

Please refer to the **Drug Interactions** section of the Adult Guidelines for more detailed discussions.

**Table 14. Drugs That Should Not Be Used With PI, NNRTI, or CCR5 Antagonist Antiretrovirals**  
(Updated January 29, 2008)

Drug Category <sup>#</sup>	Calcium Channel Blockers	Cardiac Agents	Lipid Lowering Agents	Anti-mycobacterials <sup>‡</sup>	Anti-histamines <sup>‡</sup>	Gastro-intestinal Drugs <sup>‡</sup>	Neuro-leptics	Psychotropics	Ergot Alkaloids (vasoconstrictors)	Herbs	Others
Atazanavir	Bepridil	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	dihydroergotamine (D.H.E. 45) ergotamine <sup>‡</sup> (various forms) ergonovine methylethergonovine	St. John's wort	fluticasone indinavir irinotecan proton pump inhibitor (not recommended for unboosted ATV)
Darunavir/ ritonavir	(none)	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	carbamazepine phenobarbital phenytoin fluticasone <sup>⊗</sup>
Fosamprenavir	Bepridil	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	Delavirdine fluticasone oral contraceptives
Indinavir	(none)	amiodarone	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	atazanavir
Lopinavir/ ritonavir	(none)	flecainide propafenone	simvastatin lovastatin	rifampin/ rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	fluticasone <sup>⊗</sup>
Nelfinavir	(none)	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	
Ritonavir	Bepridil	amiodarone flecainide propafenone quinidine	simvastatin lovastatin	rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	voriconazole (with RTV $\geq$ 400mg BID) fluticasone <sup>⊗</sup> alfuzosin
Saquinavir/ ritonavir	(none)	(none)	simvastatin lovastatin	rifampin/ rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort garlic supplements	fluticasone <sup>⊗</sup>
Tipranavir/ ritonavir	Bepridil	amiodarone flecainide propafenone quinidine	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	fluticasone <sup>⊗</sup>
Delavirdine	(none)	(none)	simvastatin lovastatin	rifampin rifapentine <sup>‡</sup> rifabutin	astemizole terfenadine	cisapride	(none)	alprazolam midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	fosamprenavir carbamazepine phenobarbital phenytoin
Efavirenz	(none)	(none)	(none)	rifapentine <sup>‡</sup>	astemizole terfenadine	cisapride	(none)	midazolam <sup>Σ</sup> triazolam	as above	St. John's wort	
Etravirine	(none)	(none)	(none)	rifampin rifapentine <sup>‡</sup>	(none)	(none)	(none)	(none)	(none)	St. John's wort	Unboosted PIs, ritonavir-boosted atazanavir, fosamprenavir, or tipranavir, other NNRTIs, carbamazepine, phenobarbital, phenytoin
Nevirapine	(none)	(none)	(none)	rifapentine <sup>‡</sup>	(none)	(none)	(none)	(none)	(none)	St. John's wort	
Maraviroc	•	•	•	rifapentine <sup>‡</sup>	•	•	•	•	•	St. John's wort	•

# 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 among patients.

‡ 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.

† 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.

Σ 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.

† This is likely a class effect.

⊕ Astemizole and terfenadine are not marketed in the United States. The manufacturer of cisapride has a limited-access protocol for patients who meet specific clinical eligibility criteria.

⊗ 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 15a](#)); 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 15a and b](#))

**Astemizole, terfenadine (no longer marketed in the United States):** desloratadine, loratadine, fexofenadine, cetirizine

**Midazolam, triazolam:** temazepam, lorazepam