

Drug resistance interpretation: PR		HIVDB 9.5.1 (2023-11-05)
PI Major Mutations:	None	
PI Accessory Mutations:	None	
PR Other Mutations:	I13V 99% seen+2,251 • I15V 93% seen+2,887 • E35D 99% seen+3,009 • M36I 100% seen+3,009 • R41K 99% seen+3,086 • R57K 100% seen+3,021 • I62V 100% seen+2,717 • E65D 100% seen+2,870 • H69K 99% seen+3,000 • T74S 100% seen+2,658 • L89M 100% seen+3,980	
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		
<ul style="list-style-type: none">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)
No drug resistance mutations were found for PI.	

Drug resistance interpretation: RT		HIVDB 9.5.1 (2023-11-05)	
NRTI Mutations:	M184V 100% seen+3,208		
NNRTI Mutations:	None		
RT Other Mutations:	I2T 96% seen+1,708 • E28A 100% seen+1,086 • V35T 100% seen+3,009 • V60I 100% seen+952 • K102R 100% seen+247 • K122E 100% seen+423 • D123N 100% seen+620 • I135T 100% seen+1,635 • I142V 100% seen+1,635 • S162C 100% seen+2,952 • K173T 100% seen+2,900 • Q174K 100% seen+2,900 • D177E 100% seen+2,979 • I178L 99% seen+2,978 • I195L 100% seen+3,227 • Q207E 100% seen+2,963 • R211K 99% seen+3,009 • P243A 100% seen+1,357 • V245K 100% seen+1,352 • I526R 100% seen+92 • K527Q 100% seen+92 • E529D 100% seen+92 • A534S 99% seen+95 • G541GR 100% seen+120 • G543GR 100% seen+128 • A554S 100% seen+129 • G555GR 100% seen+107 • R557RK 100% seen+106		
Nucleoside Reverse Transcriptase Inhibitors		Non-nucleoside Reverse Transcriptase Inhibitors	
abacavir (ABC)	Low-Level Resistance	doravirine (DOR)	Susceptible
zidovudine (AZT)	Susceptible	efavirenz (EFV)	Susceptible
stavudine (D4T)	Susceptible	etravirine (ETR)	Susceptible
didanosine (DDI)	Potential Low-Level Resistance	nevirapine (NVP)	Susceptible
emtricitabine (FTC)	High-Level Resistance	rilpivirine (RPV)	Susceptible
lamivudine (3TC)	High-Level Resistance		
tenofovir (TDF)	Susceptible		
RT comments			
NRTI			
<ul style="list-style-type: none">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.			

Mutation scoring: RT	HIVDB 9.5.1 (2023-11-05)
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Drug resistance mutation scores of NRTI:

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Rule	ABC	AZT	D4T	DDI	FTC	3TC	TDF
M184V	15	-10	-10	10	60	60	-10

No drug resistance mutations were found for NNRTI.

Drug resistance interpretation: IN	HIVDB 9.5.1 (2023-11-05)
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INSTI Major Mutations:

INSTI Accessory Mutations:

IN Other Mutations:

R263K

99%

seen+111

G163GR

100%

seen+128

G4GR

100%

seen+262

S17N

100%

seen+325

W19W*

100%

seen+372

V31I

100%

seen+423

G47GK

100%

seen+187

M50I

100%

seen+382

I72V

99%

seen+382

L101I

100%

seen+108

T112V

100%

seen+125

I113V

100%

seen+125

S119P

99%

seen+114

T122I

100%

seen+122

T124A

100%

seen+122

T125P

100%

seen+122

I135V

100%

seen+100

M154M

100%

seen+144

V165I

99%

seen+128

R166RK

100%

seen+135

E170EK

100%

seen+128

K188KR

100%

seen+284

V201I

99%

seen+177

K211R

100%

seen+420

R224RQ

100%

seen+428

W235W*

100%

seen+399

W243W*

100%

seen+386

V249V1

100%

seen+328

D253DE

100%

seen+354

N254NG

100%

seen+200

I268L

100%

seen+148

R269K

100%

seen+185

D270H

99%

seen+185

S283G

99%

seen+185

Integrase Strand Transfer Inhibitors

bictegravir (BIC)

Intermediate Resistance

cabotegravir (CAB)

Intermediate Resistance

dolutegravir (DTG)

Intermediate Resistance

elvitegravir (EVG)

Intermediate Resistance

raltegravir (RAL)

Intermediate Resistance

IN comments

Major

- **R263K** is a nonpolymorphic mutation selected in vitro by EVG, DTG, BIC, and CAB. It occurs in a high proportion of persons who develop VF and emergent HIVDR while receiving DTG. Alone, it reduces DTG, BIC, and CAB susceptibility about 2-fold.

Accessory

- **G163R/K** are nonpolymorphic in all subtypes except subtype F. They are accessory resistance mutations as they usually occur in combination with other INSTI-resistance mutations particularly N155H.

Other

- **M50I** is a highly polymorphic mutation, which has a prevalence of 3% to 34% in INSTI-naïve persons depending on subtype. It has been selected in vitro by DTG and BIC in combination with R263K. It may contribute to reduced DTG and CAB susceptibility in combination with R263K.
- This virus is predicted to have intermediate-level reduced susceptibility to **CAB**. The use of the combination of **CAB**/RPV should be considered to be contraindicated.
- There is evidence for intermediate **DTG** resistance. If **DTG** is used, it should be administered twice daily.

Mutation scoring: IN

HIVDB 9.5.1 (2023-11-05)

Drug resistance mutation scores of INSTI:

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Rule	BIC ⚡	CAB ⚡	DTG ⚡	EVG ⚡	RAL ⚡
<u>R263K</u>	30	30	30	30	25
<u>G163GR</u>	0	0	0	15	15
Total	30	30	30	45	40