

# ANTIRETROVIRAL CONTRAINDICATIONS AND DRUG INTERACTIONS\* (Part 1 of 11)

Generic	Brand	Contraindications and Drug Interactions*
<b>CCR5 CO-RECEPTOR ANTAGONISTS</b>		
maraviroc (MVC)	<b>Selzentry</b>	<ul style="list-style-type: none"> <li>• <b>Severe renal impairment or ESRD (CrCl &lt;30mL/min) in patients taking concomitant potent CYP3A inhibitors or inducers.</b></li> <li>• Concomitant St. John's wort: not recommended.</li> <li>• May affect, or be affected by, CYP3A inhibitors or inducers and drugs affected by P-glycoprotein (eg, potentiated by ketoconazole, boceprevir, lopinavir/ritonavir, ritonavir, darunavir/ritonavir, saquinavir/ritonavir, atazanavir; antagonized by rifampin, etravirine, efavirenz).</li> <li>• Caution with antihypertensives.</li> </ul>
<b>FUSION INHIBITORS</b>		
enfuvirtide (ENF, T-20)	<b>Fuzeon</b>	<ul style="list-style-type: none"> <li>• May cause false (+) ELISA test for HIV.</li> <li>• Increased risk of post-injection bleed with concomitant anticoagulants.</li> </ul>
<b>HIV-1 INTEGRASE STRAND TRANSFER INHIBITORS</b>		
dolutegravir	<b>Tivicay</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant dofetilide.</b></li> <li>• May be affected by drugs that induce or inhibit UGT1A1, UGT1A3, UGT1A9, BCRP, and P-gp enzymes or transporters.</li> <li>• Avoid concomitant nevirapine, oxcarbazepine, phenytoin, phenobarbital, St. John's wort.</li> <li>• Avoid etravirine unless co-administered with atazanavir/ritonavir, darunavir/ritonavir, or lopinavir/ritonavir.</li> <li>• Concomitant efavirenz, fosamprenavir/ritonavir, tipranavir/ritonavir, rifampin, or carbamazepine: adjust dose to 50mg twice daily.</li> <li>• Concomitant cation-containing antacids, laxatives, sucralfate, oral iron/calcium supplements, and buffered drugs: give dolutegravir 2hrs before or 6hrs after.</li> <li>• Limit concomitant metformin dose to 1000mg/day; adjust metformin dose when stopping dolutegravir; monitor closely.</li> </ul>
raltegravir (RAL)	<b>Isentress</b>	<ul style="list-style-type: none"> <li>• May be antagonized by UGT1A1 inducers (eg, rifampin) and potentiated by UGT1A1 inhibitors.</li> <li>• Concomitant aluminum and/or magnesium-containing antacids, other strong enzyme inducers (eg, carbamazepine, phenobarbital, phenytoin): not recommended.</li> <li>• Caution with concomitant drugs known to cause myopathy or rhabdomyolysis (eg, statins).</li> </ul>
	<b>Isentress HD</b>	<ul style="list-style-type: none"> <li>• Concomitant calcium carbonate antacid, rifampin, tipranavir/ritonavir, etravirine: not recommended.</li> </ul>
<b>NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NNRTIS)</b>		
delavirdine mesylate (DLV)	<b>Rescriptor</b>	<ul style="list-style-type: none"> <li>• <b>CYP3A substrates that may cause serious events if blood levels are elevated (eg, cisapride, pimozide, alprazolam, midazolam, triazolam, ergots).</b></li> <li>• Concomitant lovastatin or simvastatin, NNRTIs: not recommended.</li> <li>• May increase levels of antiarrhythmics (eg, bepridil, quinidine), calcium channel blockers (eg, nifedipine), clarithromycin, rifabutin, indinavir, saquinavir, maraviroc (monitor ALT/AST), amprenavir, amphetamines, trazodone, warfarin, sildenafil, atorvastatin, fluvastatin, immunosuppressants, methadone, fluticasone (long-term use); serious or life-threatening adverse reactions may occur with some of these drugs (avoid or adjust dose).</li> <li>• Delavirdine levels may be decreased by phenytoin, phenobarbital, carbamazepine, rifabutin, rifampin, chronic H<sub>2</sub> antagonists or PPIs, dexamethasone, St. John's wort: not recommended; didanosine and vice versa (separate dosing by at least 1hr).</li> <li>• Delavirdine levels increased by fluoxetine, ketoconazole.</li> <li>• Absorption reduced by antacids (separate dosing by at least 1hr).</li> <li>• Reduce indinavir dose (consider indinavir 600mg three times daily).</li> </ul>
efavirenz (EVF)	<b>Sustiva</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant other efavirenz-containing products (eg, Atripla unless needed for dose adjustment with rifampin), atazanavir (treatment-experienced), posaconazole, boceprevir, simeprevir, atovaquone/proguanil, alcohol, psychoactive, other NNRTIs or hepatotoxic drugs.</li> <li>• Caution with drugs metabolized by, or that affect activity of, CYP2B6, CYP2C9, CYP2C19, CYP3A4.</li> <li>• Efavirenz levels decreased by carbamazepine, phenytoin, phenobarbital, rifampin (adjust dose).</li> <li>• May decrease levels of indinavir, amprenavir, atazanavir, saquinavir, anticonvulsants, clarithromycin, calcium channel blockers (eg, diltiazem, felodipine, nifedipine, verapamil), itraconazole, ketoconazole, lopinavir (adjust dose: see full labeling), maraviroc, bupropion, methadone, rifabutin (increase dose: see labeling), sertraline, simvastatin, atorvastatin, pravastatin, hormonal contraceptives (eg, norgestimate, etonogestrel), immunosuppressants (eg, cyclosporine, sirolimus, tacrolimus), artemether/lumefantrine.</li> <li>• May affect or be affected by voriconazole (adjust dose).</li> <li>• Levels of both drugs increased with ritonavir (monitor liver function and for adverse events).</li> <li>• Closely monitor warfarin, anticonvulsants (esp. phenytoin, phenobarbital, carbamazepine), rifabutin, others.</li> <li>• Consider alternatives when concomitant drugs with a risk of QT prolongation (eg, clarithromycin, artemether/lumefantrine).</li> <li>• May cause false (+) cannabis screening test results..</li> </ul>

(continued)

# ANTIRETROVIRAL CONTRAINDICATIONS AND DRUG INTERACTIONS (Part 2 of 11)

Generic	Brand	Contraindications and Drug Interactions*
<b>NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NNRTIS) (continued)</b>		
etravirine (ETR)	<b>Intellec</b>	<ul style="list-style-type: none"> <li>• Concomitant tipranavir/ritonavir, fosamprenavir/ritonavir, atazanavir/ritonavir, PIs without ritonavir (eg, atazanavir, fosamprenavir, nelfinavir, indinavir), ritonavir (600mg twice daily), NNRTIs (eg, efavirenz, nevirapine, delavirdine): not recommended.</li> <li>• Avoid rifampin, rifapentine, St. John's wort, carbamazepine, phenytoin, phenobarbital; rifabutin with darunavir/ritonavir.</li> <li>• May affect, or be affected by, drugs that induce or inhibit, or that are substrates of, CYP3A4, CYP2C9, CYP2C19 (eg, azole antifungals, immunosuppressants); monitor.</li> <li>• Potentiated by lopinavir/ritonavir.</li> <li>• May antagonize antiarrhythmics (eg, amiodarone, bepridil, disopyramide, flecainide, lidocaine, mexiletine, propafenone, quinidine) (monitor), sildenafil.</li> <li>• May potentiate warfarin, diazepam.</li> <li>• May be antagonized by anticonvulsants, dexamethasone.</li> <li>• Clarithromycin (consider azithromycin for treating MAC).</li> <li>• Adjust statin dose (except pravastatin, rosuvastatin).</li> <li>• Rifabutin (adjust dose with etravirine monotherapy).</li> </ul>
nevirapine (NVP)	<b>Viramune</b>	<ul style="list-style-type: none"> <li>• <b>Moderate-to-severe hepatic impairment.</b></li> <li>• Potentiated by fluconazole (monitor).</li> </ul>
	<b>Viramune XR</b>	<ul style="list-style-type: none"> <li>• Antagonizes ketoconazole, oral contraceptives: not recommended (use nonhormonal contraception), clarithromycin (consider alternative).</li> <li>• Antagonized by St. John's wort, rifampin: not recommended.</li> <li>• May antagonize methadone (monitor for withdrawal symptoms; increase methadone dose if needed), or drugs metabolized by CYP3A4 or CYP2B6.</li> <li>• Monitor warfarin, rifabutin, other CYP450 substrates.</li> </ul>
rilpivirine	<b>Edurant</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine, esomeprazole, lansoprazole, omeprazole, pantoprazole, rabeprazole, systemic dexamethasone (more than single dose), St. John's wort.</b></li> <li>• Concomitant NNRTIs: not recommended.</li> <li>• Antagonized by CYP3A inducers (see Contraindications).</li> <li>• May be potentiated by CYP3A inhibitors (eg, azole antifungals [monitor for breakthrough fungal infections], clarithromycin, erythromycin, telithromycin [consider azithromycin use]).</li> <li>• Concomitant methadone; monitor.</li> <li>• Separate didanosine, antacids (by at least 2hrs before or at least 4hrs after) and H<sub>2</sub>-receptor antagonists (by at least 12hrs before or 4hrs after rilpivirine); drugs that increase gastric pH may result in decreased plasma concentrations.</li> <li>• Caution with drugs with a known risk for torsades de pointes.</li> </ul>
<b>NUCLEOSIDE/NUCLEOTIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIS)</b>		
abacavir sulfate (ABC)	<b>Ziagen</b>	<ul style="list-style-type: none"> <li>• <b>Presence of HLA-B*5701 allele.</b></li> <li>• <b>Prior hypersensitivity reaction to abacavir (see full labeling).</b></li> <li>• <b>Moderate or severe hepatic impairment.</b></li> <li>• May antagonize methadone.</li> <li>• May be potentiated by ethanol.</li> </ul>
abacavir (ABC)/ lamivudine (3TC)	<b>Epzicom</b>	<ul style="list-style-type: none"> <li>• <b>Presence of HLA-B*5701 allele.</b></li> <li>• <b>Prior hypersensitivity reaction to any of the components (see full labeling).</b></li> <li>• <b>Moderate or severe hepatic impairment.</b></li> <li>• Avoid concomitant sorbitol-containing products.</li> <li>• May antagonize methadone.</li> <li>• Monitor for treatment-associated toxicities (esp. hepatic decompensation) with interferon-alpha with or without ribavirin.</li> </ul>
abacavir (ABC)/ lamivudine (3TC)/ zidovudine (ZDV)	<b>Trizivir</b>	<ul style="list-style-type: none"> <li>• <b>Presence of HLA-B*5701 allele.</b></li> <li>• <b>Prior hypersensitivity reaction to any of the components (see full labeling).</b></li> <li>• <b>Moderate or severe hepatic impairment.</b></li> <li>• Avoid concomitant stavudine, doxorubicin, nucleoside analogues (eg, ribavirin), sorbitol-containing products.</li> <li>• Increased hematologic toxicity with ganciclovir, interferon alfa, ribavirin, other bone marrow suppressants or cytotoxic drugs.</li> <li>• Abacavir may antagonize methadone.</li> <li>• Monitor for treatment-associated toxicities (esp. hepatic decompensation) with interferon-alpha with or without ribavirin.</li> </ul>

(continued)

Generic	Brand	Contraindications and Drug Interactions*
<b>NUCLEOSIDE/NUCLEOTIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIS) (continued)</b>		
didanosine (ddl)	<b>Videx</b>	<ul style="list-style-type: none"> <li>• Concomitant stavudine, allopurinol, ribavirin.</li> </ul>
	<b>Videx EC</b>	<ul style="list-style-type: none"> <li>• Avoid with hydroxyurea.</li> <li>• Potentiated by ganciclovir, tenofovir DF (reduce didanosine dose).</li> <li>• Antagonized by methadone.</li> <li>• Caution with neurotoxic drugs or those that may cause pancreatic toxicity.</li> <li>• For pediatric pwt: caution with magnesium- or aluminum-containing antacids.</li> <li>• Separate dosing of delavirdine, indinavir, nelfinavir by 1hr; give ketoconazole, itraconazole ≥2hrs prior</li> <li>• May antagonize quinolones, tetracyclines.</li> <li>• Give at least 6hrs before or 2hrs after ciprofloxacin.</li> </ul>
emtricitabine (FTC)	<b>Emtriva</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant drugs that contain emtricitabine or lamivudine.</li> </ul>
emtricitabine (FTC)/tenofovir alafenamide (TAF)	<b>Descovy</b>	<ul style="list-style-type: none"> <li>• Concomitant drugs that strongly affect P-gp activity may lead to changes inTAF absorption.</li> <li>• Avoid with concurrent or recent use of nephrotoxic agents.</li> <li>• Concomitant tipranavir/ritonavir, antimycobacterials (eg, rifabutin, rifampin, rifapentine), St. John's wort: not recommended.</li> <li>• May be antagonized by anticonvulsants (eg, carbamazepine, oxcarbazepine, phenobarbital, phenytoin; consider alternatives).</li> <li>• May be potentiated by drugs that decrease renal function or compete for active tubular secretion (eg, acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides, NSAIDs).</li> </ul>
emtricitabine (FTC)/tenofovir disoproxil fumarate (TDF)	<b>Truvada</b>	<ul style="list-style-type: none"> <li>• <b>PrEP in individuals with unknown or positive HIV-1 status.</b></li> <li>• Potentiates didanosine toxicity (&gt;60kg: reduce dose of didanosine); discontinue didanosine if toxicity develops.</li> <li>• Monitor drugs that reduce renal function or compete for renal tubular secretion (eg, adefovir dipivoxil, cidofovir, acyclovir, valacyclovir, ganciclovir, valganciclovir, aminoglycosides, high-dose NSAIDs).</li> <li>• Avoid concomitant or recent use of nephrotoxic agents.</li> <li>• Potentiated by lopinavir/ritonavir, ritonavir-boosted atazanavir or darunavir; monitor for toxicity; discontinue if occurs.</li> <li>• Concomitant atazanavir: must give with ritonavir.</li> <li>• Tenofovir levels increased by concomitant ledipasvir/sofosbuvir, sofosbuvir/velpatasvir, or sofosbuvir/velpatasvir/voxilaprevir; monitor for toxicity.</li> </ul>
lamivudine (3TC)	<b>Epivir</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant sorbitol-containing products.</li> <li>• Caution with drugs eliminated by active organic cationic secretion (eg, trimethoprim).</li> <li>• Monitor for treatment-associated toxicities (esp. hepatic decompensation) with interferon-alpha with or without ribavirin.</li> </ul>
lamivudine (3TC)/zidovudine (ZDV)	<b>Combivir</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant stavudine, doxorubicin, nucleoside analogues (eg, ribavirin), sorbitol-containing products.</li> <li>• Increased hematologic toxicity with ganciclovir, interferon alpha, ribavirin, other bone marrow suppressants or cytotoxic drugs.</li> <li>• Monitor for treatment-associated toxicities (eg, hepatic decompensation) with interferon-alpha with or without ribavirin.</li> </ul>
stavudine (d4T)	<b>Zerit</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant zidovudine.</li> <li>• Increased risk of toxicity with neurotoxic, hepatotoxic, or pancreatotoxic drugs (eg, didanosine and/or hydroxyurea); avoid.</li> <li>• Caution with doxorubicin, ribavirin.</li> <li>• Monitor for treatment-associated toxicities with interferon-alpha with or without ribavirin.</li> </ul>
tenofovir disoproxil fumarate (TDF)	<b>Viread</b>	<ul style="list-style-type: none"> <li>• Avoid concomitant drugs that contain tenofovir DF, tenofovir alafenamide or adefovir dipivoxil.</li> <li>• Avoid concomitant or recent use of nephrotoxic agents.</li> <li>• Potentiates didanosine toxicity (&gt;60kg: reduce dose of didanosine); discontinue didanosine if toxicity develops.</li> <li>• Monitor drugs that reduce renal function or compete for renal tubular secretion (eg, cidofovir, acyclovir, valacyclovir, ganciclovir, valganciclovir, aminoglycosides, high-dose or multiple NSAIDs).</li> <li>• Concomitant atazanavir: must give with ritonavir.</li> <li>• Potentiated by concomitant lopinavir/ritonavir, ritonavir-boosted atazanavir or darunavir, ledipasvir/sofosbuvir, sofosbuvir/velpatasvir; monitor for toxicity.</li> <li>• Caution with triple nucleoside-only regimen (high rate of early virologic failure); monitor and consider alternative therapy.</li> <li>• See full labeling for dosing on concomitant didanosine or ritonavir.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>NUCLEOSIDE/NUCLEOTIDE REVERSE TRANSCRIPTASE INHIBITORS (NRTIS) (continued)</b>		
zidovudine (ZDV)	<b>Retrovir</b>	<ul style="list-style-type: none"> <li>• Avoid stavudine, doxorubicin, ribavirin, other nucleoside analogues.</li> <li>• Caution with other cytotoxic or myelosuppressive drugs (eg, ganciclovir, interferon-alpha, ribavirin).</li> <li>• Potentiated by fluconazole, atovaquone, lamivudine, probenecid, valproic acid, methadone.</li> <li>• Monitor phenytoin.</li> <li>• May be antagonized by clarithromycin, rifampin, ritonavir, nelfinavir.</li> <li>• Monitor for treatment-associated toxicities with interferon-alpha with or without ribavirin.</li> </ul>
<b>PHARMACOKINETIC ENHANCER</b>		
cobicistat	<b>Tybst</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, ranolazine, dronedarone, carbamazepine, phenobarbital, phenytoin, colchicine (in renal and/or hepatic impairment), rifampin, irinotecan (with atazanavir only), lurasidone, pimozone, ergots, cisapride, St. John's wort, lovastatin, simvastatin, drospirenone/ ethinyl estradiol (with atazanavir only), nevirapine (with atazanavir only), sildenafil (as Revatio for PAH), indinavir (with atazanavir only), triazolam, oral midazolam.</b></li> <li>• Concomitant nephrotoxic agent with cobicistat + tenofovir disoproxil fumarate: not recommended.</li> <li>• Concomitant darunavir 600mg twice daily or darunavir in combination with efavirenz, nevirapine, etravirine; atazanavir in combination with etravirine or efavirenz (in treatment-experienced); more than 1 antiretroviral that requires PK enhancement, other HIV-1 protease inhibitors (eg, fosamprenavir, saquinavir, tipranavir), rivaroxaban, voriconazole, boceprevir, simeprevir, salmeterol, avanafil: not recommended.</li> <li>• Concomitant lopinavir/ritonavir, other ritonavir- or cobicistat-containing fixed-dose combination tabs or regimens: not recommended.</li> <li>• May need to adjust dose of dasatinib, nilotinib, colchicine, sildenafil, tadalafil, vardenafil, perphenazine, risperidone, thioridazine, buprenorphine, buprenorphine/naloxone, methadone, tramadol, bosentan, rifabutin, and sedatives/hypnotics; see full labeling.</li> <li>• Concomitant maraviroc: give maraviroc 150mg twice daily.</li> <li>• Concomitant quetiapine: consider alternative antiretrovirals; if necessary, reduce quetiapine to 1/6 of current dose and monitor.</li> <li>• Monitor with antiarrhythmics, digoxin, warfarin, clonazepam, SSRIs, TCAs, trazodone, antifungals, fentanyl, immunosuppressants, other statins (eg, atorvastatin, rosuvastatin), <math>\beta</math>-blockers, calcium channel blockers.</li> <li>• Concomitant antibacterials (eg, clarithromycin, erythromycin, telithromycin), CYP3A-inducing anticonvulsants that are not contraindicated (eg, eslicarbazepine, oxcarbazepine), corticosteroids (eg, oral dexamethasone, betamethasone): consider alternatives.</li> <li>• Concomitant vincristine, vinblastine: monitor for hematologic or GI adverse effects.</li> <li>• Concomitant hormonal contraceptives: consider additional or alternative (non-hormonal) contraception.</li> <li>• Separate dosing with concomitant H<sub>2</sub> receptor antagonists, PPIs (not recommended in treatment-experienced), or antacids (at least 2hrs).</li> </ul>
<b>PROTEASE INHIBITORS (PIS)</b>		
atazanavir sulfate (ATV)	<b>Reyataz</b>	<ul style="list-style-type: none"> <li>• <b>Drugs metabolized by CYP3A or UGT1A1 that may cause serious events if blood levels are elevated (eg, alfuzosin, rifampin, irinotecan, oral midazolam, triazolam, ergots, cisapride, St. John's wort, lovastatin, simvastatin, pimozone, indinavir, nevirapine, sildenafil [Revatio; when used to treat PAH]).</b></li> <li>• Concomitant other protease inhibitors (excluding ritonavir and saquinavir), salmeterol, or fluticasone (atazanavir + ritonavir): not recommended.</li> <li>• Caution with drugs metabolized by UGT1A1 or CYP3A (eg, IV midazolam, calcium channel blockers, statins [eg, atorvastatin, rosuvastatin; use lowest dose necessary; max rosuvastatin dose is 10mg/ day], immunosuppressants, PDE5 inhibitors: reduce doses of these to treat ED; max 25mg sildenafil in 48hrs; max 2.5mg vardenafil in 24hrs or 72hrs [atazanavir + ritonavir]; max 10mg tadalafil in 72hrs; tadalafil to treat PAH [see full labeling]), and CYP2C8 (eg, paditaxel, repaglinide).</li> <li>• Potentiated by CYP3A inhibitors, telaprevir.</li> <li>• Antagonized by CYP3A inducers.</li> <li>• Use cautiously and monitor diltiazem, antiarrhythmics, others that affect conduction (esp. if metabolized by CYP3A).</li> <li>• Consider reducing diltiazem or clarithromycin dose by 50%; rifabutin dose by 75%.</li> <li>• Variable effects on clarithromycin; consider other drugs.</li> <li>• Plasma levels decreased by drugs that reduce gastric acidity (eg, H<sub>2</sub>-blockers, antacids).</li> <li>• Give proton pump inhibitors 12hrs before atazanavir + ritonavir; avoid in therapy-experienced.</li> <li>• Give 2hrs before or 1hr after buffered or enteric coated didanosine.</li> <li>• Antagonized by efavirenz, bosentan, tenofovir (see dose).</li> <li>• Increased risk of lactic acidosis with nucleoside analogues.</li> <li>• Potentiates saquinavir, trazodone, fluticasone, oral contraceptives, ketoconazole, itraconazole, buprenorphine (reduce dose), colchicine (esp. renal or hepatic impaired; do not use).</li> <li>• Monitor warfarin, tricyclics, rifabutin, immunosuppressants.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>PROTEASE INHIBITORS (PIS) (continued)</b>		
darunavir (DRV)	<b>Prezista</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, ranolazine, dronedarone, colchicine (in renal and/or hepatic impairment), rifampin, lurasidone, pimozide, ergots, cisapride, oral midazolam, triazolam, St. John's wort, elbasvir/grazoprevir, lovastatin, simvastatin, sildenafil (Revatio for PAH).</b></li> <li>• Voriconazole, salmeterol, boceprevir, simeprevir, apixaban, rivaroxaban, dabigatran (in renal impairment), rifampentine, everolimus, avanafil, not studied protease inhibitors (eg, lopinavir/ritonavir, saquinavir): not recommended.</li> <li>• Potentiates carbamazepine, risperidone, thioridazine, TCAs, trazodone, IV midazolam, rifabutin, digoxin, HMG-CoA reductase inhibitors (eg, pravastatin, atorvastatin, rosuvastatin; use lowest dose necessary; max atorvastatin dose is 20mg/day), sildenafil, vardenafil, tadalafil (reduce their doses), sedatives/hypnotics, budesonide, prednisolone, fluticasone, bosentan (see full labeling), maraviroc (max 150mg twice daily), colchicine (dose adjustments: see full labeling), quetiapine (reduce quetiapine dose by 1/6 or consider alternative antiretrovirals), dasatinib, nilotinib, vinca alkaloids.</li> <li>• Potentiates, and is potentiated by, indinavir, ketoconazole, itraconazole.</li> <li>• Antagonizes sertraline, paroxetine, phenytoin, phenobarbital (monitor levels), ethinyl estradiol, norethindrone (use backup contraception), omeprazole (max 40mg/day).</li> <li>• Antagonized by corticosteroids; consider alternatives.</li> <li>• Caution with antimalarials (artemether, lumefantrine).</li> <li>• Monitor carbamazepine, antiarrhythmics (eg, bepridil, systemic lidocaine, quinidine, amiodarone, flecainide, propafenone), calcium channel blockers, <math>\beta</math>-blockers, warfarin, digoxin, immunosuppressants (eg, tacrolimus, sirolimus, cyclosporine), buprenorphine, buprenorphine/naloxone, methadone.</li> <li>• Reduce concomitant clarithromycin dose in renal impairment.</li> <li>• Separate dosing of didanosine.</li> </ul>
fosamprenavir calcium (FOS-APV)	<b>Lexiva</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, cisapride, lurasidone, pimozide, ergots, midazolam, triazolam, St. John's wort, rifampin, lovastatin, simvastatin, delavirdine, sildenafil (as Revatio for PAH).</b></li> <li>• <b>Concomitant flecainide, or propafenone with ritonavir-boosted fosamprenavir.</b></li> <li>• Life-threatening arrhythmias possible with amiodarone, lidocaine (systemic), quinidine.</li> <li>• Concomitant salmeterol, boceprevir, simeprevir, ketoconazole or itraconazole (doses &gt;200mg/day), paritaprevir/ritonavir/ombitasvir/dasabuvir, or nevirapine without ritonavir: not recommended.</li> <li>• Reduce rifabutin dose by at least 1/2 (or by 75% if with ritonavir) and monitor for neutropenia (do weekly CBCs).</li> <li>• Potentiates atorvastatin (max atorvastatin 20mg/day), sildenafil, tadalafil, vardenafil; reduce doses of these.</li> <li>• May potentiate fluticasone (consider alternative therapy), trazodone (reduce trazodone dose).</li> <li>• Monitor antiarrhythmics (eg, amiodarone), anticonvulsants (eg, phenytoin), H<sub>2</sub> blockers, immunosuppressants, tricyclics, warfarin, drugs that affect or are affected by CYP3A4 (eg, azole antifungals, benzodiazepines, calcium channel blockers, NNRTIs, protease inhibitors, statins, steroids).</li> <li>• May antagonize, or be antagonized by hormonal contraceptives (use non-hormonal methods), methadone, paroxetine.</li> <li>• Concomitant dolutegravir (with ritonavir-boosted fosamprenavir): give dolutegravir 50mg twice daily; use alternative if known or suspected integrase inhibitor resistance.</li> <li>• Concomitant bosentan, colchicine, quetiapine, maraviroc (adjust doses; see full labeling).</li> </ul>
indinavir sulfate (IDV)	<b>Crixivan</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, amiodarone, cisapride, lovastatin, simvastatin, oral midazolam, triazolam, alprazolam, pimozide, ergots, sildenafil (as Revatio; for PAH treatment).</b></li> <li>• Rifampin, St. John's wort, atazanavir, salmeterol, fluticasone (w. concomitant potent CYP3A4 inhibitor): not recommended.</li> <li>• Caution with atorvastatin and rosuvastatin; titrate, use lowest necessary dose and monitor.</li> <li>• Potentiates PDE5 inhibitors, IV midazolam, trazodone, bosentan (reduce doses; see literature); antiarrhythmics, rifabutin, calcium channel blockers, clarithromycin, immunosuppressants, others metabolized by CYP3A4.</li> <li>• Plasma levels increased by itraconazole, ketoconazole, delavirdine, CYP3A4 inhibitors.</li> <li>• Plasma levels reduced by efavirenz, rifabutin, venlafaxine, phenobarbital, phenytoin, carbamazepine, other CYP3A4 inducers.</li> <li>• Avoid concomitant colchicine if renal or hepatic impairment; otherwise: reduce dose: see literature.</li> <li>• Separate dosing of indinavir and didanosine by at least 1hr and give both on empty stomach.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>PROTEASE INHIBITORS (PIS) (continued)</b>		
lopinavir (LPV)/ ritonavir (RTV)	<b>Kaletra</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, ranolazine, dronedarone, colchicine (in renal and/or hepatic impairment), rifampin, lurasidone, pimozide, ergots, cisapride, elbasvir/grazoprevir, St. John's wort, lovastatin, simvastatin, sildenafil [as Revatio for PAH], oral midazolam, triazolam.</b></li> <li>• Salmeterol, boceprevir, simeprevir, ombitasvir/parataprevir/ritonavir and dasabuvir: not recommended.</li> <li>• Avoid oral soln with metronidazole, disulfiram.</li> <li>• Potentiates statins metabolized by CYP3A; use atorvastatin with caution and at the lowest necessary doses; do not exceed rosuvastatin 10mg daily.</li> <li>• Potentiates sildenafil, vardenafil, tadalafil (reduce dose of these); avanafil, fluticasone (avoid).</li> <li>• Potentiates fentanyl, parenteral midazolam; monitor.</li> <li>• Potentiates anticancer agents (eg, vincristine, vinblastine, dasatinib, nilotinib); may need dose adjustment (see full labeling).</li> <li>• Concomitant colchicine (see full labeling).</li> <li>• Potentiates bosentan (see full labeling).</li> <li>• Increases levels of antiarrhythmics (eg, amiodarone, bepridil, systemic lidocaine, quinidine), dihydropyridine CCBs, immunosuppressants (monitor); ketoconazole, itraconazole (avoid high doses), isavuconazonium sulfate (caution); bedaquiline (use only if benefit outweighs the risk); rifabutin (reduce rifabutin dose and monitor); clarithromycin (reduce clarithromycin dose in renal dysfunction), trazodone (reduce trazodone dose), maraviroc (give max maraviroc 150mg twice daily), quetiapine (reduce dose).</li> <li>• Monitor other antiretrovirals, warfarin.</li> <li>• Avoid concomitant rivaroxaban; increased bleeding risk.</li> <li>• Decrease levels of atovaquone, methadone, bupropion, estrogen-containing oral contraceptives (use other or back-up contraception), voriconazole (avoid and use alternatives).</li> <li>• Lopinavir levels decreased by anticonvulsants (eg, carbamazepine, phenobarbital, phenytoin), efavirenz, nevirapine.</li> <li>• Lopinavir levels may be increased by delavirdine, CYP3A inhibitors.</li> <li>• May decrease lamotrigine, valproate, zidovudine or abacavir levels.</li> <li>• Give didanosine 1 hour before or 2 hours after.</li> <li>• Avoid concomitant with other drugs that prolong the QT interval.</li> <li>• Risk of tumor lysis syndrome with venetoclax.</li> <li>• Antagonized by corticosteroids (eg, oral dexamethasone, betamethasone, budesonide); consider alternatives.</li> </ul>
nelfinavir mesylate (NFV)	<b>Viracept</b>	<ul style="list-style-type: none"> <li>• <b>CYP3A substrates that may cause serious events if blood levels are elevated (eg, cisapride, pimozide, oral midazolam, triazolam, lovastatin, simvastatin, ergots, amiodarone, quinidine, alfuzosin, rifampin, St. John's wort, sildenafil [Revatio; when used to treat PAH]).</b></li> <li>• Salmeterol: not recommended.</li> <li>• Potentiates CYP3A substrates (eg, dihydropyridine calcium channel blockers, cyclosporine, tacrolimus, sirolimus, rifabutin, rosuvastatin, atorvastatin [use lowest dose necessary; max atorvastatin dose is 40mg/day]), PDE5 inhibitors (adjust dose: see literature), phenytoin (monitor).</li> <li>• Potentiates fluticasone (caution and consider alternatives w. long-term use), trazodone (use lower dose), bosentan, colchicine (adjust dose: see literature).</li> <li>• Nelfinavir levels decreased by CYP3A inducers (eg, phenytoin, carbamazepine, phenobarbital) or CYP2C19 inducers.</li> <li>• Nelfinavir levels increased by CYP3A or CYP2C19 inhibitors.</li> <li>• Antagonizes methadone, oral contraceptives (use additional or alternative contraception).</li> <li>• Indinavir, ritonavir, saquinavir increase nelfinavir levels.</li> <li>• Concomitant azithromycin: monitor for azithromycin toxicity (eg, elevated liver enzymes).</li> <li>• Administer didanosine 1hr before or 2hrs after nelfinavir.</li> <li>• Monitor INR with warfarin.</li> <li>• Others: see full labeling.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>PROTEASE INHIBITORS (PIS) (continued)</b>		
ritonavir (RTV)	<b>Norvir</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, ranolazine, amiodarone, dronedarone, flecainide, quinidine, propafenone, voriconazole (w. ritonavir ≥400mg every 12hrs), colchicine (in renal and/or hepatic impairment), lurasidone, pimozide, ergots, cisapride, St. John's Wort, lovastatin, simvastatin, sildenafil (Revatio for PAH), oral midazolam, triazolam.</b></li> <li>• Simeprevir, salmeterol, high-dose or long-term meperidine, ketoconazole or itraconazole &gt;200mg/day: not recommended.</li> <li>• May affect or be affected by CYP3A4, 2D6, 2C9, 1A2, 2C19, 2B6, or glucuronyl transferase substrates.</li> <li>• Potentiates other protease inhibitors, maraviroc, tramadol, propoxyphene, antidepressants (eg, SSRIs, tricyclics, nefazodone, desipramine, trazodone), vinca alkaloids (eg, vincristine, vinblastine), dasatinib, nilotinib, dronabinol, quinine, bosentan, β-blockers (eg, metoprolol, timolol), CCBs (eg, diltiazem, nifedipine, verapamil), PDE-5 inhibitors (eg, avanafil, sildenafil, tadalafil, vardenafil), antipsychotics (eg, perphenazine, risperidone, thioridazine), sedative/hypnotics (eg, buspirone, clorazepate, diazepam, estazolam), statins (eg, atorvastatin, rosuvastatin), methamphetamine; may need dose reductions.</li> <li>• Increases levels of disopyramide, lidocaine, mexiletine, carbamazepine, clonazepam, ethosuximide, digoxin, immunosuppressants; monitor.</li> <li>• Antagonizes raltegravir, divalproex, lamotrigine, phenytoin, bupropion, atovaquone, theophylline (monitor), methadone (consider dose increase), oral contraceptives.</li> <li>• Antagonized by rifampin.</li> <li>• Avoid metronidazole, disulfiram, glucocorticoids (eg, fluticasone, budesonide, dexamethasone, prednisone; increased steroid effects), rivaroxaban (increased bleeding risk).</li> <li>• Reduce rifabutin dose by at least ¾, quetiapine to 1/6 of current dose, clarithromycin dose in renal dysfunction.</li> <li>• Concomitant bedaquiline: use only if benefit outweighs the risk.</li> <li>• Monitor fentanyl, parenteral midazolam, warfarin.</li> </ul>
saquinavir mesylate (SQV)	<b>Invirase</b>	<ul style="list-style-type: none"> <li>• <b>Congenital long QT syndrome.</b></li> <li>• <b>Refractory hypokalemia or hypomagnesemia.</b></li> <li>• <b>Complete AV block without implanted pacemakers, or those who are at high risk.</b></li> <li>• <b>Severe hepatic impairment.</b></li> <li>• <b>Use in combination with drugs that both increase saquinavir plasma concentrations and prolong the QT interval.</b></li> <li>• <b>Concomitant alfuzosin, amiodarone, bepridil, dofetilide, flecainide, lidocaine (systemic), propafenone, quinidine, trazodone, clarithromycin, erythromycin, halofantrine, pentamidine, rifampin, lurasidone, clozapine, haloperidol, pimozide, sertindole, ziprasidone, phenothiazines, chlorpromazine, mesoridazine, thioridazine, ergots, atazanavir, lovastatin, simvastatin, tacrolimus, rilpivirine (concomitant use and switching to Invirase/ritonavir without ≥2wks washout period), sildenafil (as Revatio for PAH), triazolam, oral midazolam, dasatinib, sunatinib, disopyramide, quinine.</b></li> <li>• Concomitant cobicistat, delavirdine, efavirenz, nevirapine, indinavir, nelfinavir, ibutilide, sotalol, fusidic acid, dapsone, tipranavir/ritonavir, salmeterol, St. John's wort, garlic caps, ketoconazole &gt;200mg/day, carbamazepine, phenobarbital, phenytoin, colchicine (in renal/hepatic impairment): not recommended.</li> <li>• Potentiates atorvastatin (max 20mg/day), maraviroc (max 150mg twice daily), colchicine (see full labeling), quetiapine (reduce dose to 1/6), benzodiazepines, IV midazolam, CCBs, bosentan (see full labeling), sildenafil, vardenafil, tadalafil (reduce dose of these), fentanyl, alfentanil; monitor.</li> <li>• Antagonizes methadone (may need to increase dose), oral contraceptives (consider alternative or additional contraceptive).</li> <li>• Antagonized by CYP3A-inducing corticosteroids (eg, systemic dexamethasone or others): consider alternatives.</li> <li>• Monitor warfarin, TCAs, digoxin, cyclosporine, rapamycin.</li> <li>• Caution with lopinavir/ritonavir, nefazodone, itraconazole, quinupristin/dalfopristin, omeprazole, IV vincamine; monitor for toxicity.</li> <li>• Concomitant rifabutin: reduce rifabutin dose by at least 75%; monitor.</li> </ul>

# ANTIRETROVIRAL CONTRAINDICATIONS AND DRUG INTERACTIONS\* (Part 8 of 11)

Generic	Brand	Contraindications and Drug Interactions*
<b>PROTEASE INHIBITORS (PIs) (continued)</b>		
tipranavir (TPV)	<b>Aptivus</b>	<ul style="list-style-type: none"> <li>• Moderate to severe hepatic insufficiency (Child-Pugh B–C).</li> <li>• Concomitant potent CYP3A inducers or substrates (eg, alfuzosin, amiodarone, bepridil, flecainide, propafenone, quinidine, rifampin, ergots, cisapride, St. John's wort, lovastatin, simvastatin, pimozone, sildenafil, oral midazolam, triazolam).</li> <li>• Concomitant salmeterol, fluticasone, fosamprenavir, lopinavir, saquinavir, atazanavir, fluconazole, ketoconazole, itraconazole <math>\geq 200\text{mg/day}</math>: not recommended.</li> <li>• Avoid metronidazole, disulfiram.</li> <li>• May be synergistic with enfuvirtide.</li> <li>• Potentiates PDE5 inhibitors (eg, sildenafil, tadalafil, vardenafil), trazodone, desipramine; reduce dose: see literature.</li> <li>• Avoid concomitant colchicine if renal or hepatic impairment; otherwise: reduce dose: see literature.</li> <li>• Reduce rifabutin dose by 75%.</li> <li>• Antagonizes estrogens (use non-hormonal contraceptives), methadone, valproic acid, omeprazole.</li> <li>• Antagonized by carbamazepine, phenobarbital, phenytoin.</li> <li>• Potentiates atorvastatin, rosuvastatin: use lowest possible dose.</li> <li>• Monitor hypoglycemics, immunosuppressants, tricyclics, SSRIs, warfarin, drugs that affect or are affected by CYP3A4 (eg, azole antifungals, calcium channel blockers, clarithromycin, NNRTIs, PIs, statins).</li> <li>• Increased risk of bleeding with concomitant anticoagulants, antiplatelet agents, high-dose Vit.E.</li> <li>• Separate dosing of didanosine, antacids.</li> <li>• Oral soln: avoid high-dose Vit.E supplements.</li> </ul>

## MULTICLASS FIXED-DOSE COMBINATION

abacavir/ dolutegravir/ lamivudine	<b>Triumeq</b>	<ul style="list-style-type: none"> <li>• Presence of HLA-B*5701 allele. Previous hypersensitivity reaction to any of the components. Concomitant dofetilide. Moderate or severe hepatic impairment.</li> <li>• Ethanol may increase abacavir levels.</li> <li>• Abacavir may increase clearance of methadone.</li> <li>• Dolutegravir may be affected by drugs that induce or inhibit UGT1A1, CYP3A, UGT1A3, UGT1A9, BCRP, and P-gp enzymes or transporters.</li> <li>• Avoid concomitant nevirapine, oxcarbazepine, phenytoin, phenobarbital, carbamazepine, St. John's wort.</li> <li>• Potentiates metformin (limit metformin dose to 1g/day); adjust metformin dose when stopping Triumeq; monitor blood glucose.</li> <li>• Concomitant etravirine without atazanavir/ritonavir, darunavir/ritonavir, or lopinavir/ritonavir: not recommended.</li> <li>• Concomitant efavirenz, fosamprenavir/ritonavir, tipranavir/ritonavir, carbamazepine, rifampin: give additional dolutegravir 50mg separated by 12hrs from Triumeq.</li> <li>• Concomitant cation-containing antacids or laxatives, sucralfate, buffered drugs, oral calcium/iron supplements, multivitamins; give Triumeq 2hrs before or 6hrs after; alternatively, oral calcium/iron can be used at the same time when taken with food.</li> <li>• Monitor for toxicities with IFN-<math>\alpha</math> <math>\pm</math> ribavirin (consider reducing dose or discontinue one or both drugs).</li> </ul>
atazanavir/ cobicistat	<b>Evotaz</b>	<ul style="list-style-type: none"> <li>• Concomitant alfuzosin, ranolazine, dronedarone, carbamazepine, phenobarbital, phenytoin, colchicine (in renal/hepatic impaired), rifampin, irinotecan, lurasidone, pimozone, triazolam, oral midazolam, ergots, cisapride, elbasvir/grazoprevir, glecaprevir/pibrentasvir, St. John's wort, lovastatin, simvastatin, drospirenone/ethinyl estradiol, nevirapine, sildenafil (for PAH), indinavir.</li> <li>• Separate dosing with concomitant H<sub>2</sub> receptor antagonists, PPIs (not recommended in treatment-experienced), antacids, enteric-coated didanosine.</li> <li>• Concomitant tenofovir DF with concomitant or recent nephrotoxic agents, other antiretrovirals that require CYP3A inhibition (eg, HIV protease inhibitors, elvitegravir), ritonavir or ritonavir-containing products, CYP2C8 substrates with narrow therapeutic indices (eg, paclitaxel, repaglinide), efavirenz, etravirine, boceprevir, simeprevir, sofosbuvir/velpatasvir/voxilaprevir, apixaban, rivaroxaban, dabigatran etexilate, atorvastatin, avanafil, inhaled/nasal steroids, salmeterol, voriconazole: not recommended.</li> <li>• May need to adjust dose of insulin, antidiabetics, dasatinib, nilotinib, sildenafil, tadalafil, vardenafil, perphenazine, risperidone, thioridazine, buprenorphine, naloxone, methadone, tramadol, bosentan, rifabutin, sedatives/hypnotics, rosuvastatin (max 10mg/day).</li> <li>• Concomitant maraviroc: give maraviroc 150mg twice daily.</li> <li>• Potentiates quetiapine: consider alternative antiretrovirals; if coadministration necessary, reduce quetiapine to 1/6 of current dose and monitor.</li> <li>• Monitor concomitant antiarrhythmics, digoxin, vincristine, vinblastine, warfarin, clonazepam, lamotrigine, SSRIs, TCAs, trazodone, fentanyl, immunosuppressants, other statins, <math>\beta</math>-blockers, CCBs.</li> <li>• Concomitant clarithromycin, erythromycin, telithromycin, CYP3A-inducing anticonvulsants (eg, eslicarbazepine, oxcarbazepine), systemic corticosteroids (eg, dexamethasone): consider alternatives.</li> <li>• Use alternative non-hormonal methods of contraception.</li> </ul>

(continued)



Generic	Brand	Contraindications and Drug Interactions*
<b>MULTICLASS FIXED-DOSE COMBINATION (continued)</b>		
bictegravir/ emtricitabine/ tenofovir alafenamide	<b>Biktarvy</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant dofetilide, rifampin.</b></li> <li>• Concomitant other antiretrovirals: not recommended.</li> <li>• May potentiate concomitant OCT2 and MATE1 substrates (eg, dofetilide).</li> <li>• May be affected by drugs that induce or inhibit CYP3A and UGT1A1.</li> <li>• Concomitant drugs that strongly affect P-gp and BCRP activity may lead to changes in TAF absorption.</li> <li>• May be potentiated by drugs that decrease renal function or compete for active tubular secretion (eg, acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides, NSAIDs).</li> <li>• May be antagonized by anticonvulsants (eg, carbamazepine, oxcarbazepine, phenobarbital, phenytoin); consider alternatives.</li> <li>• Concomitant rifabutin, rifapentine, St. John's wort: not recommended.</li> <li>• Concomitant cation-containing antacids, laxatives, sucralfate, and buffered drugs: give Biktarvy 2hrs before.</li> <li>• Concomitant oral iron/calcium supplements: may take together with food.</li> <li>• Routine coadministration with, or 2hrs after, cation-containing antacids or oral iron/calcium supplements: not recommended.</li> <li>• May potentiate metformin (refer to metformin labeling).</li> </ul>
darunavir/ cobicistat	<b>Prezcobix</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, ranolazine, dronedarone, carbamazepine, phenobarbital, phenytoin, colchicine (in renal/hepatic impaired), rifampin, lurasidone, pimozide, ergots, cisapride, St. John's wort, elbasvir/grazoprevir, lovastatin, simvastatin, oral midazolam, triazolam, sildenafil (for PAH).</b></li> <li>• Concomitant tenofovir DF with concomitant or recent nephrotoxic agents, darunavir- or cobicistat-containing products, ritonavir, or other antiretrovirals that require PK boosting (eg, another protease inhibitor, elvitegravir), efavirenz, etravirine, nevirapine, apixaban, dabigatran etexilate, rivaroxaban, voriconazole, rifapentine, simeprevir, everolimus, salmeterol, avanafil, ticagrelor: not recommended.</li> <li>• May need to adjust dose of dasatinib, nilotinib, colchicine, sildenafil, tadalafil, vardenafil, perphenazine, risperidone, thioridazine, buprenorphine, buprenorphine/naloxone, methadone, tramadol, bosentan, rifabutin, sedatives/hypnotics.</li> <li>• Concomitant maraviroc: give maraviroc 150mg twice daily.</li> <li>• Concomitant quetiapine: consider alternative antiretrovirals; if necessary, reduce quetiapine to 1/6 of current dose and monitor.</li> <li>• Monitor with antiarrhythmics, digoxin, warfarin, donazepam, SSRIs, TCAs, trazodone, antimalarials (eg, artemether, lumefantrine), antifungals, fentanyl, oxycodone, immunosuppressants, β-blockers, calcium channel blockers.</li> <li>• Concomitant other statins (eg, atorvastatin (max 20mg/day), fluvastatin, pitavastatin, pravastatin, rosuvastatin (max 20mg/day): start at low dose, titrate and monitor.</li> <li>• Concomitant antibacterials (eg, clarithromycin, erythromycin, telithromycin), CYP3A-inducing anticonvulsants that are not contraindicated (eg, eslicarbazepine, oxcarbazepine), CYP3A-inducing corticosteroids (eg, systemic dexamethasone or others): consider alternatives.</li> <li>• Concomitant vincristine, vinblastine: consider temporarily withholding cobicistat-containing regimen if significant hematologic or GI adverse events develop.</li> <li>• Concomitant hormonal contraceptives (eg, drospirone): monitor for hyperkalemia; other progestin/estrogen contraceptives: consider additional or alternative (non-hormonal) contraception.</li> <li>• Separate dosing of didanosine at least 1hr before or 2hrs after.</li> </ul>
dolutegravir/ rilpivirine	<b>Juluca</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant dofetilide, carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine, systemic dexamethasone (more than a single dose), St. John's wort, esomeprazole, lansoprazole, omeprazole, pantoprazole, rabeprazole.</b></li> <li>• Concomitant other HIV-1 antiretroviral therapy: not recommended.</li> <li>• May be affected by drugs that induce or inhibit UGT1A1, UGT1A3, UGT1A9, BCRP, and P-gp enzymes or transporters.</li> <li>• May be antagonized by CYP3A inducers; potentiated by CYP3A inhibitors.</li> <li>• Concomitant drugs with a known risk of Torsade de pointes: consider alternatives.</li> <li>• May potentiate drugs eliminated via OCT2 or MATE1.</li> <li>• Drugs that increase gastric pH may result in decreased plasma concentration.</li> <li>• Concomitant antacids, cation-containing products, laxatives, sucralfate, buffered drugs, or oral iron/calcium supplements (also can give together with a meal): give Juluca 4hrs before or 6hrs after.</li> <li>• Separate H<sub>2</sub>-receptor antagonists by at least 4hrs before or 12hrs after.</li> <li>• Limit concomitant metformin dose to 1000mg/day; adjust metformin dose when starting or stopping Juluca; monitor closely.</li> <li>• May be potentiated by clarithromycin, erythromycin, telithromycin; consider alternatives (eg, azithromycin).</li> <li>• Concomitant methadone; monitor.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>MULTICLASS FIXED-DOSE COMBINATION (continued)</b>		
efavirenz (EVF)/emtricitabine (FTC)/tenofovir disoproxil fumarate (TDF)	<b>Atripla</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant voriconazole.</b></li> <li>• Avoid concomitant drugs that contain emtricitabine, tenofovir DF, tenofovir alafenamide, efavirenz (unless for dose adjustment), or lamivudine.</li> <li>• Avoid atazanavir ± ritonavir, posaconazole, boceprevir, simeprevir, adefovir dipivoxil, sofosbuvir/velpatasvir.</li> <li>• Additive CNS effects with alcohol, psychoactive drugs.</li> <li>• Caution with drugs metabolized by, or that affect activity of, CYP2C9, CYP2C19, CYP3A4, CYP2B6.</li> <li>• Potentiates didanosine levels; monitor closely; discontinue or reduce didanosine dose if toxicity develops.</li> <li>• Concomitant ritonavir: monitor liver function and toxicity.</li> <li>• Tenofovir levels increased by lopinavir/ritonavir, darunavir + ritonavir, ledipasvir/sofosbuvir; monitor and discontinue if toxicity occurs.</li> <li>• Antagonized by phenobarbital, carbamazepine, phenytoin, rifampin (see Adult), rifabutin.</li> <li>• May antagonize indinavir (may be ineffective, even with increased dose), amprenavir, atazanavir, saquinavir, bupropion, CCBs (eg, diltiazem, felodipine, nifedipine, verapamil), itraconazole, ketoconazole, lopinavir (adjust dose), maraviroc, methadone, rifabutin (increase dose), raltegravir, sertraline, statins, progestins (eg, norelgestromin, levonorgestrel), immunosuppressants (eg, cyclosporine, sirolimus, tacrolimus), antimalarials.</li> <li>• Closely monitor warfarin, anticonvulsants (decreased levels of phenytoin, phenobarbital, carbamazepine), rifabutin, immunosuppressants, methadone, others.</li> <li>• Avoid concomitant or recent use of nephrotoxic agents.</li> <li>• Monitor drugs that decrease renal function or compete for renal tubular secretion (eg, acyclovir, adefovir dipivoxil, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides, high-dose or multiple NSAIDs).</li> <li>• Concomitant drugs with a known risk for Torsade de Pointes (eg, clarithromycin): consider alternatives.</li> <li>• Efavirenz may cause false (+) cannabis screening test (CEDIA DAU multi-level THC assay).</li> </ul>
emtricitabine (FTC)/rilpivirine/tenofovir alafenamide (TAF)	<b>Odefsey</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine, dextlansoprazole, esomeprazole, lansoprazole, omeprazole, pantoprazole, rabeprazole, systemic dexamethasone (more than a single dose), St. John's wort.</b></li> <li>• Avoid with concurrent or recent use of nephrotoxic agents.</li> <li>• Concomitant antimycobacterials (eg, rifabutin): not recommended.</li> <li>• May be potentiated by CYP3A, P-gp and BCRP inhibitors, antagonized by CYP3A or P-gp inducers.</li> <li>• Concomitant drugs that strongly affect P-gp activity (eg, cyclosporine) may lead to changes in TAF absorption.</li> <li>• Concomitant drugs with a known risk for Torsade de Pointes; consider alternatives.</li> <li>• May be potentiated by drugs that decrease renal function or compete for active tubular secretion (eg, acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides, NSAIDs).</li> <li>• Separate antacids by (≥2hrs before or 4hrs after) or H<sub>2</sub>-receptor antagonists by (≥12hrs before or ≥4hrs after).</li> <li>• Monitor for breakthrough fungal infections with concomitant azole antifungals.</li> <li>• Concomitant clarithromycin, erythromycin, telithromycin; consider alternative (eg, azithromycin).</li> <li>• Monitor methadone.</li> </ul>
emtricitabine (FTC)/rilpivirine/tenofovir disoproxil fumarate (TDF)	<b>Complera</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine, esomeprazole, dextlansoprazole, lansoprazole, omeprazole, pantoprazole, rabeprazole, systemic dexamethasone (more than single dose), St. John's wort.</b></li> <li>• Avoid concomitant drugs that contain emtricitabine, tenofovir DF, tenofovir alafenamide, rilpivirine (unless for dose adjustment), lamivudine, or adefovir dipivoxil.</li> <li>• Avoid concomitant or recent use of nephrotoxic agents.</li> <li>• Tenofovir levels increased by concomitant ledipasvir/sofosbuvir or sofosbuvir/velpatasvir; monitor for toxicity.</li> <li>• Emtricitabine/tenofovir: monitor drugs that reduce renal function or compete for renal tubular secretion (eg, adefovir dipivoxil, cidofovir, acyclovir, valacyclovir, ganciclovir, valganciclovir, aminoglycosides, high-dose or multiple NSAIDs).</li> <li>• Rilpivirine: potentiated by CYP3A inhibitors; antagonized by CYP3A inducers, concomitant rifabutin.</li> <li>• Monitor for breakthrough fungal infections with concomitant azole antifungals.</li> <li>• Concomitant clarithromycin, erythromycin, telithromycin; consider alternative (eg, azithromycin).</li> <li>• Monitor methadone.</li> <li>• Separate dosing of antacids by ≥2hrs before or ≥4hrs after rilpivirine; or H<sub>2</sub>-receptor antagonists by ≥12hrs before or 4hrs after rilpivirine; drugs that increase gastric pH may result in decreased plasma concentrations.</li> <li>• Caution with drugs with a known risk for torsades de pointes.</li> </ul>

Generic	Brand	Contraindications and Drug Interactions*
<b>MULTICLASS FIXED-DOSE COMBINATION</b> ( <i>continued</i> )		
elvitegravir/ cobicistat/ emtricitabine (FTC)/tenofovir alafenamide (AF)	<b>Genvoya</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, carbamazepine, phenobarbital, phenytoin, rifampin, lurasidone, pimozide, ergots, cisapride, St. John's wort, lovastatin, simvastatin, sildenafil (as Revatio for PAH), triazolam, oral midazolam.</b></li> <li>• Avoid with concurrent or recent use of nephrotoxic agents.</li> <li>• Do not co-administer with other antiretroviral agents (eg, elvitegravir, cobicistat, emtricitabine, tenofovir DF, lamivudine, adefovir dipivoxil, ritonavir) or antimicrobials (eg, rifabutin, rifapentine).</li> <li>• May be potentiated by drugs that decrease renal function or compete for active tubular secretion (eg, acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides, NSAIDs).</li> <li>• Separate antacids by at least 2 hours.</li> <li>• May potentiate antiarrhythmics, digoxin, clarithromycin (reduce dose by 50% if CrCl 50–60mL/min), telithromycin, IV midazolam, diazepam, ethosuximide, SSRIs, TCAs, trazodone, ketoconazole, itraconazole, voriconazole, beta-blockers, CCBs, fluticasone (use alternatives), atorvastatin, immunosuppressants, neuroleptics, sedatives/hypnotics, PDE5 inhibitors, antipsychotics, quetiapine (consider alternative antiretrovirals; if necessary, reduce quetiapine to 1/6 of current dose and monitor).</li> <li>• Antagonized by oxcarbazepine, corticosteroids (eg, oral dexamethasone, betamethasone, budesonide); consider alternatives.</li> <li>• Concomitant colchicine (see full labeling); avoid in renal or hepatic impairment.</li> <li>• Concomitant buprenorphine/naloxone; monitor.</li> <li>• Discontinue bosentan ≥36 hours prior to initiation of Genvoya; resume bosentan after ≥10 days following initiation.</li> <li>• Concomitant salmeterol: not recommended; increased risk of cardiovascular events.</li> <li>• Use alternative non-hormonal methods of contraception.</li> <li>• Monitor INR with warfarin.</li> </ul>
elvitegravir/ cobicistat/ emtricitabine (FTC)/ tenofovir disoproxil fumarate (TDF)	<b>Stribild</b>	<ul style="list-style-type: none"> <li>• <b>Concomitant alfuzosin, carbamazepine, phenobarbital, phenytoin, rifampin, ergots, cisapride, St. John's wort, lovastatin, simvastatin, lurasidone, pimozide, sildenafil (for PAH), triazolam, oral midazolam.</b></li> <li>• Not recommended with other antiretroviral agents, rifabutin, rifapentine, or ledipasvir/sofosbuvir.</li> <li>• Avoid with concurrent or recent use of nephrotoxic agents (eg, high-dose or multiple NSAIDs).</li> <li>• Concomitant drugs that reduce renal function or compete for active tubular secretion may potentiate emtricitabine, tenofovir (eg, acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, gentamicin).</li> <li>• Separate antacids by at least 2hrs.</li> <li>• May potentiate antiarrhythmics, digoxin, clarithromycin (reduce dose by 50% if CrCl 50–60mL/min), clonazepam, ethosuximide, SSRIs, TCAs, trazodone, ketoconazole (max 200mg/day), itraconazole (max 200mg/day), voriconazole, beta-blockers, calcium channel blockers, fluticasone (use alternatives), sofosbuvir/velpatasvir (monitor), atorvastatin, immunosuppressants (monitor), PDE5 inhibitors (see full labeling for dose adjustments), antipsychotics, quetiapine (reduce dose by 1/6 or consider alternative antiretrovirals).</li> <li>• Concomitant buprenorphine/naloxone; monitor.</li> <li>• Antagonized by oxcarbazepine, corticosteroids (eg, oral dexamethasone, betamethasone, budesonide); consider alternatives.</li> <li>• Concomitant colchicine (see full labeling); not recommended in renal or hepatic impairment.</li> <li>• Discontinue use of bosentan at least 36hrs prior to initiation of Stribild; after at least 10 days following initiation, resume bosentan.</li> <li>• Concomitant salmeterol: not recommended; increased risk of cardiovascular events.</li> <li>• Use alternative non-hormonal methods of contraception.</li> <li>• Monitor INR with warfarin.</li> </ul>

**NOTES**

**Key:** \*Those listed in **bold type** are contraindications.

Not an inclusive list of medications and/or contraindications and drug interactions. Please see drug monograph at [www.eMPR.com](http://www.eMPR.com) and/or contact company for full drug labeling.