

Table 13. Drugs That Should Not Be Used With PI, NNRTI, or CCR5 Antagonist Antiretrovirals
(Updated December 1, 2009)

Drug Categories										
Antiretrovirals ^{1,2}	Cardiac Agents	Lipid-Lowering Agents	Anti-mycobacterials	Gastro-intestinal Drugs	Neuro-leptics	Psychotropics	Ergot Alkaloids (vasoconstrictors)	Herbs	Antiretrovirals	Others
Atazanavir (+/- ritonavir) (ATV +/- RTV)	none	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	dihydroergotamine (D.H.E. 45) ergotamine ⁷ (various forms) ergonovine methylegonovine	St. John's wort	ETR IDV NVP	fluticasone irinotecan proton pump inhibitors (with unboosted ATV)
Darunavir/ ritonavir (DRV/r)	none	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	none	carbamazepine phenobarbital phenytoin fluticasone ⁸
Fosamprenavir (+/- ritonavir) (FPV +/- RTV)	none	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	ETR	fluticasone oral contraceptives
Indinavir (+/- ritonavir) (IDV +/- RTV)	amiodarone	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	ATV	
Lopinavir/ ritonavir (LPV/r)	flecainide propafenone	simvastatin lovastatin	rifampin ⁴ rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	none	fluticasone ⁸
Nelfinavir (NFV)	amiodarone quinidine	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	ETR	none
Ritonavir (RTV)	amiodarone flecainide propafenone quinidine	simvastatin lovastatin	rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	none	voriconazole (with RTV ≥400mg BID) fluticasone alfuzosin
Saquinavir/ ritonavir (SQV/r)	none	simvastatin lovastatin	rifampin ⁴ rifapentine	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort garlic supplements	none	fluticasone ⁸
Tipranavir/ ritonavir (TPV/r)	amiodarone flecainide propafenone quinidine	simvastatin lovastatin	rifampin rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	ETR	fluticasone ⁸
Efavirenz (EFV)	none	none	rifapentine ³	cisapride ⁵	pimozide	midazolam ⁶ triazolam	as above	St. John's wort	other NNRTIs	none
Etravirine (ETV)	none	none	rifabutin (if used with ritonavir- boosted PI) rifampin rifapentine ³	none	none	none	none	St. John's wort	unboosted PIs, ATV/r, FPV/r, or TPV/r; other NNRTIs	carbamazepine phenobarbital phenytoin
Nevirapine (NVP)	none	none	rifapentine ³	none	none	none	none	St. John's wort	ATV +/- RTV other NNRTIs	none
Maraviroc (MVC)	none	none	rifapentine ³	none	none	none	none	St. John's wort	none	none

¹ Delavirdine is not included in this table. Refer to the FDA package insert for information regarding delavirdine drug interactions.

² Certain listed drugs are contraindicated based on theoretical considerations. Thus, drugs with narrow therapeutic indices and suspected metabolic involvement with CYP450 3A, 2D6, or unknown pathways are included in this table. Actual interactions may or may not occur in patients.

³ HIV patients treated with rifapentine have a higher rate of TB relapse than those treated with other rifamycin-based regimens; an alternative agent is recommended.

⁴ A high rate of grade 4 serum transaminase elevation was seen when a higher dose of ritonavir was added to lopinavir/ritonavir or saquinavir or when double-dose lopinavir/ritonavir was used with rifampin to compensate for rifampin's induction effect, so these dosing strategies should not be used.

⁵ The manufacturer of cisapride has a limited-access protocol for patients who meet specific clinical eligibility criteria.

⁶ Contraindicated with oral midazolam. Parenteral midazolam can be used with caution as a single dose and can be given in a monitored situation for procedural sedation.

⁷ This is likely a class effect.

⁸ Concomitant use of fluticasone and ritonavir results in significantly reduced serum cortisol concentrations. Coadministration of fluticasone and ritonavir or any ritonavir-boosted PI regimen is not recommended unless potential benefit outweighs risk of systemic corticosteroid adverse effects. Fluticasone should be used with caution, and alternatives should be considered, if given with an unboosted PI regimen.

Suggested Alternatives to:

Lovastatin, simvastatin: Pravastatin and fluvastatin have the least potential for drug-drug interactions (except for pravastatin with darunavir/ritonavir, see [Table 14a](#)); atorvastatin and rosuvastatin - use with caution, start with the lowest possible dose and titrate based on tolerance and lipid-lowering efficacy.

Rifampin: Rifabutin (with dosage adjustment - see [Tables 14a and 14b](#))

Midazolam, triazolam: temazepam, lorazepam, oxazepam