

Drug-drug Interactions in Patients with HIV and Cancer in Sub-Saharan Africa

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Supplementary Tables

Supplementary Table 1A. FDA approved antiretroviral medications by class

Drug class	Generic (Trade) - Name	Abbreviation
NRTIs	Abacavir (Ziagen)	ABC
	Didanosine (Videx)	ddI
	Emtricitabine (Emtriva)	FTC
	Lamivudine (EpiVir)	3TC
	Stavudine (Zerit)	d4T
	Tenofovir DF (Viread)	TDF
	Zalcitabine (Hivid)	ddC
	Zidovudine (Retrovir)	ZDV or AZT
NNRTIs	Efavirenz (Sustiva)	EFV
	Etravirine (Intelence)	ETV
	Nevirapine (Viramune)	NVP
	Rilpivirine (Edurant)	RPV
PIs	Atazanavir (Reyataz)	ATZ
	Darunavir (Prezista)	DRV
	Fosamprenavir (Lexiva)	FPV
	Indinavir (Crixivan)	IDV
	Lopinavir/ritonavir (Kaletra)	LPV
	Nelfinavir (Viracept)	NFV
	Ritonavir	RTV
	Saquinavir (Invirase)	SQV
	Tipranavir (Aptivus)	TPV
INSTIs	Raltegravir (Isentress)	RAL
	Elvitegravir (Vitekta)	EVG
	Dolutegravir (Tivicay)	DTG
Fls	Enfuvirtide (Fuzeon)	ENF
CRAs	Maraviroc (Selzentry)	MVC
PKE*	Cobicistat	COBI

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Supplementary Table 1B. Fixed dose combinations of antiretrovirals

Fixed Dose Combinations		
NRTI only	Lamivudine, Zidovudine	Combivir
	Emtricitabine, Tenofovir alafenamide	Descovy
	Abacavir, Lamivudine	Epzicom (US); Kivexa (EU,RU)
	Lamivudine, Tenofovir	Cimduo; Temixys
	Abacavir, Lamivudine, Zidovudine	Trizivir
	Emtricitabine, Tenofovir disoproxil	Truvada
NRTI + NNRTI	Lamivudine, Tenofovir + Efavirenz	Symfi
	Lamivudine, Tenofovir + Rilpivirine	Delstrigo
	Emtricitabine, Tenofovir disoproxil + Efavirenz	Atripla
	Emtricitabine, Tenofovir disoproxil + Rilpivirine	Complera (US); Eviplera (EU, RU)
	Emtricitabine, Tenofovir alafenamide + Rilpivirine	Odefsey
NRTI + INSTI	Lamivudine + Dolutegravir	Dovato
	Emtricitabine, Tenofovir + Bictegravir	Biktarvy
	Abacavir, Lamivudine + Dolutegravir	Triumeq
NNRTI + INSTI	Rilivirine, + Dolutegravir	Juluca
PIs + PKE	Lopinavir + Ritonavir	Kaletra/Aluvia
	Atazanavir + Cobicistat	Evotaz
	Darunavir + Cobicistat	Prezcobix (US); Rezolsta (EU)
NRTI + INSTI + PKE	Emtricitabine, Tenofovir alafenamide + Elvitegravir + Cobicistat	Genvoya
	Emtricitabine, Tenofovir disoproxil + Elvitegravir + Cobicistat	Stribild
NRTI + PI + PKE	Emtricitabine, Tenofovir, Atazanavir + Cobicistat	Symtuza

NNRTIs: non-nucleoside reverse-transcriptase inhibitors; INSTIs: integrase strand transfer inhibitors; PIs: protease inhibitors; FIs: fusion inhibitors; CRAs: chemokine receptor antagonists; NRTIs: nucleoside/nucleotide reverse transcriptase inhibitors; PKE: Pharmacokinetic enhancer.

Supplementary Table 2. Interaction of other anti-cancer drugs with the CYP450 system

Anti-Cancer Agents	CYP1			CYP450 CYP2							CYP3			Transporter
	A1	A2	B1	A6	B6	C8	C9	C18	C19	D6	A3	A4	A5	
Arsenic trioxide	↓		↓									↓		⊙
Bortezomib	↓	⊙				↓	↓, ⊙		↓, ⊙	↓, ⊙		↓, ⊙		↓, ⊙
Bosutinib												⊙		↓, ⊙
Busulfan												⊙		↓, ⊙
Cabazitaxel						⊙						⊙	⊙	↓, ⊙
Carbustine		⊙												
Clofarabine														
Dexamethasone	↓, ↑		↑	↑	↑	↑	↑		↑	↑		↓, ↑, ⊙	↑, ⊙	
Epirubicin														
Erlotinib	⊙	⊙	⊙			⊙				⊙		⊙	⊙	⊙
Everolimus												⊙		
Exemestane												⊙		
Fluvestrant												⊙		
Gefitinib										↓, ⊙		⊙		↓
Goserelin acetate							⊙			↓, ⊙				↓
Idarubicin												⊙		↓
Ixabepilone						⊙			⊙			↓, ⊙	⊙	⊙
Lapatinib												⊙	⊙	⊙
Lenolidomide				↓, ⊙								⊙		⊙
Letrozole														
Leucovorin												⊙		
Lomustine										↓, ⊙		↓		↓
Megestrol acetate														↓
Mitomycin C														↓
Mitoxantrone			↓									↓		↓, ↑, ⊙
Nelarabine														
Pemetrexed														
Plerixafor														
Ponatinib						↓, ⊙				⊙		⊙	⊙	↓, ⊙
Pralatrexate														
Prednisone										↑		↓, ↑, ⊙		↓, ⊙
Regorafenib					↓	↓	↓		↓			↓, ⊙		↓
Romidepsin												⊙		⊙
Sorafenib tosylate		↓			↓, ⊙	↓, ⊙	↓		↓	↓		↓, ⊙	⊙	↓
Sunitinib												⊙	⊙	↓
Topotecan												↓, ↑		⊙

Key:
 ⊙ Substrate
 ↑ Inducer
 ↓ Inhibitor

Supplementary Table 3. Other anti-cancer drugs and antiretroviral drug-drug interactions

Anticancer drug	Abacavir	Didanosine	Emtricitabine	Lamivudine	Stavudine	Tenofovir DF	Zidovudine	Efavirenz	Etravirine	Nevirapine	Rilpivirine	Atazanavir	Darunavir	Fosamprenavir	Indinavir	Lopinavir	Ritonavir	Saqinavir	Tipranavir	Raltegravir	Elvitegravir	Dolutegravir	Maraviroc	Cobicistat
Bortezomib	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	○	◆	◆	◆	◆	◆	◆	X	◆	◆	◆	◆	◆	◆
Erlotinib	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Exemestane	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Goserelin acetate	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Letrozole	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Megestrol acetate	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Mitoxantrone	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	○	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Sorafenib tosylate	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	○	◆	◆	◆	◆	◆	◆	X	◆	◆	◆	◆	◆	◆
Sunitinib	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	○	◆	◆	◆	◆	◆	◆	X	◆	◆	◆	◆	◆	◆
Topotecan	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

◆	Light diamond: no known potential interactions.
◆	Dark diamond: potential interactions; monitor closely, dose adjust and/or consider alternate therapy.
○	Circle: potential weak interactions; monitor therapy.
X	Cross: contraindications to concomitant therapy.