mutation selected by each of the PIs. I84V reduces susceptibility to LPV, ATV, and DRV.

L90M is a non-polymorphic PI-selected mutation that reduces susceptibility to ATV and to a lesser extent LPV.

## Drug resistance mutation scoring: PR

Drug name	HIVDB Score	Drug susceptibility
ATV	130	High-Level Resistance
DRV	15	Low-Level Resistance
FPV	125	High-Level Resistance
IDV	140	High-Level Resistance
LPV	65	High-Level Resistance
NFV	190	High-Level Resistance
SQV	150	High-Level Resistance
TPV	40	Intermediate Resistance

## Drug Resistance Interpretation: RT

**First AA:** 1

**Last AA:** 560

**Algorithm version:** HIVDB 9.2 (2022-10-25)

**NNRTI Mutations:** None

**NRTI Mutations:** M41L, M184V, T215Y

**RT Other Mutations:** K20R, K49R, I135T, E169KE, K173E, Q207E, Q334L, Y342F, M357T, A360V, T386I, K390R, A400T, R461K, G490EG, L491S, A554T, K558R

**Comments:**

M41L is a TAM that usually occurs with T215Y. In combination, M41L plus T215Y confer intermediate / high-level resistance to AZT and d4T and contribute to reduced ddI, ABC and TDF susceptibility.

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.

T215Y/F are TAMs that causes intermediate/high-level resistance to AZT and potentially low-level resistance to ABC and TDF.

### Drug resistance mutation scoring: NRTI

Drug name	HIVDB Score	Drug susceptibility
ABC	45	Intermediate Resistance
AZT	55	Intermediate Resistance
D4T	55	Intermediate Resistance
DDI	45	Intermediate Resistance
FTC	65	High-Level Resistance
LMV	65	High-Level Resistance
TDF	15	Low-Level Resistance

### Drug resistance mutation scoring: NNRTI

Drug name	HIVDB Score	Drug susceptibility
DOR	0	Susceptible
EFV	0	Susceptible
ETR	0	Susceptible
NVP	0	Susceptible
RPV	0	Susceptible

## Drug Resistance Interpretation: IN

**First AA:** 1

**Last AA:** 289

**Algorithm version:** HIVDB 9.2 (2022-10-25)

**INSTI Major Mutations:** None

**INSTI Accessory Mutations:** None

**IN Other Mutations:** V32I, T112TIAV

**Comments:** None

### Drug resistance mutation scoring: IN

Drug name	HIVDB Score	Drug susceptibility
BIC	0	Susceptible
CAB	0	Susceptible
DTG	0	Susceptible
EVG	0	Susceptible
RAL	0	Susceptible

## References

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