



## Resource: ART Drug-Drug Interactions

April 2023

Table 23: Statins (also see drug package inserts)		
Class or Drug	Mechanism of Action	Clinical Comments
<ul style="list-style-type: none"> <li>• NRTIs</li> <li>• Dolutegravir (DTG)</li> <li>• Bictegravir (BIC)</li> <li>• Cabotegravir (CAB)</li> <li>• Raltegravir (RAL)</li> <li>• Rilpivirine (RPV)</li> <li>• Doravirine (DOR)</li> </ul>	No significant interactions are expected.	No dose adjustments are necessary.
Elvitegravir (EVG), boosted	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Boosted EVG greatly increases concentrations.</li> <li>• <b>Atorvastatin, rosuvastatin:</b> Boosted EVG may moderately increase concentrations.</li> <li>• <b>Fluvastatin:</b> Interaction has not been studied, but potential for moderate increase is possible.</li> <li>• <b>Pitavastatin, pravastatin:</b> Although moderate increases are possible, low doses are considered safe when used with boosted EVG.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Concomitant use is contraindicated; may increase muscle aches and risk of rhabdomyolysis; choose alternative statin</li> <li>• <b>Atorvastatin:</b> <ul style="list-style-type: none"> <li>– Avoid concomitant use of COBI and atorvastatin.</li> <li>– If atorvastatin use is necessary, do not exceed 20 mg per day.</li> </ul> </li> <li>• <b>Rosuvastatin:</b> Use lowest effective dose and titrate carefully to achieve clinical effect; monitor closely for adverse effects.</li> <li>• <b>Fluvastatin:</b> Do not coadminister. If use is required, use lowest effective dose; monitor closely for safety and efficacy before increasing statin dose.</li> <li>• <b>Pitavastatin, pravastatin:</b> Use lowest effective doses of pitavastatin and pravastatin; monitor for signs of toxicity, including myopathy.</li> </ul>
Atazanavir (ATV), boosted	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Boosted ATV greatly increases concentrations.</li> <li>• <b>Atorvastatin, rosuvastatin:</b> Boosted ATV may moderately increase concentrations.</li> <li>• <b>Fluvastatin:</b> Interaction has not been studied, but potential for moderate increase is possible.</li> <li>• <b>Pitavastatin, pravastatin:</b> Although moderate increases are possible, low doses are considered safe when used with boosted PIs.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Concomitant use is contraindicated due to potential for myopathy, including rhabdomyolysis. Consider using low doses of alternative statins less likely to be affected by boosted ATV use.</li> <li>• <b>Atorvastatin:</b> <ul style="list-style-type: none"> <li>– Use with lowest effective doses; monitor closely for safety and efficacy before increasing statin dose.</li> <li>– Do not coadminister with COBI-boosted ATV due to increased risk of rhabdomyolysis and myopathy.</li> </ul> </li> </ul>

**Table 23: Statins** (also see drug package inserts)

Class or Drug	Mechanism of Action	Clinical Comments
		<ul style="list-style-type: none"> <li>• <b>Rosuvastatin:</b> <ul style="list-style-type: none"> <li>– Use with lowest effective doses; monitor closely for safety and efficacy before increasing statin dose.</li> <li>– If use is necessary, do not exceed 10 mg per day.</li> </ul> </li> <li>• <b>Fluvastatin:</b> Do not coadminister. If use is required, use lowest effective dose; monitor closely for safety and efficacy before increasing statin dose.</li> <li>• <b>Pitavastatin:</b> Use at lowest effective dose.</li> <li>• <b>Pravastatin:</b> If use is necessary, use lowest effective dose, and monitor for signs of toxicity.</li> </ul>
Darunavir (DRV), boosted	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Boosted DRV greatly increases concentrations.</li> <li>• <b>Atorvastatin, rosuvastatin:</b> Boosted DRV may moderately increase concentrations.</li> <li>• <b>Fluvastatin:</b> Interaction has not been studied, but potential for moderate increase is possible.</li> <li>• <b>Pravastatin:</b> Although moderate increases are possible, low doses are considered safe when used with boosted PIs.</li> <li>• <b>Pitavastatin:</b> <ul style="list-style-type: none"> <li>– Boosted DRV is less likely to interact compared to other statins.</li> <li>– When administered with RTV-boosted DRV, pitavastatin AUC is decreased by 26%.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> <ul style="list-style-type: none"> <li>– Concomitant use is contraindicated due to potential for myopathy, including rhabdomyolysis.</li> <li>– Consider using low doses of alternative statins less likely to be affected by boosted DRV.</li> </ul> </li> <li>• <b>Atorvastatin:</b> <ul style="list-style-type: none"> <li>– When administered with RTV-boosted DRV, use lowest effective dose; do not exceed 20 mg daily.</li> <li>– If concomitant use is necessary, monitor closely for signs of myopathy and rhabdomyolysis.</li> </ul> </li> <li>• <b>Rosuvastatin:</b> <ul style="list-style-type: none"> <li>– When possible, avoid concomitant use.</li> <li>– If use is necessary, start with 10 mg per day; dose should not exceed 20 mg per day.</li> </ul> </li> <li>• <b>Fluvastatin:</b> Do not coadminister. If use is required, use lowest effective dose; monitor closely for safety and efficacy before increasing statin dose.</li> <li>• <b>Pitavastatin:</b> No dose adjustments are necessary.</li> <li>• <b>Pravastatin:</b> If use is necessary, use lowest effective dose and monitor for signs of toxicity.</li> </ul>
<ul style="list-style-type: none"> <li>• Efavirenz (EFV) [a]</li> <li>• Etravirine (ETR)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> EFV and ETR may decrease concentrations.</li> <li>• <b>Atorvastatin, pravastatin, fluvastatin:</b> EFV and ETR may modestly reduce concentrations.</li> <li>• <b>Pitavastatin, rosuvastatin:</b> No significant interactions are expected.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Monitor for efficacy. May warrant increases in statin dose. Do not increase dose above maximum recommended statin dose.</li> <li>• <b>Atorvastatin, pravastatin, fluvastatin:</b> Monitor for cholesterol-lowering effect of statins. May require increased dose.</li> <li>• <b>Pitavastatin, rosuvastatin:</b> No dose adjustments are necessary.</li> </ul>
Fostemsavir (FTR)	<b>Atorvastatin, fluvastatin, pitavastatin, rosuvastatin, simvastatin:</b> Levels may increase with concurrent use of FTR.	<b>All statins:</b> Use lowest possible statin starting dose; monitor for statin-associated adverse effects.

<b>Table 23: Statins</b> (also see drug package inserts)		
<b>Class or Drug</b>	<b>Mechanism of Action</b>	<b>Clinical Comments</b>
Lenacapavir (LEN)	<b>Lovastatin, simvastatin, lomitapide:</b> Moderate inhibition of CYP3A4 and P-gP potentially increases levels.	<ul style="list-style-type: none"> <li>• <b>Simvastatin, lovastatin:</b> Initiate at lowest dose and titrate to achieve clinical effect; monitor closely for statin toxicity.</li> <li>• <b>Lomitapide:</b> Concomitant use is contraindicated.</li> </ul>
<p><b>Abbreviations:</b> AUC, area under the curve; COBI, cobicistat; CYP, cytochrome P450; NRTI, nucleoside reverse transcriptase inhibitor; P-gP, P-glycoprotein; PI, protease inhibitor; RTV, ritonavir.</p> <p><b>Note:</b></p> <p>a. RTV-boosted PIs and EFV are known to cause metabolic dysfunction, which may increase blood cholesterol levels.</p>		