













*Strength of Recommendation: A=strong, B=moderate, C=optional. Quality of Evidence: I>=1 randomized trials with clinical outcomes/validated lab endpoints, II>=1 non-randomized trials/observational cohort studies with long-term clinical outcomes, III=expert opinion




HIV TREATMENT: SINGLE TABLET REGIMENS

Brand Names	NRTI Backbone		Anchor Antiretroviral				HIVinfo Rating*	Considerations	Monitor
	1 st NRTI	2 nd NRTI	Integrase Inhibitor	N-NRTI	PI	PK Booster			
 Biktarvy	Emtricitabine 200mg	Tenofovir TAF 25mg	Bictegravir 50mg				A1	<ul style="list-style-type: none"> w/ or w/o food. Take 2 hrs before or after Ca/cations Good Lipid profile- consider for high cardiac risk Not recommended in < 30ml/min, severe hepatic impairment. CI w/ dofetilide or rifampin Severe acute exacerbation of Hep B upon d/c 	Renal function
 Triumeq	Lamivudine 300 mg	Abacavir 600 mg	Dolutegravir 50 mg				A1	<ul style="list-style-type: none"> W or w/o food. Take 2 hrs before or 6 hrs after Ca HLA-B*5701 has to be -ve before giving abacavir No major CYP drug interactions ☺ Largest size tablet CI w/ dofetilide or rifampin 	HLA-B*5701
 Stribild	Emtricitabine 200 mg	Tenofovir TDF 300 mg	Elvitegravir 150 mg			Cobicistat 150 mg	B1	<ul style="list-style-type: none"> Take with food. Take 2 hrs before/after Ca/cations TDF → Can use until 70 mL/min TAF → Can use until 30 mL/min Cobi inhibits renal tubular secretion of creatinine Cobi has many drug inx via CYP3A4 inhibition (avoid w/ drugs highly dependent on CYP3A4 clearance) 	Renal Function BMD Lipids
 Genvoya	Emtricitabine 200 mg	Tenofovir TAF 10 mg	Elvitegravir 150 mg			Cobicistat 150 mg	B1	<ul style="list-style-type: none"> Cobi inhibits renal tubular secretion of creatinine Cobi has many drug inx via CYP3A4 inhibition (avoid w/ drugs highly dependent on CYP3A4 clearance) 	Renal Function Lipids
 Dovato	Lamivudine 300mg	-	Dolutegravir 50 mg				A1 (*NOT if VL>500,000 or HBV)	<ul style="list-style-type: none"> W or w/o food. Take 2 hrs before or 6 hrs after Ca < 50ml/min or Child-Pugh C not recommended CI w/ dofetilide 	Renal function
 Juluca	-	-	Dolutegravir 50mg	Rilpivirine 25mg			A1	<ul style="list-style-type: none"> Maintenance Therapy—for those already virologically suppressed and no known resistance. Take with a meal A/E: HSR, Hepatotoxicity. Monitor for ADE if CrCL < 30ml/min C/I: Dofetilide, PPI 	Renal Function, Liver Function
 Cabenuva			Cabotegravir 30 mg (po), 600/400 mg IM	Rilpivirine 25 mg (po), 900/600 mg IM			A1	<ul style="list-style-type: none"> Maintenance Therapy—for those already virologically suppressed and no known resistance Optional Lead-in (≥28 days): CAB 30 mg/RPV 25 mg with a meal. Take antacid/cation 2 hrs before/4hrs after oral CAB Initiation injection: CAB 600/RPV 900 mg IM Monthly maintenance: CAB 400/RPV 600 mg IM Q2month maintenance: CAB 600/RPV 900 mg IM Not recommended in CrCL< 50ml/min w/ or w/o food May exacerbate hepatitis upon discontinuation Avoid w/ strong CYP3A4 inducers (ie Rifampin) 	Injection site reactions, pyrexia, fatigue, headache
 Delstrigo	Lamivudine 300mg	Tenofovir TDF 300mg		Doravirine 100mg			B1	<ul style="list-style-type: none"> Not recommended in CrCL< 50ml/min w/ or w/o food May exacerbate hepatitis upon discontinuation Avoid w/ strong CYP3A4 inducers (ie Rifampin) 	Renal Function
 Atripla	Emtricitabine 200 mg	Tenofovir TDF 300 mg		Efavirenz 600 mg			B1	<ul style="list-style-type: none"> Keep in mind CNS adverse effects of Efavirenz Not recommended CrCL <50ml/min C/I: bepridil, elbasvir/grazoprevir 	Renal Function Lipids
 Complera	Emtricitabine 200 mg	Tenofovir TDF 300 mg		Rilpivirine 25 mg			B1 (TDF), B2 (TAF), if VL<100,000 and CD4>200	<ul style="list-style-type: none"> Take with meal (~ 350 kcal) for abs'n of RPV Use if HIV RNA < 100,000 & CD4 > 200 Avoid: Acid suppressing (PPI C/I) RPV fewer CNS s/e compared to Efavirenz RPV fewer rash and dyslipidemia than Efavirenz 	Renal Function BMD
 Odefsey	Emtricitabine 200 mg	Tenofovir TAF 25 mg		Rilpivirine 25 mg				Renal Function	
 Symtuza	Emtricitabine 200mg	Tenofovir TAF 10mg			Darunavir 800mg	Cobicistat 150mg	A1	<ul style="list-style-type: none"> Take with food Not recommended in CrCL <30ml/min or Severe hepatic impairment C/I: Alfuzosin, Amiodarone, Bepridil 	Renal Function









1 Tablet - Once Daily

Updated June 2023 by Alice Tseng, Toronto General Hospital and Linda Robinson, Windsor, ON. Initial version created by: Afshin Azami, PharmD, RPh, ACPR(c) & Linda Robinson, BSc.PhM, RPh, AAHIVP. Sept 2016. References: 1) HIVinfo Guidelines Sep 2022; 2) US PHS PrEP guidelines 2021; 3) Lexi-Comp Drug Monographs for each respective drug; 4) RxTx Drug Monographs for each respective drug.

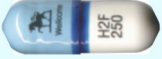
HIV PREVENTION: Pre-Exposure Prophylaxis (PrEP)





Class	Generic		Brand	Preparations		Dosing	Side Effects	Drug Interactions	Indicated Populations	Comments
Nucleoside / Nucleotide Reverse Transcriptase Inhibitors	Emtricitabine, tenofovir alafenamide	FTC, TAF	Descovy		Emtricitabine 200 mg/TAF 10 or 25 mg	1 tablet daily	Mostly Well Tolerated • N/V/D/Gas	TAF- Substrate of P-gp and BCRP	<ul style="list-style-type: none"> ✓ only recommended in gbMSM and transgender women ✓ NOT indicated for people who are at risk via receptive vaginal sex 	<ul style="list-style-type: none"> ✓ only combo also effective against Hep B ✓ TAF has ↓ rates of renal insufficiency and bone mineral density reduction vs TDF ✓ Not recommended if Clcr<30 mL/minute or hemodialysis (HD)
	Emtricitabine, tenofovir disoproxil fumarate	FTC, TDF	Truvada		Emtricitabine 200 mg/TDF 300 mg	<p><u>Daily dosing:</u> 1 tablet daily</p> <p><u>On-demand ("2-1-1") dosing:</u> 2 tabs between 2-24 hours before sex, then 1 tab every 24 hours until 2 days after last sexual encounter</p>	Mostly Well Tolerated • N/V/D/Gas • Renal impairment • Reduced bone density	Monitor renal function with concomitant use of other nephrotoxic agents (incl. chronic high-dose NSAIDS)	<ul style="list-style-type: none"> ✓ <u>Daily dosing:</u> HIV-negative individuals at risk of acquiring HIV ✓ <u>On-demand dosing:</u> HIV-negative gbMSM ✓ NOT indicated for those who are at risk via receptive vaginal sex or for those who inject drugs 	<ul style="list-style-type: none"> ✓ only combo also effective against Hep B ✓ Renal dosing: 1 tablet q2days if Clcr 30-49 mL/minute; not recommended if <30 mL/min or HD
Integrase inhibitors	Cabotegravir	CAB	Apretude		Cabotegravir 200 mg/mL IM injection	<p>Oral lead in (optional): 30 mg QD for 28 days</p> <p>Initiation (3mL): 600 mg CAB IM q1month x 2 consecutive months</p> <p>Maintenance (3mL): 600 mg CAB IM q2month</p>	Well Tolerated Injection site reactions, pyrexia, fatigue, headache, MSK pain, nausea, dizziness, sleep problems, rash (mild), diarrhea	<p>No CYP3A4 inx</p> <p>UGT1A1 , UGT1A9 (minor), P-gp, BCRP substrate</p> <p>↓ [CAB] with: Inducers of UGT1A1/3A4</p>	<ul style="list-style-type: none"> ✓ HIV-negative individuals weighing at least 35 kg at risk of sexually acquired HIV 	<ul style="list-style-type: none"> ✓ CAB is 1st long acting injectable indicated for PrEP ✓ Not Approved indication in Canada ✓ Optional oral CAB as lead-in dosing (≥28 days) to assess tolerability or for use as oral bridging therapy for missed Apretude injections ✓ C/I: carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine.






HIV Antiretroviral (ART) Medications





Class	Generic	Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments	
Combined NRTI Tablet Formulations									
AIDSinfo rating: paired with INSTI: Dolutegravir A1 , Raltegravir B1 or a boosted PI: Darunavir A1 , Atazanavir B1 paired with: Darunavir B2	Emtricitabine, tenofovir alafenamide	FTC, TAF	Descovy		Emtricitabine 200 mg/TAF 10 or 25 mg	1 tablet daily	Mostly Well Tolerated • N/V/D/Gas	TAF- Substrate of P-gp and BCRP	✓ only combo also effective against Hep B ✓ Better viral suppression than Kivexa if VL > 100,000 ✓ TAF has ↓ rates of renal insufficiency and bone mineral density reduction vs TDF ✓ If on a booster, use 10 mg TAF instead of 25 mg ✓ Not recommended if Clcr < 30 mL/minute or hemodialysis (HD)
	Emtricitabine, tenofovir disoproxil fumarate	FTC, TDF	Truvada		Emtricitabine 200 mg/TDF 300 mg	1 tablet daily	Mostly Well Tolerated • N/V/D/Gas • Renal impairment • Reduced bone density	↓ [atazanavir]; need to boost	✓ only combo also effective against Hep B ✓ Better viral suppression than Kivexa if VL > 100,000 ✓ Renal dosing: 1 tablet q2days if Clcr 30-49 mL/minute; not recommended if < 30 mL/min or HD
	abacavir, lamivudine	ABC, 3TC	Kivexa		Abacavir 600 mg/lamivudine 300 mg	1 tablet daily	Mostly Well Tolerated • Headache/N//D/malaise • Hypersensitivity reaction		✓ Abacavir not ideal for those with CV risk factors ✓ HLA needs to be negative before giving abacavir ✓ Comments also apply to Triumeq
Single Agent NRTI Formulations									
MOA: Analogues of nucleo(t)side which replace a base during reverse transcription of viral RNA to DNA → chain termination Resistance: - "low genetic barrier to resistance" - many mutations confer cross resistance to others in the class Renal Dosing: Use with caution & check for renal dosing for each agent	Tenofovir alafenamide Adenosine analogue Nucleotide Reverse Transcriptase Inhibitor (NtRTI)	TAF	Vemlidy (for chronic HBV)		Descovy ^{1 QD} Genvoya ^{1 QD} Odefsey ^{1 QD} Biktarvy ^{1 QD} Symtuza ^{1 QD}	25 mg po QD (10 mg po QD if using with booster) Renal	Mostly Well Tolerated • N/V/D/Gas	TAF- Substrate of P-gp and BCRP	✓ TAF = tenofovir alafenamide (targeted pro-drug), less bone & renal issues ✓ safe until renal function with CrCl of 30 mL/min ✓ Preferred agent in cases of co-infection with HBV
	Tenofovir disoproxil fumarate Adenosine analogue Nucleotide Reverse Transcriptase Inhibitor (NtRTI)	TDF	Viread		Truvada ^{1 QD} Stribild ^{1 QD} Complera ^{1 QD} Delstrigo ^{1 QD} Atripla ^{1 QD}	300 mg po QD Renal avoid TDF in CKD	Mostly Well Tolerated • N/V/D/Gas • Renal impairment ^{TDF} • Reduced bone density ^{TDF}	↓ [atazanavir] ↑ [didanosine - ddi] Clinically not used with TDF anyways any longer	✓ TDF = tenofovir disoproxil fumarate (pro-drug), efficacy of TDF = TAF ✓ Renal: < 10 mL/min not recommended, 10 - 29 mL/min give 300 mg po q72-96h, 30-49 mL/min give 300 mg po q48h, ≥ 50 mL/min no adjustment ✓ Preferred agent in cases of co-infection with HBV ✓ Favorable lipid profile
	Emtricitabine Cytidine analogue	FTC	Emtriva		With TAF or TDF products above	200 mg po QD ^{cap} 240 mg po QD ^{sol/n} Renal	Well Tolerated • Headache ^{common} , dizziness • N/D • Rash, skin pig'n	Lamivudine [X] → both Cytosine analogues (no point in using both)	✓ Black Box: severe exacerbation of hep B on stopping drug in pts w Hep B ✓ Only part of combos w Tenofovir in Canada ✓ Rarely pts may experience bad diarrhea. Headache most common s/e.
	Lamivudine Cytidine analogue	3TC	3TC		Kivexa ^{1 QD} Triumeq ^{1 QD} Dovato ^{1 QD} Delstrigo ^{1 QD} Combivir ^{1 BID} Trizivir ^{1 BID}	150 mg po BID 300 mg po QD Renal	Well Tolerated • Headache ^{beginning} • N/D/Abd pain ^{transient} • Insomnia ^{uncommon} • Pancreatitis ^{more peds}	Emtricitabine [X] → both Cytosine analogues (no point in using both)	✓ Some people have headache in first few days, stick with it and use Tylenol and Advil if needed ✓ May exacerbate Hep B upon discontinuation
	Abacavir Guanosine analogue	ABC	Ziagen		Kivexa ^{1 QD} Triumeq ^{1 QD} Trizivir ^{1 BID}	300 mg po BID 600 mg po QD can safely use in CKD	Common: • Headache, N/D, malaise Serious: • Hypersensitivity reaction (HSR)		✓ Black Box: Only Rx for HLA-B*5701 negatives → Testing predicts HR in Caucasians. Rechallenge in HSR patients C/I → life threatening ✓ Signs of HSR: fever, rash, tired, upset stomach, vomit, belly pain, flu-like sx, sore throat, cough. Occurs < 6 wks after start (mean 11 days). Stop ASAP & see MD. ✓ Meta-analysis → no sign of ↑ MI → but if higher MI risk, ABC not best choice ✓ Can cause hepatitis and lactic acidosis esp in women and obese





HIV Antiretroviral (ART) Medications



Class	Generic	Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
Zidovudine no longer recommended as first-line therapy for most patients	Zidovudine Thymidine analogue	AZI Retrovir	 100, 250 mg cap 10 mg/mL syrup 10 mg/mL inject	Trizivir ¹ BID Combivir ¹ BID	300 mg po BID Also I.V. form Renal	Not Well Tolerated <ul style="list-style-type: none"> Headache^{62%} N^{50%} / V^{17%} / Anorexia^{20%} Insomnia Nail pigmentation Hematologic toxicity 	stavudine [X] also a thymidine analogue	<ul style="list-style-type: none"> ✓ Black Box: hematologic toxicity, myopathy, anemia, granulocytopenia, thrombocytopenia ✓ Often in subtherapeutic mono- and dual therapy regimens ✓ Resistance likely in Long term survivors ✓ Place for therapy: IV form and syrup still used in MTCT in <i>pregnancy and delivery</i> and infants with HIV ✓ No longer recommended

Class		Generic		Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
Integrase Strand Transfer Inhibitors - INSTI Favorable lipid profile as a class Resistance: Low genetic barrier to resistance with RAL and EVG. Higher with BIC, CAB, DTG	Integrase Strand Transfer Inhibitors _____tegravir	Bictegravir	BIC	-	 (Biktarvy)	Biktarvy ^{1 QD}	50mg po QD	Well Tolerated <ul style="list-style-type: none"> • Headache • Nausea/Diarrhea • Insomnia 	CYP3A & UGT1A1 substrate (~50:50) Inhibits OCT2 & MATE1 <ul style="list-style-type: none"> • ↑[Metformin] 	<ul style="list-style-type: none"> ✓ Only exists in combination ✓ Increase serum creatinine due to tubular inhibition without affecting glomerular function (increases usually in the first 4 weeks with median increase of 9.96umol/L after 48 weeks) ✓ May increase bilirubin ✓ Interacting classes: anticonvulsants, rifamycins, atazanavir ✓ C/I: Dofetilide, rifampin, St. John's wort
		Cabotegravir	CAB	Vocabria	200 mg/mL inj 30 mg tab	Cabenuva IM injection	Oral: 30 mg QD (+25 mg RPV) Initiation (3mL): 600 mg CAB/900 mg RPV IM Maintenance: 400 mg CAB/600 mg RPV IM monthly or 600 mg CAB/900 mg RPV IM q2months	Well Tolerated Injection site reactions, pyrexia, fatigue, headache, MSK pain, nausea, dizziness, sleep problems, rash (mild), diarrhea	No CYP3A4 inx UGT1A1 , UGT1A9 (minor), P-gp, BCRP substrate ↓ [CAB/RPV] with: Inducers of UGT1A1/3A4	<ul style="list-style-type: none"> ✓ CAB/RPV is 1st long acting injectable combination indicated as a switch regimen in virologically suppressed patients ✓ Optional oral CAB as lead-in dosing (≥28 days) to assess tolerability or for use as oral bridging therapy for missed Cabenuva injections ✓ NB: initiation injections: one month initiation if using q1month maintenance injections. For q2month maintenance, start with two initiation injections one month apart. ✓ Oral CAB C/I: carbamazepine, oxcarbazepine, phenobarbital, phenytoin, rifampin, rifapentine. Cabenuva C/I: as above plus rifabutin, systemic dexamethasone (>1 dose), St. John's wort
	Class Interaction: Oral absorption is diminished when co-administered with polyvalent cations (Mg, Ca, Al, Fe...): <ul style="list-style-type: none"> • BIC: take 2 hrs apart or together with food • CAB: take 2 hrs before/4 hrs after ORAL CAB • DTG: take 2 hrs before/6 hrs after or together with food • EVG: take 2 hrs apart • RAL: avoid (only Ca OK with Isentress; not HD) 	Dolutegravir	DTG	Tivicay	 50 mg tab Pediatric: 10 mg, 25 mg tab 5 mg dispersible tabs	Triumeq ^{1 QD} Juluca ^{1 QD} Dovato ^{1 QD}	50 mg po QD 50 mg po BID*	Well Tolerated <ul style="list-style-type: none"> • Insomnia • Headache • ↑ SCr small (↑~0.11mg/dL) 	No CYP3A4 inx P-gp, UGT1A1 , CY3A4(10-15%) substrate Inhibits OCT2 - Metformin (inc 2 fold [metformin]) - C/I Dofetilide	<ul style="list-style-type: none"> ✓ Take with/without food ✓ Inhibits renal tubular secretion of creatinine, SCr "falsely" increases ✓ May cause neural tube defects if taken at the time of conception ✓ Higher barrier to resistance than EVG or RAL ✓ *BID dosing if heavily tx-experienced, INSTI resistant, or given w enzyme inducers ✓ High efficacy in those with baseline HIV RNA > 100,000 copies/mL ✓ C/I: Dofetilide, fampridine
		Elvitegravir	EVG	Vitekta	 85, 150 mg tab	Stribild Genvoya	85-150 mg po QD boosted w/ food	Well Tolerated <ul style="list-style-type: none"> • Hyperlipidemia • D/N • Headache 	CYP3A4 substrate induces 2C9 (EVG) Inhibits CYP3A4, P-gp, BCRP, OATP1B1/3, OCT2, MATE1 (cobi)	<ul style="list-style-type: none"> ✓ Better absorption w food/snack ✓ Coformulated with PK booster cobicistat ✓ Cobicistat inhibits tubular secretion of creatinine w/o affecting glomerular function (if >35.36umol/L need renal monitoring) ✓ Lower genetic barrier to resistance than PIs or DTG ✓ C/I: Eplereone, Lovastatin
		Raltegravir	RAL	Isentress & Isentress HD	 400 mg tab 600mg tab (HD)	None	400 mg po BID 1200 mg po QD new study QDMRK	Well Tolerated <ul style="list-style-type: none"> • Rash • N/D, Headache • Insomnia • ↑ LFTs, ↑ CK, rhabdo 	No CYP3A4 inx UGT1A1 substrate	<ul style="list-style-type: none"> ✓ Take without regards to meals ✓ 1st to market INSTI → Being studied: 1200 mg po QD (given as 2X 600mg) ✓ Aluminum or Magnesium antacids reduce abs'n RAL (Can take Ca Antacids if on Isentress, NOT Isentress-HD) ✓ Lower genetic barrier to resistance than PIs or DTG ✓ Avoid strong inducers of UGT (ie carbamazepine)

Class		Generic		Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
Non-nucleoside RT Inhibitors - NNRTI NNRTI <u>vir</u> MOA: NNRTIs bind allosterically in a pocket located near the catalytic site in the palm domain of the p66 subunit site of the Reverse Transcriptase (RT) enzyme Resistance: Low genetic barrier to resistance with first generation (EFV, NVP), but second generation often still active depending upon genotype.		Doravirine	DOR	Pifeltro	 100mg tab	Delstrigo TDF 1 QD	100mg po OD	Well tolerated Common SE <ul style="list-style-type: none"> Headache Diarrhea, Ab pain Abnormal Dreams 	Cyp3A4 Substrate	<ul style="list-style-type: none"> Take BID if using with rifabutin Taken without regards to food Favourable lipid profile – consider for high cardiac risk Avoid use with Strong inducers of CYP3A4 (ie Carbamazepine, rifampin) C/I: carbamazepine, oxcarbazepine, phenobarbital, phenytoin, enzalutamide, rifampin, rifapentine, mitotane, St.John's wort
		Efavirenz	EFV	Sustiva	 600 mg tab 50, 200 mg cap	Atripla TDF 1 QD	600 mg po QD <i>avoid fatty meals on empty stomach (inc abs'n leading to s/e)</i>	CNS S/E 52% <ul style="list-style-type: none"> Dizziness, vivid dreams Insomnia, somnolence Impaired concentration Hyperlipidemia <ul style="list-style-type: none"> Rash 26% (can treat through it mostly) 	CYP3A4 & 2B6 Substrate Potent inducer of CYP3A4, 2B6, UGT1A1 Inhibitor of CYP2C9/2C19/3A4 ↑ [Cocaine] ↓ [conc] of: <ul style="list-style-type: none"> Benzos (-olam are issues, -pams are ok) most opioids 	<ul style="list-style-type: none"> Let MD know if history of psych illness → should avoid this med Vivid dreams bothersome to some, enjoyable to some other CNS s/e worst after 1st or 2nd dose, often improve in 2-4 weeks Methadone: monitor for symptoms of opioid withdrawal May cause false +ve cannabinoid test Pregnancy: birth defects reported in primate studies but no evidence of ↑ risk in human studies; screening for antenatal/postpartum depression recommended C/I: St. John's wort, elbasavir/grazoprevir, cisapride, midazolam, triazolam, pimoziide, ergot Inducers of CYP3A4 will decrease serum concentration of EFV; EFV may decrease concentrations of CYP3A4 substrates
		Etravirine	ETR	Intelence	 100, 200 mg tab	None	200 mg po BID or 400 mg po QD <i>w/ food</i>	<ul style="list-style-type: none"> Rash 9% Dyslipidemia Nausea Rhabdomyolysis uncommon 	CYP3A4, 2C9, 2C19 substrate Weak inducer of CYP2B6/ 3A4 Weak Inhibitor of 2C9/ 2C19	<ul style="list-style-type: none"> Tabs are large: dissolve readily in water for liquid dosing, however whole tablet is chalky, large and often difficult to swallow. Severe rash reported C/I: ombitasvir/paritprevir/ritonavir and dasabuvir regimens
		Nevirapine	NVP	Viramune	 200 mg IR tab 400 mg SR tab	None	200 mg QD X 14 days then 200 mg po BID OR 400mg XR QD	<ul style="list-style-type: none"> Rash 37% Hepatic failure Fever Nausea 	CYP3A4 substrate Potent inducer of CYP2B6/ 3A4	<ul style="list-style-type: none"> Black Box: severe rash & hepatotoxicity. AVOID if CD4>250 (women) or 400 cells/mm³ (male) hypersensitivity → can treat through rash, but if with fever and elevated LFTs = sign of hypersensitivity, d/c C/I: St. John's wort; avoid Strong inducers of CYP3A4 (Carbamazepine) Lead-in phase to reduce rash, occurs in 1st 6 wks, more in women... also drug is auto inducer (will reduce its own level) XR version (400 mg QD) <small>more common</small>
		Rilpivirine	RPV	Edurant	 25 mg tab	Complera TDF 1 QD Odefsey TAF 1 QD Juluca 1 QD Cabenuva IM q1-2 months	25 mg po QD <i>w/ food ++</i> <i>monthly IM injection (with cabotegravir/ Cabenuva)</i>	<ul style="list-style-type: none"> Rash 3% Headache 3% Insomnia Depression 8% Hyperlipidemia Hepatotoxicity 	CYP3A4 Substrate ↓ [Edurant] with: Inducers of CYP3A Drugs ↑ pH	<ul style="list-style-type: none"> Among smallest HIV tablets Best absorbed with a good meal (350-500 calories) PPI contraindicated, H-2 blockers need dose reduction. Favorable lipid profile Lower virologic efficacy, not suggested for VL > 100,000 & CD4 < 200 Can exacerbate psych symptoms QTc prolongation (dose related) Available as long-acting q1-2 monthly injectable with cabotegravir (CAB): 900 mg IM initiation, then 600 mg IM monthly/900 mg IM q2months

Class		Generic		Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
Protease Inhibitors - PI	Protease Inhibitor ____navir	Ritonavir PK booster	RTV	Norvir	 100 mg tab 80 mg/mL oral	None	100-200 po/day	<ul style="list-style-type: none"> Bitter aftertaste Numbness around mouth at HIV doses N/V/D ↑ LFTs, ↑ TG Hyperlipidemia 	Inducer of: <ul style="list-style-type: none"> 1A2, 2B6, 2C9, 2C19, UGT Inhibitor of: <ul style="list-style-type: none"> 3A4 strong 2D6, 2C8, 	<ul style="list-style-type: none"> Black Box: many drug interactions → life threatening Extremely strong inhibition 3A4, P-GP and other transporters HIV activity at higher doses but toxicity & inx (not used for HIV treatment) 100 mg per dose to boost (e.g. if using with BID drug, give 100 mg BID) Fluorinated steroids (even inhaled, injected, topical) can lead to Cushing's syndrome
	Class S/E: Hyperlipidemia									
	MOA: High genetic barrier to resistance when boosted									
	1 st gen PIs not used usually:									
	Fosamprenavir FPV (Telzir)									
Indinavir IDV (Crixivan)										
Nelfinavir NFV (Viracept)										
Saquinavir SQV (Invirase)										
Tipranavir TPV (Aptivus)										
	Darunavir	DRV	Prezista	 <u>Prezista</u> : 600, 800 mg tab <u>Prezcobix</u> : 800 mg + 150 mg COB tab	Prezcobix ^w cobicistat 1 QD Symtuza ^w cobicistat 1 QD	600 mg po BID or 800 mg po QD w/ food + RTV 100 mg QD-BID or cobicistat 150 mg QD	<ul style="list-style-type: none"> Rash 10% Headache N/D ↑ amylase Hepatotoxic Kidney stones? 	CYP3A4 Substrate/ Inhibitor CYP 2C9 inducer Failure of contraceptives	<ul style="list-style-type: none"> Currently highest prescribed PI: 2nd Gen PI Works in those who are resistant to other PIs Cobicistat will cause tubular creatinine reabsorption → SCr "pseudo" rise of 10-30 mmol/L from pts normal baseline Needs RTV or COBI boosting When boosted with RTV: 800 QD + 100 mg RTV for naïve, [600 mg + 100 RTV] BID for experienced Contains Sulfa moiety Avoid with use of drugs that depend on CYP3A4 metabolism and has narrow therapeutic window (ie Alfuzosin) 	
	Atazanavir	ATV	Reyataz	 <u>Reyataz</u> : 150, 200, 300mg tab <u>Evotaz</u> : 300 mg + 150 mg COB tab	Evotaz ^w cobicistat	300 mg po QD boosted w RTV 100 mg or cobicistat 150 mg 400 mg po QD unboosted w/ food (>390 cal)	<ul style="list-style-type: none"> Kidney stone 10 fold inc Increased billi 60% (cosmetic, not harmful) D/N/Abd pain Headache 6% Rash 20% 	CYP3A4 substrate inducers/inhibitors of 3A4 will interact Drugs inc pH	<ul style="list-style-type: none"> 2X150 mg (300 mg) + RTV 100 mg daily (TDF increases excretion of ATV) 2X200 mg (400 mg) unboosted with Kivexa (needs RTV boost w others) Increased QTc, PR, more torsades Jaundice as result of increased direct bilirubin → not harmful, pt may decide to switch for cosmetic reason Absorption reduced when taken with H2Ra and PPI H2RA: Unboosted → ATV ≥ 2 hrs before or ≥ 10 hrs after Boosted → same time or >10 hrs after H2RA PPI: Unboosted → not recommended for co-administration, Boosted → ≥ 12 hrs after PPI Consider avoiding in CKD 	
	Lopinavir / RTV	LPV	Kaletra	 200 mg + 50 mg RTV tab	Kaletra ⁴ QD or 2 BID	400 mg po BID 800 mg po QD	<ul style="list-style-type: none"> Diarrhea 24% N ↑ LFTs, billi, Lipids, MI 	CYP3A4 Substrate/ Inhibitor Many ↑ [benzos] Fentanyl Phenytoin	<ul style="list-style-type: none"> Dangerous (deadly) interaction with fentanyl Unpredictable interaction with phenytoin → RTV inhibitor, LPV inducer of CYP. Unpredictable pheny level (unpredictable) +++ diarrhea, worse with q24h May need higher doses if tx experienced or later in pregnancy May have Cardiac risk 	

Class	Generic		Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
CCR-5 Co Receptor Antagonists	<i>Maraviroc</i>	MVC	<i>Celsentri</i>	 150, 300 mg tab	None	150-600 mg po BID Standard: 300mg BID with or without food	<ul style="list-style-type: none"> cough¹³ Rash^{10%}, Abdo pain Dizziness, myalgia Ortho hypo, syncope Upper resp infection 	CYP3A4, P-gp substrate inducers/inhibitors of 3A4 or P-gp will interact	<ul style="list-style-type: none"> ✓ Black Box: hepatotoxicity, systemic allergic reaction ✓ Used later in tx only for CCR-5-tropic HIV virus, cannot use for CXCR-4-tropic virus which is seen more and more in advance dx ✓ Avoid: Rifampine, Dasabuvir + Ombitasvir/Paritaprevir/RTV
Fusion Inhibitor	<i>Enfuvirtide</i>	ENF	<i>Fuzeon</i>	 90 mg vial	None	90 mg SC BID	<ul style="list-style-type: none"> Inj site reaction^{~100% pt} Bacterial pneumonia Hypersensitivity^{<1%} 	Neither inducer or inhibitor of CYP enzymes	<ul style="list-style-type: none"> ✓ Was historically used in era between 1st and 2nd generation PIs ✓ Unstable drug, dose needs to be prepared before administering each dose ✓ No cross resistance with other ARVs
Entry Inhibitor	<i>Ibalizumab-uiyk</i>	IBA	<i>Trogarzo</i>	 150mg/mL vial	None	2000mg IV single dose then, 800mg Q2W	<ul style="list-style-type: none"> Dizziness Diarrhea, Nausea Skin Rash 	Neither inducer or inhibitor of CYP enzymes	<ul style="list-style-type: none"> ✓ Indication: Treatment of HIV with combination of other ARV in heavily experienced patients with multidrug resistant infection failing current therapy ✓ Infused over 15-30 minutes (Loading dose no less than 30 minutes) ✓ Each 2 mL vial delivers 1.33mL containing 200mg of IBA ✓ If maintenance dose missed (>3 days) then loading dose needs to be given again ✓ No cross resistance with other ARVs ✓ Not Approved in Canada
gp120 Attachment Inhibitor	<i>Fostemsavir</i>	FTR	<i>Rukobia</i>	 600 mg tab	None	600 mg BID with or without food	<ul style="list-style-type: none"> Headache Skin Rash Micturition Urgency N/V/D Fatigue 	CYP3A4 (Partial), P-gp, BCRP substrate Strong CYP3A4 inducers will interact; fostemsavir inhibits OATP1B1/3, BCRP	<ul style="list-style-type: none"> ✓ Indication: Treatment of HIV in combination with other ARV in heavily treatment experienced HIV patients with multi-drug resistant HIV-1 failing current ARV due to resistance, intolerance or safety considerations ✓ Prodrug of small molecule Temsavir ✓ BRIGHT study 96 wks (Ackerman et al. AIDS 2021;35:1061-72.) ✓ Contraindicated with strong CYP3A4 inducers (anticonvulsants, mitotane, enzalutamide, rifampin, St. John's wort)

Class	Generic		Brand	Preparations	Combo Pill	Dosing	Side Effects	Drug Interactions	Comments
Capsid inhibitor	Lenacapavir	LEN	Sunlenca	  300 mg tab 309 mg/mL (1.5 mL vials)	None	Initiation: Day 1 & 2: 600 mg po daily Day 8: 300 mg po Day 15: 927 mg SC Simplified initiation (approved in US): Day 1: 927 mg SC and 600 mg po Day 2: 600 mg po Maintenance: 927 mg q6mo	<ul style="list-style-type: none"> Injection site reactions nausea 	Substrate of CYP3A4, P-gp, UGT1A1. Strong inducers of CYP3A4/P-gp/UGT1A1 are contraindicated; not recommended with moderate CYP3A4 and P-gp inducers, and not with strong inhibitors of CYP3A4/P-gp/UGT1A1 together. Moderate CYP3A4 inhibitor.	<ul style="list-style-type: none"> ✓ Indication: Treatment of HIV in combination with other ARV in adults with multi-drug resistant HIV-1 for whom it is otherwise not possible to construct a suppressive antiviral regimen ✓ Contraindicated with strong CYP3A4/P-gp/UGT1A1 inducers (anticonvulsants, rifampin, St. John's wort)

OBT = optimized background therapy