



# Interactions with Protease Inhibitors

Charts revised June 2022. Full information available at [www.hiv-druginteractions.org](http://www.hiv-druginteractions.org)

Please note that if a drug is not listed it cannot automatically be assumed it is safe to coadminister.

	ATV	ATV/c	ATV/r	DRV/c	DRV/c /FTAF	DRV/r	LPV	RTV
<b>Anticonvulsants</b>								
Carbamazepine	●	●	■	●	●	■	■	■
Clonazepam	■	■	■	■	■	■	■	■
Eslicarbazepine	■	■	■	■	■	■	■	■
Ethosuximide	■	■	■	■	■	■	■	■
Gabapentin	◆	◆	◆	◆	◆	◆	◆	◆
Lacosamide	▲	▲	▲	◆	◆	■	▲	◆
Lamotrigine	◆	▲	◆	◆	◆	■	■	■
Levetiracetam	■	■	■	◆	◆	◆	■	◆
Oxcarbazepine	■	■	■	■	●	■	■	■
Phenobarbital (Phenobarbitone)	●	●	■	●	●	●	■	■
Phenytoin	●	●	■	●	●	●	■	■
Pregabalin	◆	◆	◆	◆	◆	◆	◆	◆
Primidone	●	●	■	●	●	●	■	■
Tiagabine	■	■	■	■	■	■	■	■
Topiramate	◆	◆	◆	◆	◆	◆	◆	◆
Valproate (Divalproex)	◆	◆	■	◆	◆	◆	■	■
Vigabatrin	◆	◆	◆	◆	◆	◆	◆	◆
Zonisamide	◆	◆	◆	◆	◆	◆	◆	◆
<b>Antidepressants</b>								
Agomelatine	◆	◆	■	◆	◆	■	■	■
Amitriptyline	■	▲	▲	■	▲	▲	■	▲
Bupropion	◆	▲	▲	◆	▲	▲	■	▲
Citalopram	■	■	■	▲	▲	▲	■	▲
Clomipramine	■	■	■	■	■	■	■	■
Desipramine	◆	■	■	▲	▲	▲	■	▲
Desvenlafaxine	◆	◆	◆	◆	◆	◆	◆	◆
Doxepin	◆	▲	▲	◆	▲	▲	▲	▲
Duloxetine	◆	▲	▲	◆	▲	▲	▲	▲
Escitalopram	■	■	■	▲	▲	▲	■	▲
Fluoxetine	◆	▲	▲	◆	▲	▲	■	▲
Fluvoxamine	◆	▲	▲	◆	▲	▲	■	▲
Imipramine	■	■	■	■	■	■	■	■
Lithium	◆	◆	◆	◆	◆	◆	◆	◆
Maprotiline	■	■	■	▲	▲	▲	■	▲
Mianserin	▲	▲	▲	▲	▲	▲	■	▲
Milnacipran	◆	◆	◆	◆	◆	◆	◆	◆
Mirtazapine	■	■	■	■	■	■	■	■
Nefazodone	■	■	■	■	■	■	■	■
Nortriptyline	■	■	■	▲	▲	▲	■	▲
Paroxetine	■	■	■	■	■	■	■	■
Phenelzine	◆	◆	◆	◆	◆	◆	◆	◆
Reboxetine	■	■	■	■	■	■	■	■
Sertraline	▲	▲	▲	▲	▲	▲	■	▲
Tranlycypromine	■	■	■	■	■	■	■	■
Trazodone	■	■	■	■	■	■	■	■
Trimipramine	■	■	■	▲	▲	▲	■	▲
Venlafaxine	■	■	■	▲	▲	▲	■	▲
Vortioxetine	▲	▲	▲	▲	▲	▲	▲	▲
<b>Anti-diabetics</b>								
Acarbose	◆	◆	◆	◆	◆	◆	◆	◆
Alogliptin	◆	◆	■	◆	◆	◆	■	■
Canagliflozin	◆	◆	■	◆	◆	◆	■	■
Dapagliflozin	◆	◆	■	◆	◆	◆	■	■
Dulaglutide	■	■	■	■	■	■	■	■
Empagliflozin	◆	◆	■	◆	◆	◆	■	■
Exenatide	◆	◆	◆	◆	◆	◆	◆	◆
Glibenclamide (Glyburide)	■	■	■	■	■	■	■	■
Gliclazide	◆	◆	◆	◆	◆	◆	◆	◆
Glimepiride	◆	◆	■	◆	◆	◆	■	■
Glipizide	◆	◆	■	◆	◆	◆	■	■
Insulin	◆	◆	◆	◆	◆	◆	◆	◆
Linagliptin	◆	◆	◆	◆	◆	◆	◆	◆
Liraglutide	■	■	■	■	■	■	■	■
Metformin	◆	◆	◆	◆	◆	◆	◆	◆
Nateglinide	■	■	■	■	■	■	■	■
Proglitazone	▲	▲	▲	▲	▲	▲	▲	▲
Repaglinide	●	●	●	■	■	■	■	■
Rosiglitazone	◆	◆	◆	◆	◆	▲	▲	▲
Saxagliptin	■	■	■	■	■	■	■	■
Semaglutide	■	■	■	◆	◆	◆	◆	◆
Sitagliptin	◆	◆	◆	◆	◆	◆	◆	◆
Tolbutamide	◆	◆	■	◆	◆	◆	■	■
Vildagliptin	◆	◆	◆	◆	◆	◆	◆	◆

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	ATV	ATV/c	ATV/r	DRV/c	DRV/c /FTAF	DRV/r	LPV	RTV
<b>Antifungals</b>								
Amphotericin B	◆	◆	◆	◆	◆	◆	◆	◆
Anidulafungin	◆	◆	◆	◆	◆	◆	◆	◆
Caspofungin	▲	▲	▲	◆	◆	◆	◆	◆
Clotrimazole (pessary, troche)	◆	◆	◆	◆	◆	◆	◆	◆
Clotrimazole (topical)	◆	◆	◆	◆	◆	◆	◆	◆
Fluconazole	■	■	■	▲	▲	■	■	■
Flucytosine	◆	◆	◆	◆	◆	◆	◆	◆
Griseofulvin	■	■	■	■	■	■	■	■
Isavuconazole	●	●	■	●	●	■	■	■
Itraconazole	■	■	■	■	■	■	■	■
Ketoconazole	■	■	■	■	■	■	■	■
Miconazole	◆	◆	◆	◆	◆	◆	◆	◆
Nystatin	◆	◆	◆	◆	◆	◆	◆	◆
Posaconazole	■	■	■	■	■	■	■	■
Terbinafine	▲	▲	▲	▲	▲	▲	▲	▲
Voriconazole	■	■	■	■	■	■	■	■
<b>Antihistamines</b>								
Astemizole	●	●	●	●	●	●	●	●
Cetirizine	◆	◆	◆	◆	◆	◆	◆	◆
Chlorphenamine	◆	▲	▲	▲	▲	▲	▲	▲
Diphenhydramine	◆	▲	▲	▲	▲	▲	▲	▲
Fexofenadine	◆	▲	▲	▲	▲	▲	▲	▲
Levocetirizine	◆	◆	◆	◆	◆	◆	◆	◆
Loratadine	■	▲	▲	▲	▲	▲	▲	▲
Promethazine	■	■	■	▲	▲	▲	■	▲
Terfenadine	●	●	●	●	●	●	●	●
<b>Antimigraine Agents</b>								
Almotriptan	◆	◆	◆	◆	◆	◆	◆	◆
Dihydroergotamine	●	●	●	●	●	●	●	●
Eletriptan	●	●	●	●	●	●	●	●
Ergotamine	●	●	●	●	●	●	●	●
Rizatriptan	◆	◆	◆	◆	◆	◆	◆	◆
Sumatriptan	◆	◆	◆	◆	◆	◆	◆	◆
Zolmitriptan	■	■	■	■	■	■	■	■
<b>Antiprotozoals</b>								
Amodiaquine	▲	▲	▲	◆	◆	▲	▲	▲
Artemisinin	■	■	■	■	■	■	■	■
Atovaquone	◆	◆	◆	◆	◆	◆	◆	◆
Benznidazole	◆	◆	◆	◆	◆	◆	◆	◆
Chloroquine	◆	■	■	▲	▲	▲	■	▲
Diloxanide	◆	◆	◆	◆	◆	◆	◆	◆
Eflornithine	◆	◆	◆	◆	▲	◆	◆	◆
Halofantrine	●	●	●	●	●	●	●	●
Hydroxychloroquine	■	■	■	▲	▲	▲	■	▲
Lumefantrine	■	■	■	■	■	■	■	■
Mefloquine	■	■	■	■	■	■	■	■
Meglumine antimoniate	■	■	■	■	■	■	■	■
Melarsoprol	◆	◆	◆	◆	◆	◆	◆	◆
Miltefosine	◆	◆	◆	◆	◆	◆	◆	◆
Nifurtimox	◆	◆	◆	◆	◆	◆	◆	◆
Paromomycin	◆	◆	◆	◆	◆	◆	◆	◆
Pentamidine	■	■	■	■	■	■	■	■
Piperazine	■	■	■	■	■	■	■	■
Primaquine	■	■	■	■	■	■	■	■
Proguanil	◆	◆	■	◆	◆	■	■	■
Pyrimethamine	■	■	■	■	▲	■	■	■
Quinine	■	■	■	■	■	■	■	■
Sodium stibogluconate	◆	◆	◆	◆	◆	◆	◆	◆
Sulfadoxine	◆	◆	◆	▲	▲	◆	◆	◆

**Key to abbreviations**

ATV	Atazanavir alone (Reyataz <sup>®</sup> )	DRV/c /FTAF	Darunavir/cobicistat/ FTC/TAF (Symtuza <sup>®</sup> )
ATV/c	Atazanavir/cobicistat (Evotaz <sup>®</sup> )	DRV/r	Darunavir + Ritonavir (Prezista <sup>®</sup> +Norvir <sup>®</sup> )
ATV/r	Atazanavir + Ritonavir (Reyataz <sup>®</sup> +Norvir <sup>®</sup> )	LPV	Lopinavir (Kaletra <sup>®</sup> )
DRV/c	Darunavir/cobicistat (Rezolsta <sup>®</sup> , Prezcofix <sup>®</sup> )	RTV	Ritonavir (Norvir <sup>®</sup> )

**Key to symbols**

●	These drugs should not be coadministered
■	Potential interaction - may require close monitoring, alteration of drug dosage or timing of administration
▲	Potential interaction likely to be of weak intensity. Additional action/monitoring or dosage adjustment is unlikely to be required
◆	No clinically significant interaction expected

Where advice differs between countries, and/or between boosted and unboosted regimens, the charts reflect the more cautious option.

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	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
<b>Antipsychotics/Neuroleptics</b>								
Amisulpride	◆	◆	◆	◆	◆	◆	◆	◆
Aripiprazole	■	■	■	■	■	■	■	■
Asenapine	■	■	■	▲	▲	▲	■	■
Chlorpromazine	■	■	■	▲	▲	▲	■	▲
Clozapine	■	■	■	■	■	■	■	■
Fluphenazine	■	■	■	▲	▲	▲	■	■
Haloperidol	●	●	●	▲	▲	▲	●	▲
Iloperidone	■	■	■	■	■	■	■	■
Levomopromazine	■	■	■	▲	▲	▲	■	▲
Olanzapine	◆	◆	■	◆	◆	■	■	■
Paliperidone	■	■	■	▲	▲	▲	■	▲
Perazine	■	■	■	■	■	■	■	■
Periciazine	■	■	■	▲	▲	▲	■	▲
Perphenazine	■	■	■	■	■	■	■	■
Pimozide	●	●	●	●	●	●	●	●
Pipotiazine	■	■	■	▲	▲	▲	■	▲
Quetiapine	●	●	●	●	●	●	●	●
Risperidone	■	■	■	■	■	■	■	■
Sulpiride	■	■	■	◆	◆	◆	■	◆
Thioridazine	●	●	●	●	●	●	●	▲
Tiapride	■	■	■	◆	◆	◆	■	◆
Ziprasidone	●	●	●	■	■	■	●	■
Zotepine	■	■	■	■	■	■	■	■
Zuclopenthixol	■	■	■	■	■	■	■	■
<b>Antivirals</b>								
Aciclovir	◆	◆	◆	◆	◆	◆	◆	◆
Adefovir	◆	◆	◆	◆	◆	◆	◆	◆
Amantadine	◆	◆	◆	◆	◆	◆	◆	◆
Brincidofovir	■	■	■	■	■	■	■	■
Bulevirtide	●	●	●	●	●	●	●	●
Cidofovir	◆	◆	◆	◆	◆	◆	◆	◆
Daclatasvir	■	■	■	■	■	■	■	■
Elbasvir/Grazoprevir	●	●	●	●	●	●	●	●
Entecavir	◆	◆	◆	◆	◆	◆	◆	◆
Famciclovir	◆	◆	◆	◆	◆	◆	◆	◆
Foscarnet	◆	◆	◆	◆	◆	◆	◆	◆
Ganciclovir	◆	◆	◆	◆	◆	◆	◆	◆
Glecaprevir/Pibrentasvir	●	●	●	●	●	●	●	●
Ledipasvir/Sofosbuvir	◆	◆	◆	◆	◆	◆	■	◆
Letermovir	■	■	■	■	■	■	■	■
Molnupiravir	◆	◆	◆	◆	◆	◆	◆	◆
Nirmatrelvir/Ritonavir	■	■	■	■	■	■	■	■
Ombitasvir/Paritaprevir/r	■	■	■	■	■	■	■	■
Ombitasvir/Paritaprevir/r + Dasabuvir	■	■	■	■	■	■	■	■
Oseltamivir	◆	◆	◆	◆	◆	◆	◆	◆
Remdesivir	◆	◆	◆	◆	◆	◆	◆	◆
Ribavirin	■	■	■	■	■	■	■	■
Rimantadine	◆	◆	◆	◆	◆	◆	◆	◆
Simeprevir	●	●	●	●	●	●	●	●
Sofosbuvir	◆	◆	◆	◆	◆	◆	◆	◆
Sofosbuvir/Velpatasvir	◆	◆	◆	◆	◆	◆	◆	◆
Sofosbuvir/Velpatasvir/Voxilaprevir	●	●	●	◆	◆	◆	●	■
Sotrovimab	◆	◆	◆	◆	◆	◆	◆	◆
Tecovirimat	▲	▲	▲	▲	▲	▲	▲	▲
Telbivudine	◆	◆	◆	◆	◆	◆	◆	◆
Tenofovir alafenamide (HBV)	■	■	■	■	■	■	■	■
Tixagevimab/Cilgavimab	◆	◆	◆	◆	◆	◆	◆	◆
Valaciclovir	◆	◆	◆	◆	◆	◆	◆	◆
Zanamivir	◆	◆	◆	◆	◆	◆	◆	◆

	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
<b>Anxiolytics/Hypnotics/Sedatives</b>								
Alprazolam	■	■	■	■	■	■	■	■
Bromazepam	▲	▲	▲	▲	▲	▲	▲	▲
Bupirone	■	■	■	■	■	■	■	■
Chlordiazepoxide	■	■	■	■	■	■	■	■
Clobazam	■	■	■	■	■	■	■	■
Clorazepate	■	■	■	■	■	■	■	■
Diazepam	■	■	■	■	■	■	■	■
Estazolam	■	■	■	■	■	■	■	■
Flunitrazepam	■	■	■	■	■	■	■	■
Flurazepam	■	■	■	■	■	■	■	■
Hydroxyzine	■	■	■	■	■	■	■	■
Lorazepam	◆	◆	◆	◆	◆	◆	◆	◆
Lormetazepam	■	■	■	■	■	■	■	◆
Midazolam (oral)	●	●	●	●	●	●	●	●
Midazolam (parenteral)	■	■	■	■	■	■	■	■
Oxazepam	◆	◆	◆	◆	◆	◆	◆	◆
Temazepam	◆	◆	◆	◆	◆	◆	◆	◆
Triazolam	●	●	●	●	●	●	●	●
Zaleplon	▲	▲	▲	▲	▲	▲	▲	▲
Zolpidem	■	■	■	■	■	■	■	■
Zopiclone	■	■	■	■	■	■	■	■
<b>Beta Blockers</b>								
Atenolol	■	■	■	■	◆	■	◆	◆
Bisoprolol	■	■	■	▲	▲	▲	■	▲
Carvedilol	■	■	■	▲	▲	▲	■	▲
Metoprolol	■	■	■	▲	▲	▲	■	▲
Nebivolol	■	■	■	▲	▲	▲	■	▲
Oxprenolol	■	■	■	◆	◆	◆	■	■
Pindolol	■	■	■	▲	▲	▲	■	▲
Propranolol	■	■	■	▲	▲	▲	■	▲
Timolol	■	■	■	▲	▲	▲	■	▲
<b>Bronchodilators</b>								
Acidinium bromide	◆	◆	◆	◆	◆	◆	◆	◆
Aminophylline	◆	◆	■	◆	◆	■	■	■
Formoterol	■	■	■	◆	◆	◆	■	◆
Glycopyrronium bromide	◆	◆	◆	◆	◆	◆	◆	◆
Indacaterol	◆	◆	◆	◆	◆	◆	◆	◆
Ipratropium bromide	◆	◆	◆	◆	◆	◆	◆	◆
Montelukast	▲	▲	▲	▲	▲	▲	▲	▲
Olodaterol	▲	▲	▲	▲	▲	▲	▲	▲
Roflumilast	▲	▲	▲	▲	▲	▲	▲	▲
Salbutamol	◆	◆	◆	◆	◆	◆	◆	◆
Salmeterol	■	■	■	■	■	■	■	■
Terbutaline	◆	◆	◆	◆	◆	◆	◆	◆
Theophylline	◆	◆	■	◆	◆	■	■	■
Tiotropium bromide	◆	◆	◆	◆	◆	◆	◆	◆
Umeclidinium bromide	▲	▲	▲	▲	▲	▲	▲	▲
Vilanterol	▲	▲	▲	▲	▲	▲	▲	▲
<b>Calcium Channel Blockers</b>								
Amlodipine	■	■	■	■	■	■	■	■
Diltiazem	■	■	■	■	■	■	■	■
Felodipine	■	■	■	■	■	■	■	■
Nicardipine	■	■	■	■	■	■	■	■
Nifedipine	■	■	■	■	■	■	■	■
Nisoldipine	■	■	■	■	■	■	■	■
Nitrendipine	■	■	■	■	■	■	■	■
Verapamil	■	■	■	■	■	■	■	■

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ATV/r	Atazanavir + Ritonavir (Reyataz <sup>®</sup> +Norvir <sup>®</sup> )	LPV	Lopinavir (Kaletra <sup>®</sup> )
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	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
Cancer Therapies								
Abemaciclib	●	●	●	●	●	●	●	●
Abiraterone	▲	▲	▲	●	●	●	▲	●
Acalabrutinib	●	●	●	●	●	●	●	●
Anastrozole	■	■	▲	■	■	▲	▲	▲
Asparaginase	●	●	●	●	●	●	●	●
Avelumab	●	●	●	●	●	●	●	●
Bevacizumab	●	●	●	●	●	●	●	●
Bexarotene	■	■	■	■	■	■	■	■
Bleomycin	●	●	●	●	●	●	●	●
Blinatumomab	●	●	●	●	●	●	●	●
Bortezomib	●	●	●	●	●	●	●	●
Bosutinib	●	●	●	●	●	●	●	●
Brentuximab vedotin	■	■	■	■	■	■	■	■
Cabazitaxel	■	■	■	■	■	■	■	■
Cabozantinib	■	■	■	■	■	■	■	■
Capecitabine	●	●	●	●	▲	●	●	●
Carboplatin	●	●	●	●	●	●	●	●
Cetuximab	●	●	●	●	●	●	●	●
Chlorambucil	●	●	●	●	●	●	●	●
Cisplatin	■	■	■	■	■	■	■	■
Cyclophosphamide	■	■	■	■	■	■	■	■
Cytarabine	●	●	●	●	●	●	●	●
Dacarbazine	●	●	●	●	●	●	●	●
Dactinomycin	●	●	●	●	●	●	●	●
Dasatinib	■	■	■	■	■	■	■	■
Daunorubicin	■	■	■	■	■	■	■	■
Docetaxel	■	■	■	■	■	■	■	■
Doxorubicin	■	■	■	■	■	■	■	■
Droloxifene	●	●	●	●	●	●	●	●
Enzalutamide	●	●	●	●	●	●	●	●
Epirubicin	■	■	■	■	■	■	■	■
Erlotinib	■	■	■	■	■	■	■	■
Estramustine	●	●	●	●	●	●	●	●
Etoposide	■	■	■	■	■	■	■	■
Everolimus	●	●	●	●	●	●	●	●
Exemestane	●	●	●	●	●	●	●	●
Fludarabine	■	■	■	■	■	■	■	■
Fluorouracil	■	■	■	■	▲	■	■	■
Formestane	●	●	●	●	●	●	●	●
Gefitinib	■	■	■	■	■	■	■	■
Gemcitabine	■	■	■	■	■	■	■	■
Ifosfamide	■	■	■	■	■	■	■	■
Imatinib	■	■	■	■	■	■	■	■
Irinotecan	●	●	●	●	●	●	●	●
Lapatinib	■	■	■	■	■	■	■	■
Lenalidomide	●	●	●	●	●	●	●	●
Letrozole	■	■	■	■	■	■	■	■
Mercaptopurine	■	■	■	■	■	■	■	■
Mesna	■	■	■	■	■	■	■	■
Methotrexate	▲	▲	▲	▲	▲	▲	▲	▲
Mitoxantrone	■	■	■	■	■	■	■	■
Nilotinib	■	■	■	■	■	■	■	■
Oxaliplatin	■	■	■	■	■	■	■	■
Paclitaxel	■	■	■	■	■	■	■	■
Pazopanib	■	■	■	■	■	■	■	■
Polatuzumab vedotin	■	■	■	■	■	■	■	■
Procabazine	●	●	●	●	●	●	●	●
Rituximab	■	■	■	■	■	■	■	■
Sorafenib	■	■	■	■	■	■	■	■
Sunitinib	■	■	■	■	■	■	■	■
Tamoxifen	■	■	■	■	■	■	■	■
Temsirolimus	■	■	■	■	■	■	■	■
Topotecan	■	■	■	■	■	■	■	■
Toremifene	■	■	■	■	■	■	■	■
Trastuzumab	●	●	●	●	●	●	●	●
Trastuzumab emtansine	■	■	■	■	■	■	■	■
Vinblastine	■	■	■	■	■	■	■	■
Vincristine	■	■	■	■	■	■	■	■
Vinorelbine	■	■	■	■	■	■	■	■
Vorinostat	■	■	■	■	■	■	■	■

	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
Contraceptives/HRT								
Bazedoxifene	■	■	■	■	■	■	■	■
Chlormadinone (COC)	■	■	▲	■	■	■	■	■
Conjugated estrogens	■	■	■	■	■	■	■	■
Desogestrel (COC)	■	■	▲	■	■	■	■	■
Desogestrel (POP)	▲	▲	▲	▲	▲	▲	▲	▲
Drospirenone (COC)	■	●	▲	■	■	■	■	■
Drospirenone (HRT)	■	●	▲	■	■	■	■	■
Drospirenone (POP)	▲	●	▲	■	■	■	▲	▲
Dydrogesterone (HRT)	■	■	■	■	■	■	■	■
Estradiol	■	■	■	■	■	■	■	■
Ethinylestradiol	■	■	■	■	■	■	■	■
Etonogestrel (implant)	▲	▲	▲	▲	▲	▲	▲	▲
Etonogestrel (vaginal ring)	▲	▲	▲	■	■	■	■	■
Gestodene (COC)	■	■	▲	■	■	■	■	■
Levonorgestrel (COC)	■	▲	▲	■	■	■	■	■
Levonorgestrel (emergency contraception)	▲	▲	▲	▲	▲	▲	▲	▲
Levonorgestrel (HRT)	■	■	■	■	■	■	■	■
Levonorgestrel (implant)	▲	▲	▲	▲	▲	▲	▲	▲
Levonorgestrel (IUD)	■	■	■	■	■	■	■	■
Levonorgestrel (POP)	▲	▲	▲	▲	▲	▲	▲	▲
Medroxyprogesterone (depot injection)	■	■	■	■	■	■	■	■
Medroxyprogesterone (HRT)	■	■	■	■	■	■	■	■
Norelgestromin (patch)	■	■	▲	■	■	■	■	■
Norethisterone [Norethindrone] (COC)	■	■	▲	■	■	■	■	■
Norethisterone [Norethindrone] (HRT)	■	■	■	■	■	■	■	■
Norethisterone [Norethindrone] (IM depot)	■	■	■	■	■	■	■	■
Norethisterone [Norethindrone] (POP)	▲	▲	▲	▲	▲	▲	▲	▲
Norgestimate (COC)	▲	▲	▲	▲	▲	▲	▲	▲
Norgestimate (HRT)	■	■	■	■	■	■	■	■
Norgestrel (COC)	■	■	▲	■	■	■	■	■
Norgestrel (HRT)	■	■	■	■	■	■	■	■
Progesterone (HRT)	■	■	■	■	■	■	■	■
Tibolone (HRT)	■	■	▲	■	■	■	▲	▲
Ulipristal	▲	▲	▲	▲	▲	▲	▲	▲
Erectile Dysfunctional Agents								
Avanafil	●	●	●	●	●	●	●	●
Sildenafil (Erectile Dysfunction)	■	■	■	■	■	■	■	■
Tadalafil (Erectile Dysfunction)	■	■	■	■	■	■	■	■
Vardenafil	■	■	■	■	■	■	■	■
Yohimbine	■	■	■	■	■	■	■	■
Gastrointestinal Agents								
Alosetron	■	■	■	■	■	■	■	■
Antacids	■	■	■	■	■	■	■	■
Bisacodyl	■	■	■	■	■	■	■	■
Cimetidine	■	■	■	■	■	■	■	■
Cisapride	●	●	●	●	●	●	●	●
Dexlansoprazole	●	●	●	●	●	●	●	●
Esomeprazole	●	●	●	●	●	●	●	●
Famotidine	■	■	■	■	■	■	■	■
Lactulose	■	■	■	■	■	■	■	■
Lansoprazole	●	●	●	●	●	●	●	●
Loperamide	■	■	■	■	■	■	■	■
Mesalazine	■	■	■	■	■	■	■	■
Omeprazole	●	●	●	●	●	●	●	●
Pantoprazole	●	●	●	●	●	●	●	●
Prucalopride	■	■	■	■	■	■	■	■
Rabeprazole	●	●	●	●	●	●	●	●
Ranitidine	■	■	■	■	■	■	■	■
Senna	■	■	■	■	■	■	■	■
Gastrointestinal Agents (anti-emetics)								
Aprepitant	■	■	■	■	■	■	■	■
Dolasetron	■	■	■	■	■	■	■	■
Domperidone	●	●	●	●	●	●	●	●
Dronabinol	▲	▲	▲	▲	▲	▲	▲	▲
Granisetron	■	■	■	■	■	■	■	■
Metoclopramide	■	▲	▲	■	■	■	■	■
Ondansetron	■	■	■	■	▲	▲	■	▲
Prochlorperazine	■	■	■	■	▲	▲	■	▲

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### Key to abbreviations

ATV	Atazanavir alone (Reyataz®)	DRV/c/FTAF	Darunavir/cobicistat/ FTC/TAF (Symtuza®)
ATV/c	Atazanavir/cobicistat (Evotaz®)	DRV/r	Darunavir + Ritonavir (Prezista®+Norvir®)
ATV/r	Atazanavir + Ritonavir (Reyataz®+Norvir®)	LPV	Lopinavir (Kaletra®)
DRV/c	Darunavir/cobicistat (Rezosta®, Prezcofix®)	RTV	Ritonavir (Norvir®)

### Key to symbols

●	These drugs should not be coadministered
■	Potential interaction - may require close monitoring, alteration of drug dosage or timing of administration
▲	Potential interaction likely to be of weak intensity. Additional action/monitoring or dosage adjustment is unlikely to be required
◆	No clinically significant interaction expected

Where advice differs between countries, and/or between boosted and unboosted regimens, the charts reflect the more cautious option.

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# Interactions with Protease Inhibitors

Charts revised June 2022. Full information available at [www.hiv-druginteractions.org](http://www.hiv-druginteractions.org)

Please note that if a drug is not listed it cannot automatically be assumed it is safe to coadminister.

	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
<b>Herbals/Supplements/Vitamins</b>								
African potato	▲	◆	◆	◆	◆	◆	◆	◆
Aloe vera	◆	◆	◆	◆	◆	◆	◆	◆
Ascorbic Acid (vitamin C) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Ascorbic Acid [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Ashwagandha (Withania somnifera)	◆	◆	◆	◆	◆	◆	◆	◆
Ayahuasca	■	■	■	■	■	■	■	■
Black cohosh	◆	◆	◆	◆	◆	◆	◆	◆
Calcium supplements	◆	◆	◆	◆	◆	◆	◆	◆
Cat's claw (Uncaria tomentosa)	■	■	■	■	■	■	■	■
Colecalciferol (vitamin D3) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Colecalciferol [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Cubeb pepper (Piper cubeba)	▲	◆	◆	◆	◆	◆	◆	◆
Cyanocobalamin [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Cyanocobalamin [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Echinacea	■	◆	◆	◆	◆	◆	◆	◆
Eucalyptus globulus	◆	◆	◆	◆	◆	◆	◆	◆
Ferrous fumarate	◆	◆	◆	◆	◆	◆	◆	◆
Folic acid [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Folic acid [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Garlic	■	■	■	■	■	■	■	■
Ginger (Zingiber officinale)	▲	◆	◆	◆	◆	◆	◆	◆
Ginkgo biloba	■	◆	◆	◆	◆	◆	◆	◆
Ginseng (P. ginseng, P. quinquefolius)	◆	◆	◆	◆	◆	◆	◆	◆
Goldenseal root (Hydrastis canadensis)	◆	◆	◆	◆	◆	◆	◆	◆
Grapefruit juice	◆	◆	◆	◆	◆	◆	◆	◆
Green tea extracts (Camellia sinensis)	◆	◆	◆	◆	▲	◆	◆	◆
Guggulsterone	■	■	■	■	■	■	■	■
Hops (Humulus lupulus)	■	■	■	■	■	■	■	■
Inula racemosa	▲	◆	◆	◆	◆	◆	◆	◆
Iodine [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Iodine [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Iron supplements (injection/infusion)	◆	◆	◆	◆	◆	◆	◆	◆
Iron supplements (oral)	◆	◆	◆	◆	◆	◆	◆	◆
Liquorice (Glycyrrhiza glabra)	▲	◆	◆	◆	▲	◆	◆	◆
Magnesium supplements	◆	◆	◆	◆	◆	◆	◆	◆
Malabar nut tree	■	■	■	■	■	■	■	■
Menthol	▲	◆	◆	◆	◆	◆	◆	◆
Milk thistle (silymarin)	◆	◆	◆	◆	◆	◆	◆	◆
Mucuna pruriens	◆	◆	◆	◆	◆	◆	◆	◆
Multivitamins	◆	◆	◆	◆	◆	◆	◆	◆
Nicotinamide [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Nicotinamide [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Phytomenadione (vitamin K) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Phytomenadione [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Pyridoxine (vitamin B6) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Pyridoxine [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Quercetin	■	■	■	■	■	■	■	■
Red yeast rice	●	●	●	●	●	●	●	●
Retinol (vitamin A) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Retinol (vitamin A) [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Riboflavin (vitamin B2) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Riboflavin [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Saw palmetto (Serenoa repens)	◆	◆	◆	◆	◆	◆	◆	◆
Seville orange juice	◆	◆	◆	◆	◆	◆	◆	◆
St John's Wort	●	●	●	●	●	●	●	●
Thiamine (vitamin B1) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Thiamine [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Tocopherol (vitamin E) [alone]	◆	◆	◆	◆	◆	◆	◆	◆
Tocopherol (vitamin E) [in multivitamins]	◆	◆	◆	◆	◆	◆	◆	◆
Turmeric (Curcuma longa)	◆	◆	◆	◆	▲	◆	◆	◆
Valerian	◆	◆	◆	◆	◆	◆	◆	◆

	ATV	ATV/c	ATV/r	DRV/c	DRV/c/FTAF	DRV/r	LPV	RTV
<b>Hypertension / Heart Failure Agents</b>								
Aliskiren	●	●	●	●	●	●	●	●
Ambrisentan	■	■	■	■	■	■	■	■
Amiloride	◆	◆	◆	◆	◆	◆	◆	◆
Azilsartan	◆	◆	▲	◆	◆	◆	▲	▲
Benazepril	■	■	■	■	■	■	■	■
Bendroflumethiazide	◆	◆	◆	◆	◆	◆	◆	◆
Bosentan	●	■	■	■	■	■	■	■
Candesartan	◆	◆	◆	◆	◆	◆	◆	◆
Captopril	◆	◆	◆	◆	◆	◆	◆	◆
Chlortalidone	◆	◆	◆	◆	◆	◆	◆	◆
Cilazapril	◆	◆	◆	◆	◆	◆	◆	◆
Clonidine	◆	◆	◆	◆	◆	◆	◆	◆
Dopamine	◆	◆	◆	◆	◆	◆	◆	◆
Doxazosin	■	■	■	■	■	■	■	■
Enalapril	◆	◆	◆	◆	◆	◆	◆	◆
Eplerenone	●	●	●	●	●	●	●	●
Epoprostenol	◆	◆	◆	◆	◆	◆	◆	◆
Eprosartan	◆	◆	◆	◆	◆	◆	◆	◆
Fosinopril	◆	◆	▲	◆	◆	◆	▲	▲
Furosemide	◆	◆	◆	◆	◆	◆	◆	◆
Hydralazine	◆	◆	◆	◆	◆	◆	◆	◆
Hydrochlorothiazide	◆	◆	◆	◆	◆	◆	◆	◆
Iloprost	◆	◆	◆	◆	◆	◆	◆	◆
Indapamide	■	■	■	■	■	■	■	■
Irbesartan	◆	◆	▲	◆	◆	◆	▲	▲
Isosorbide dinitrate	◆	◆	◆	◆	◆	◆	◆	◆
Ivabradine	●	●	●	●	●	●	●	●
Labetalol	■	■	■	■	■	■	■	■
Lacidipine	◆	◆	◆	◆	◆	◆	◆	◆
Lercanidipine	●	●	●	●	●	●	●	●
Lisinopril	◆	◆	◆	◆	◆	◆	◆	◆
Losartan	◆	◆	▲	◆	◆	◆	▲	▲
Macitentan	■	■	■	■	■	■	■	■
Methyldopa	◆	◆	◆	◆	◆	◆	◆	◆
Metolazone	◆	◆	◆	◆	◆	◆	◆	◆
Midodrine	◆	▲	▲	▲	▲	▲	▲	▲
Moxonidine	◆	◆	◆	◆	◆	◆	◆	◆
Olmesartan	◆	◆	◆	◆	◆	◆	◆	◆
Perindopril	◆	◆	◆	◆	◆	◆	◆	◆
Prazosin	■	■	■	■	■	■	■	■
Quinapril	◆	◆	◆	◆	◆	◆	◆	◆
Ramipril	◆	◆	◆	◆	◆	◆	◆	◆
Ranolazine	●	●	●	●	●	●	●	●
Riociguat	■	■	■	■	■	■	■	■
Sacubitril	■	■	■	■	■	■	■	■
Selexipag	◆	◆	◆	◆	◆	◆	◆	◆
Sildenafil (PAH)	●	●	●	●	●	●	●	●
Sodium nitroprusside	◆	◆	◆	◆	◆	◆	◆	◆
Spironolactone	◆	◆	◆	◆	◆	◆	◆	◆
Tadalafil (PAH)	■	■	■	■	■	■	■	■
Telmisartan	◆	◆	◆	◆	◆	◆	◆	◆
Terazosin	◆	◆	◆	◆	◆	◆	◆	◆
Torasemide	◆	◆	▲	◆	◆	◆	▲	▲
Trandolapril	◆	◆	◆	◆	◆	◆	◆	◆
Treprostinil	◆	◆	◆	◆	◆	◆	◆	◆
Triamterene	◆	◆	■	◆	◆	◆	■	■
Valsartan	◆	◆	◆	◆	◆	◆	◆	◆
Xipamide	◆	◆	◆	◆	◆	◆	◆	◆
<b>Illicit/Recreational</b>								
Alcohol	◆	◆	◆	◆	◆	◆	◆	◆
Amphetamine	■	■	■	■	■	■	■	■
Cannabis	■	■	■	■	■	■	■	■
Cocaine	■	■	■	■	■	■	■	■
Ecstasy (MDMA)	▲	■	■	■	■	■	■	■
GHB (Gamma-hydroxybutyrate)	■	■	■	■	■	■	■	■
Heroin	■	■	■	■	■	■	■	■
LSD (Lysergic acid diethylamide)	■	■	■	■	■	■	■	■
Mephedrone	▲	■	■	■	■	■	■	■
Methamphetamine	▲	■	■	■	■	■	■	■
Phencyclidine (PCP)	■	■	■	■	■	■	■	■
Poppers (Amyl nitrate)	◆	◆	◆	◆	◆	◆	◆	◆

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**Key to abbreviations**

ATV	Atazanavir alone (Reyataz <sup>®</sup> )	DRV/c/FTAF	Darunavir/cobicistat/ FTC/TAF (Symtuza <sup>®</sup> )
ATV/c	Atazanavir/cobicistat (Evotaz <sup>®</sup> )	DRV/r	Darunavir + Ritonavir (Prezista <sup>®</sup> +Norvir <sup>®</sup> )
ATV/r	Atazanavir + Ritonavir (Reyataz <sup>®</sup> +Norvir <sup>®</sup> )	LPV	Lopinavir (Kaletra <sup>®</sup> )
DRV/c	Darunavir/cobicistat (Rezosta <sup>®</sup> , Prezcofix <sup>®</sup> )	RTV	Ritonavir (Norvir <sup>®</sup> )

**Key to symbols**

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■	Potential interaction - may require close monitoring, alteration of drug dosage or timing of administration
▲	Potential interaction likely to be of weak intensity. Additional action/monitoring or dosage adjustment is unlikely to be required
◆	No clinically significant interaction expected

Where advice differs between countries, and/or between boosted and unboosted regimens, the charts reflect the more cautious option.

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