

**Table 11. Drug Interactions between Antiretroviral Agents and Drugs Used to Treat Opioid Addiction (January 10, 2011)**

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<b>Concomitant Drug</b>	<b>Antiretroviral Class/Drug</b>	<b>Pharmacokinetic Interactions Recommendations/Clinical Comments</b>
<b>Buprenorphine</b>	<b>EFV</b>	buprenorphine AUC ↓ 50%; norbuprenorphine* AUC ↓ 71%  No withdrawal symptoms reported. No dosage adjustment recommended; however, monitor for withdrawal symptoms.
	<b>ATV</b>	buprenorphine AUC ↑ 93%; norbuprenorphine AUC ↑ 76%; ↓ ATV levels possible  Do not coadminister buprenorphine with unboosted ATV.
	<b>ATV/r</b>	buprenorphine AUC ↑ 66%; norbuprenorphine AUC ↑ 105%  Monitor for sedation. Buprenorphine dose reduction may be necessary.
	<b>DRV/r</b>	buprenorphine: no significant effect, norbuprenorphine AUC ↑ 46% and C <sub>min</sub> ↑ 71%  No dose adjustment necessary.
	<b>TPV/r</b>	buprenorphine: no significant effect; norbuprenorphine AUC, C <sub>max</sub> , and C <sub>min</sub> ↓ 80%; TPV C <sub>min</sub> ↓ 19%–40%  Consider monitoring TPV level.
	<b>3TC, ddI, TDF, ZDV, NVP, LPV/r, NFV</b>	No significant effect  No dosage adjustment necessary.
	<b>ABC, d4T, FTC, ETR, FPV +/- RTV, IDV +/- RTV, SQV/r, RAL, MVC, T20</b>	No data

Concomitant Drug	Antiretroviral Class/Drug	Pharmacokinetic Interactions Recommendations/Clinical Comments
Methadone	ABC	methadone clearance ↑ 22%  No dosage adjustment necessary.
	d4T	d4T AUC ↓ 23% and C <sub>max</sub> ↓ 44%  No dosage adjustment necessary.
	ZDV	ZDV AUC ↑ 29%–43%  Monitor for ZDV-related adverse effects.
	EFV	methadone AUC ↓ 52%  Opioid withdrawal common; increased methadone dose often necessary.
	NVP	methadone AUC ↓ 41% NVP: no significant effect  Opioid withdrawal common; increased methadone dose often necessary.
	ATV/r, DRV/r, FPV/r, IDV/r, LPV/r, SQV/r, TPV/r	With ATV/r, DRV/r, FPV/r: R-methadone <sup>†</sup> AUC ↓ 16%–18%; With LPV/r: methadone AUC ↓ 26%–53%; With SQV/r 1,000/100mg BID: R-methadone AUC ↓ 19%; With TPV/r: R-methadone AUC ↓ 48%  Opioid withdrawal unlikely but may occur. No adjustment in methadone usually required; however, monitor for opioid withdrawal and increase methadone dose as clinically indicated.
	FPV	No data with FPV (unboosted) With APV: R-methadone C <sub>min</sub> ↓ 21%, AUC no significant change  Monitor and titrate methadone as clinically indicated. The interaction with FPV is presumed to be similar.
	NFV	methadone AUC ↓ 40%  Opioid withdrawal rarely occurs. Monitor and titrate dose as clinically indicated. May require increased methadone dose.
	ddI (EC capsule), 3TC, TDF, ETR, RTV, ATV, IDV, RAL	No significant effect  No dosage adjustment necessary.
FTC, MVC, T20	No data	

\* Norbuprenorphine is an active metabolite of buprenorphine.

† R-methadone is the active form of methadone.

**Acronyms:** 3TC = lamivudine, d4T = stavudine, T20 = enfuvirtide, ABC = abacavir, APV = amprenavir, ATV = atazanavir, ATV/r = atazanavir/ritonavir, ddI = didanosine, DRV/r = darunavir/ritonavir, EFV = efavirenz, ETR = etravirine, FPV = fosamprenavir, FPV/r = fosamprenavir/ritonavir, FTC = emtricitabine, IDV = indinavir, IDV/r = indinavir/ritonavir, LPV/r = lopinavir/ritonavir, MVC = maraviroc, NFV = nelfinavir, NVP = nevirapine, RAL = raltegravir, RTV = ritonavir, SQV/r = saquinavir/ritonavir, TDF = tenofovir, TPV = tipranavir, TPV/r = tipranavir/ritonavir, ZDV = zidovudine