

DIABETES MEDICATIONS
ANTIHYPERGLYCEMICS

	INSTIs		NNRTIs		PIs
	<ul style="list-style-type: none"> • BICTEGRAVIR (<i>Biktarvy</i>) • DOLUTEGRAVIR (<i>Tivicay, Triumeq, Juluca</i>) • RALTEGRAVIR (<i>Isentress</i>) 	<ul style="list-style-type: none"> • ELVITEGRAVIR/COBICISTAT (<i>Stribild, Genvoya</i>) 	<ul style="list-style-type: none"> • DORAVIRINE (<i>Pifeltro, Delstrigo</i>) • RILPIVIRINE (<i>Edurant, Complera, Odefsey, Juluca</i>) 	<ul style="list-style-type: none"> • EFAVIRENZ (<i>Sustiva, Atripla</i>) • ETRAVIRINE (<i>Intence</i>) • NEVIRAPINE (<i>Viramune</i>) 	Boosted with ritonavir (<i>Norvir</i>) or cobicistat <ul style="list-style-type: none"> • ATAZANAVIR (<i>Reyataz, Evotaz</i>) • DARUNAVIR (<i>Prezista, Prezcobix, Symtuza</i>) • LOPINAVIR (<i>Kaletra</i>)

α GLUCOSIDASE INHIBITORS

<ul style="list-style-type: none"> • Acarbose (<i>Prandase, Glucobay</i>) 					
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BIGUANIDES

<ul style="list-style-type: none"> • Metformin (<i>Glucofage, Glumetza, Avandamet, Janumet</i>) 	Bictegravir, raltegravir				
	Dolutegravir: ↑ metformin				

DPP-4 INHIBITORS

<ul style="list-style-type: none"> • Alogliptin (<i>Nesina</i>) • Sitagliptin (<i>Januvia</i>), sitagliptin/metformin (<i>Janumet</i>) 	Bictegravir, raltegravir				
	Dolutegravir: ↑ metformin				

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<ul style="list-style-type: none"> • Linagliptin (<i>Trajenta</i>) • saxagliptin (<i>Onglyza</i>), saxagliptin/ metformin (<i>Kombiglyze</i>) 	Bictegravir, raltegravir			Potential ↓ DPP-4 inhibitor	
	Dolutegravir: ↑ metformin				

HUMAN GLUCAGON-LIKE PEPTIDE (GLP-1 AGONISTS)

<ul style="list-style-type: none"> • Dulaglutide (<i>Trulicity</i>) • Exenatide (<i>Byetta</i>) • Liraglutide (<i>Victoza</i>) • Lixisenatide (<i>Adlyxine</i>) • Semaglutide (<i>Ozempic</i>) 			doravirine		Potential for additive PR prolongation
			Potential for additive PR prolongation (rilpivirine)		

MEGLITINIDES

<ul style="list-style-type: none"> • Repaglinide (<i>Gluconorm</i>) • Nateglinide (<i>Starlix</i>) 		Potential ↑ repaglinide, potential ↑/↓ nateglinide		Potential ↓ repaglinide; potential ↑ nateglinide with etravirine and efavirenz	Potential ↑ repaglinide, potential ↑/↓ nateglinide
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SGLT2 INHIBITORS

<ul style="list-style-type: none"> • Canagliflozin (<i>Invokana</i>) 				Potential ↓ canagliflozin with efavirenz	Potential ↓ canagliflozin with ritonavir-boosted PIs Cobicistat-boosted PIs: no expected interaction
<ul style="list-style-type: none"> • Dapagliflozin (<i>Forxiga</i>) • Empagliflozin (<i>Jardiance</i>) 					

SULFONYLUREAS

<ul style="list-style-type: none"> • Gliclazide (<i>Diamicron</i>) • Glimepiride (<i>Amaryl</i>) • Glyburide (<i>Diabeta</i>) 		Potential ↓ sulfonylurea		Potential ↑ sulfonylurea with etravirine and efavirenz	Potential ↓ sulfonylurea with ritonavir-boosted PIs Cobicistat-boosted PIs: no expected interaction
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THIAZOLIDINEDIONES (TZDs)

<ul style="list-style-type: none"> • Pioglitazone (<i>Actos</i>) 				Potential for ↓ pioglitazone	Potential ↑ pioglitazone
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<ul style="list-style-type: none"> • Rosiglitazone (<i>Avandia</i>), rosiglitazone/metformin (<i>Avadamet</i>) 	Bictegravir, raltegravir				Potential ↑ rosiglitazone with unboosted atazanavir
	Dolutegravir: ↑ metformin				

Legend:



No dose adjustment required.



Use combination with caution. Adjustment in drug dose or frequency or additional/more frequent monitoring may be required. May wish to consult with a pharmacist knowledgeable in HIV drug interactions.



Contraindicated/avoid combination.

Mechanism of Drug Interactions, Management and Monitoring

Class	Mechanism of Interaction	Main Interacting ARVs	Management	Monitoring
Metformin	Metformin: excreted 100% as unchanged drug by glomerular filtration plus active tubular secretion via OCT2 and MATE-1-2K	Dolutegravir	If a patient is already receiving dolutegravir, start with low metformin dose and gradually increase. If a patient is starting/stopping dolutegravir while on metformin, a metformin dose adjustment may be necessary. Select an alternative antidiabetic agent or antiretroviral if high-dose metformin is not tolerated.	Metformin side effects (primarily gastrointestinal)
DPP-4 Inhibitors	Linagliptin: inhibition of CYP3A4 and P-gp Saxagliptin: inhibition of CYP3A4	Boosted protease inhibitors and elvitegravir/cobicistat	May not be clinically significant, since linagliptin and saxagliptin have a large safety window. No dose adjustment necessary.	No monitoring suggested
	Linagliptin, saxagliptin: induction of CYP3A4/P-gp	Efavirenz, etravirine, nevirapine	Adjust linagliptin and saxagliptin doses if needed	Close monitoring of efficacy
GLP-1 Agonists	Potential for additive PR prolongation.	Protease inhibitors, rilpivirine	Use with caution, particularly in patients with underlying conduction or cardiac rhythm disturbances.	Monitor for symptoms of syncope, lightheadedness, consider ECG monitoring.
Meglitinides	Repaglinide: inhibition OATP1B1 and CYP3A4	Boosted protease inhibitors and elvitegravir/cobicistat	Adjust dose if needed	Close monitoring of side effects
	Nateglinide: induction CYP2C9	Elvitegravir	Adjust dose as needed	Antihyperglycemic efficacy
	Nateglinide: inhibition CYP2C9	Efavirenz, etravirine	Adjust dose as needed	Close monitoring of side effect. May potentiate the hypoglycemic action
SGLT2 Inhibitors	Canagliflozin: induction UGT	Ritonavir protease inhibitors boosted and efavirenz	Adjust dose as needed	Antihyperglycemic efficacy
Sulfonylureas	Gliclazide, glimepiride and glyburide: 2C9 induction	Ritonavir PIs boosted elvitegravir	Adjust dose as needed	Antihyperglycemic efficacy

Class	Mechanism of Interaction	Main Interacting ARVs	Management	Monitoring
	Gliclazide, glimepiride and glyburide: 2C9 inhibition	Efavirenz and etravirine	Adjust dose as needed	Sulfonylureas side effects
Thiazolidinediones	Pioglitazone: 3A4 inhibition	Boosted protease inhibitors and elvitegravir/cobicistat	Adjust dose as needed	Close monitoring of side effects
	Pioglitazone: 3A4 induction	Efavirenz, nevirapine and etravirine	Adjust dose as needed	Antihyperglycemic efficacy
	Rosiglitazone: 2C8 inhibition	Unboosted atazanavir	Adjust dose as needed	Close monitoring of side effects

A MANAGEMENT TOOL FOR **HIV** DRUG-DRUG INTERACTIONS

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