

Antiretroviral drugs: cytochrome P450 properties						
Class	Drug	Substrate for			Inhibits	Induces
		CYPs	Transporters	Other		
<b>Integrase Strand Transfer Inhibitors (INSTIs)</b>	Raltegravir	—	—	UGT	—	—
	Elvitegravir and cobicistat	3A4, 2D6	—	UGT	3A4, 2D6, P-gp, OATP	2C9
	Dolutegravir	3A4	P-gp	UGT	OCT2, MATE	—
<b>Protease Inhibitors (PIs)</b>	Atazanavir	3A4	P-gp, MRP	—	3A4, 2C8, P-gp, UGT, OATP	P-gp
	Darunavir	3A4	P-gp, MRP	—	3A4, OATP	2C9
	Fosamprenavir	3A4	P-gp	—	3A4, P-gp	3A4
	Indinavir	3A4	P-gp, MRP	—	3A4, P-gp	—
	Lopinavir/Ritonavir	3A4	P-gp	—	3A4, P-gp, OATP	2B6
	Nelfinavir	3A4, 2C19	P-gp	—	3A4, P-gp	2B6
	Ritonavir	3A4, 2D6	P-gp	—	3A4, 2D6, P-gp	1A2, 2B6, 2C8, 2C9, 2C19, UGT
	Saquinavir	3A4	P-gp	—	P-gp, OATP	—
Tipranavir	3A4	P-gp	—	2D6, OATP	1A2, 3A4, 2C19, P-gp	
<b>Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)</b>	Delavirdine	3A4, 2D6	—	—	3A4, 2C9, 2D6, 2C19	—
	Efavirenz	2B6, 2A6, 3A4	—	—	2C9, 2C19, 3A4	3A4, 2B6
	Etravirine	3A4, 2C9, 2C19	—	UGT	2C9, 2C19	3A4, P-gp
	Nevirapine	3A4, 2B6	P-gp	—	—	3A4, 2B6
	Rilpivirine	3A4	—	—	—	—

Class	Drug	Substrate for			Inhibits	Induces
Nucleoside Reverse Transcriptase Inhibitors (NRTIs)	Lamivudine	—	—	Renal	—	—
	Abacavir	—	—	ADH, UDP	—	—
	Stavudine	—	—	Renal	—	—
	Didanosine	—	—	Renal	—	—
	Emtricitabine	—	—	Renal	—	—
	Tenofovir alafenamide	—	P-gp, OATP	CA, renal	—	—
	Tenofovir disoproxil fumarate	—	P-gp	Renal	—	—
	Zidovudine	—	—	Renal, glucoroidation	—	—
Entry inhibitors	Maraviroc	3A4	P-gp	Renal	—	—
	Enfuvirtide	—	—	Hydrolysis	—	—

**P-gp** = P-glycoprotein; **MRP** = multi-drug resistance protein; **OATP** = organic anion-transporting polypeptide; **UGT** = UDP-glucuronosyltransferase; **ADH** = alcohol dehydrogenase; **CA** = cathepsin A; **MATE** = multidrug and toxin extrusion transporter

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