

Drug resistance interpretation: PR

HIVDB 9.5.1 (2023-11-05)

PI Major Mutations:None

PI Accessory Mutations:None

PR Other Mutations:V11X • T12R • I13S • K14V • I15 • G16R • Q18R • K20R • E21 • M36I • R41K • I64V • I72V

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

- K20R is a highly polymorphic PI-selected accessory mutation that increases replication fitness in viruses with PI-resistance mutations.

Mutation scoring: PR	HIVDB 9.5.1 (2023-11-05)
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No drug resistance mutations were found for PI.

Drug resistance interpretation: RT	HIVDB 9.5.1 (2023-11-05)
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NRTI Mutations:	K65R
NNRTI Mutations:	K101E • K103N • G190A
RT Other Mutations:	V35T • T39E • S48T • N57H • V60I • V75L • K122E • I135K • K173E • N175H • D177E • I178L • Q182X • K201N • E204D • L205V • Q207E • R211K • F214S • K220* • Y232D • P236A • K238E • V245K • K249I • D250E • D256* • I257Y • Q258T • K259* • L264V • W266R

Nucleoside Reverse Transcriptase Inhibitors		Non-nucleoside Reverse Transcriptase Inhibitors	
abacavir (ABC)	Intermediate Resistance	doravirine (DOR)	Low-Level Resistance
zidovudine (AZT)	Susceptible	efavirenz (EFV)	High-Level Resistance
stavudine (D4T)	High-Level Resistance	etravirine (ETR)	Intermediate Resistance
didanosine (DDI)	High-Level Resistance	nevirapine (NVP)	High-Level Resistance
emtricitabine (FTC)	Intermediate Resistance	rilpivirine (RPV)	High-Level Resistance
lamivudine (3TC)	Intermediate Resistance		
tenofovir (TDF)	Intermediate Resistance		

RT comments	
NRTI	
• K65R confers intermediate reductions in susceptibility to TDF, ABC, and 3TC/FTC. It increases AZT susceptibility. In NRTI-experienced, INSTI-naïve patients with K65R, TDF+3TC+DTG is usually highly effective and more effective than AZT/3TC/DTG. However, in patients receiving TDF+3TC+DTG, there is a risk of emergent DTG resistance that does not arise in NRTI-naïve patients receiving TDF+3TC+DTG.	
NNRTI	
• K101E is a non-polymorphic accessory mutation that confers intermediate resistance to NVP and RPV and low-level reductions in susceptibility to EFV, ETR, and DOR when it occurs with other NNRTI-resistance mutations.	
• K103N is a non-polymorphic mutation that confers high-level reductions in NVP and EFV susceptibility. It is the most commonly transmitted DRM.	
• G190A is a non-polymorphic mutation that causes high-level resistance to NVP and intermediate resistance to EFV. It does not significantly reduce susceptibility to RPV, ETR, or DOR.	
Other	
• P236L is a rare mutation selected commonly by DLV, which appears to have little if any effect on current NNRTIs. P236A is a highly unusual mutation at this position.	
• K238T/N are uncommon non-polymorphic mutations selected in persons receiving NVP and EFV usually in combination with K103N. Alone, K238T/N appear to have minimal effects on NNRTI susceptibility. K238E is a highly unusual mutation at this position.	

Drug resistance mutation scores of NRTI:

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Rule	ABC ⚡	AZT ⚡	D4T ⚡	DDI ⚡	FTC ⚡	3TC ⚡	TDF ⚡
<u>K65R</u>	45	-10	60	60	30	30	50

Drug resistance mutation scores of NNRTI:

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Rule	DOR ⚡	EFV ⚡	ETR ⚡	NVP ⚡	RPV ⚡
<u>K101E</u>	15	15	15	30	45
<u>K101E + G190A</u>	5	0	5	0	0
<u>K103N</u>	0	60	0	60	0
<u>G190A</u>	0	45	10	60	15
Total	20	120	30	150	60