Table 15c. Drug Interactions between NRTIs and Other Drugs (Including ARV Agents)
(Updated January 10, 2011)

Concomitant Drug Class/Name	NRTI	Effect on NRTI or Concomitant Drug Concentrations	Dosage Recommendations and Clinical Comments
Antivirals			
Ganciclovir Valganciclovir	TDF	No data	Serum concentrations of these drugs and/or TDF may be increased. Monitor for dose-related toxicities.
	ZDV	No significant pharmacokinetic effects	Potential increase in hematologic toxicities
Ribavirin	ddI	↑ intracellular ddI	**Contraindicated. Do not coadminister.** Fatal hepatic failure and other ddI-related toxicities have been reported with coadministration.
	ZDV	Ribavirin inhibits phosphorylation of ZDV.	Avoid coadministration if possible or closely monitor virologic response and hematologic toxicities.
Integrase Inhibitor			
RAL	TDF	RAL AUC ↑ 49%, C_{max} ↑ 64%	No dosage adjustment necessary
Narcotics/Treatment for Opioid Dependence			
Buprenorphine	3TC, ddI, TDF, ZDV	No significant effect	No dosage adjustment necessary
Methadone	ABC	methadone clearance ↑ 22%	No dosage adjustment necessary
	d4T	d4T AUC ↓ 23% and C_{max} ↓ 44%	No dosage adjustment necessary
	ZDV	ZDV AUC ↑ 29%–43%	Monitor for ZDV-related adverse effects.
NRTIs			
ddI	d4T	No significant PK interaction	**Avoid coadministration**. Additive toxicities of peripheral neuropathy, lactic acidosis, and pancreatitis seen with this combination.
	TDF	ddI-EC AUC and C_{max} ↑ 48%–60%	**Avoid coadministration**.
Other			
Allopurinol	ddI	ddI AUC ↑ 113% ddI AUC ↑ 312% with renal impairment	**Contraindicated. Do not coadminister.** Potential for increased ddI-associated toxicities.
PIs			
ATV	ddI	With ddI-EC + ATV (with food): ddI AUC ↓ 34%; ATV no change	Administer ATV with food 2 hours before or 1 hour after didanosine.
	TDF	ATV AUC↓ 25% and C_{min} ↓ 23%–40% (higher C_{min} with RTV than without) TDF AUC ↑ 24%–37%	Dose: ATV/r 300/100 mg daily coadministered with TDF 300 mg daily. Avoid concomitant use without RTV. If using TDF and H_2 receptor antagonist in ART-experienced patients, use ATV/r 400 mg/100 mg daily. Monitor for TDF-associated toxicity.
	ZDV	ZDV C_{min} ↓ 30%, no change in AUC	Clinical significance unknown.
DRV/r	TDF	TDF AUC↑ 22%, C_{max} ↑ 24% and C_{min} ↑ 37%	Clinical significance unknown. Monitor for TDF toxicity.
LPV/r	TDF	LPV/r AUC ↓ 15% TDF AUC ↑ 34%	Clinical significance unknown. Monitor for TDF toxicity.
TPV/r	ABC	ABC ↓ 35%–44% with TPV/r 1,250/100 mg BID	Appropriate doses for this combination have not been established.
	ddI	ddI-EC ↓ 10% and TPV C_{min} ↓34% with TPV/r 1,250/100 mg BID	Separate doses by at least 2 hours.
	ZDV	ZDV AUC ↓ 31%–43% and C_{max} ↓ 46%–51% with TPV/r 1,250/100 mg BID	Appropriate doses for this combination have not been established.

Acronyms: 3TC = lamivudine, ABC = abacavir, ARV = antiretroviral, ATV = atazanavir, AUC = area under the curve, BID = twice daily, C_{max} = maximum plasma concentration, C_{min} = minimum plasma concentration, d4T = stavudine, ddI = didanosine, DRV/r = darunavir/ritonavir, EC = enteric coated, LPV/r = lopinavir/ritonavir, NRTI = nucleoside reverse transcriptase inhibitor, PI = protease inhibitor, PK = pharmacokinetic, RAL = raltegravir, TDF = tenofovir, TPV/r = tipranavir/ritonavir, ZDV = zidovudine.