

Table 20. Drugs That Should Not Be Used With PI or NNRTI Antiretrovirals

Drug Category [#]	Calcium channel blocker	Cardiac	Lipid Lowering Agents	Anti-Mycobacterial [‡]	Anti-histamine [Ⓔ]	Gastro-intestinal Drugs [Ⓓ]	Neuroleptic	Psychotropic	Ergot Alkaloids (vasoconstrictor)	Herbs	Other
Protease Inhibitors											
Indinavir	(none)	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	atazanavir
Ritonavir⁺	bepridil	amiodarone flecainide propafenone quinidine	simvastatin lovastatin	rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	
Saquinavir	(none)	(none)	simvastatin lovastatin	rifampin ^Δ rifabutin ^Δ rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort Garlic supplements	
Nelfinavir	(none)	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	
Amprenavir and Fosamprenavir	bepridil	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	Delavirdine
Lopinavir + Ritonavir	(none)	flecainide propafenone	simvastatin lovastatin	rifampin [‡] rifapentine	astemizole terfenadine	cisapride	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	
Atazanavir	bepridil	(none)	simvastatin lovastatin	rifampin rifapentine	astemizole terfenadine	cisapride proton pump inhibitors	pimozide	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	indinavir irinotecan
Non-nucleoside Reverse Transcriptase Inhibitors											
Nevirapine	(none)	(none)	(none)	rifampin rifapentine [‡]	(none)	(none)	(none)	(none)	(none)	St. John's wort	
Delavirdine	(none)	(none)	simvastatin lovastatin	rifampin rifapentine [‡] rifabutin	astemizole terfenadine	cisapride H-2 blockers Proton pump inhibitors	(none)	alprazolam midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	Amprenavir Fosamprenavir
Efavirenz	(none)	(none)	(none)	rifapentine [‡]	astemizole terfenadine	cisapride	(none)	midazolam ^Σ triazolam	dihydroergotamine (D.H.E. 45) ergotamine [†] (various forms) ergonovine methylethergonovine	St. John's wort	

Certain listed drugs are contraindicated based on theoretical considerations. Thus, drugs with narrow therapeutic indices and suspected metabolic involvement with P450-3A, 2D6, or unknown pathways are included in this table. Actual interactions may or may not occur among patients.

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

Δ Rifampin and rifabutin are contraindicated unless saquinavir is combined with ritonavir.

‡ In one small study, higher doses of RTV or LPV/RTV offset rifampin-inducing activity of LPV. Of note, 28% of subjects discontinued due to increases in LFTs. The safety of this combination is still under evaluation further studies are needed.

Σ Midazolam can be used with caution as a single dose and 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 in place for patients meeting specific clinical eligibility criteria.

* Each 150 mg amprenavir Agenerase[®] capsule has 109 IU (International Units) of Vitamin E and 1 milliliter of Amprenavir oral solution has 46 IU of vitamin E. At FDA approved doses, the daily amount of vitamin E in Agenerase is 58-fold increase over the federal government reference daily intake for adults. Patients should be cautioned to avoid supplemental doses of vitamin E. Multivitamin products containing minimal amounts of vitamin E are likely acceptable.

Suggested Alternatives

Cerivastatin (no longer marketed in the United States), simvastatin, lovastatin: pravastatin and fluvastatin have the least potential for drug-drug interactions; atorvastatin should be used with caution, using the lowest possible starting dose and monitor closely; **no pharmacokinetic data or safety data is available for co-administration of rosuvastatin with the antiretroviral agents.**

Rifabutin: clarithromycin, azithromycin (MAI prophylaxis); clarithromycin, azithromycin, ethambutol (MAI treatment)

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

Midazolam, triazolam: temazepam, lorazepam