

# Antiretrovirals and Recreational Drugs

Charts revised October 2019. Full information available at [www.hiv-druginteractions.org](http://www.hiv-druginteractions.org)

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	ATV/c	ATV/r	DRV/c	DRV/r	LPV/r	DOR	EFV	ETV	NVP	RPV	MVC	BIC/F/TAF	DTG	EVG/c/F/TAF	EVG/c/F/TDF	RAL	ABC	FTC or 3TC	F/TAF	TDF	ZDV
<b>Stimulants</b>																					
Cocaine	↑ <sup>a</sup> ♥	↑ <sup>a</sup> ♥	↑ <sup>a</sup>	↑ <sup>a</sup>	↑ <sup>a</sup> ♥	↔	↑ <sup>b</sup>	↑ <sup>b</sup>	↑ <sup>b</sup>	↔♥	↔	↔	↔	↑ <sup>a</sup>	↑ <sup>a</sup>	↔	↔	↔	↔	↔	↔
Ecstasy (MDMA)	↑ <sup>c</sup>	↑ <sup>c</sup>	↑ <sup>c</sup>	↑ <sup>c</sup>	↑ <sup>c</sup>	↔	↔	↔	↔	↔	↔	↔	↔	↑ <sup>c</sup>	↑ <sup>c</sup>	↔	↔	↔	↔	↔	↔
Mephedrone	↑ <sup>d</sup>	↑ <sup>d</sup>	↑ <sup>d</sup>	↑ <sup>d</sup>	↑ <sup>d</sup>	↔	↔	↔	↔	↔	↔	↔	↔	↑ <sup>d</sup>	↑ <sup>d</sup>	↔	↔	↔	↔	↔	↔
Methamphetamine	↑	↑	↑	↑	↑	↔	↔	↔	↔	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Poppers (Amyl nitrate)	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
<b>Depressants</b>																					
Alcohol	↔	↔	↔	↔	↔ <sup>e</sup>	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Alprazolam	↑	↑ <sup>f</sup>	↑	↑ <sup>f</sup>	↑ <sup>f</sup>	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Codeine	↑ <sup>g</sup>	↑ <sup>g</sup>	↑ <sup>g</sup>	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↓ <sup>g</sup>	↓ <sup>g</sup>	↓ <sup>g</sup>	↔	↔	↔	↔	↑ <sup>g</sup>	↑ <sup>g</sup>	↔	↔	↔	↔	↔	↔
Diazepam	↑	↑	↑	↑	↑	↔	↓	↑	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
GHB (gamma hydroxybutyrate)	↑ <sup>h</sup>	↑ <sup>h</sup>	↑ <sup>h</sup>	↑ <sup>h</sup>	↑ <sup>h</sup>	↔	↔	↔	↔	↔	↔	↔	↔	↑ <sup>h</sup>	↑ <sup>h</sup>	↔	↔	↔	↔	↔	↔
Heroin (Diamorphine)	↔ <sup>i</sup>	↓ <sup>i</sup>	↔ <sup>i</sup>	↓ <sup>i</sup>	↓ <sup>i</sup>	↔	↑	↔ <sup>i</sup>	↔	↔	↔	↔	↔	↔ <sup>i</sup>	↔ <sup>i</sup>	↔	↔	↔	↔	↔	↔
Hydrocodone	↑	↑	↑	↑	↑	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Hydromorphone	↔	↓	↔	↓	↓	↔	↑	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ketamine	↑	↑	↑	↑	↑	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Methadone	↔♥	↔♥	↑	↓16%	↓53%♥	↓5%	↓26%	↓52%	↑6%	↓~50%	↓16%♥	↔	↔	↓2%	↑7%	↑7%	↔	↓	↔	↔	↔
Midazolam (oral)	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↓18%	↓ <sup>k</sup>	↓	↓	↔	↔	↔	↔	↑ <sup>j</sup>	↑ <sup>j</sup>	↔	↔	↔	↔	↔	↔
Morphine	↔ <sup>i</sup>	↓ <sup>i</sup>	↔ <sup>i</sup>	↓ <sup>i</sup>	↓ <sup>i</sup>	↔	↑	↔ <sup>i</sup>	↔	↔	↔	↔	↔	↔ <sup>i</sup>	↔ <sup>i</sup>	↔	↔	↔	↔	↔	↔
Oxycodone	↑	↑	↑	↑	↑160%	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Pethidine (Meperidine)	↑	↓ <sup>m</sup>	↑	↓ <sup>m</sup>	↓ <sup>m</sup>	↔	↓ <sup>m</sup>	↓ <sup>m</sup>	↓ <sup>m</sup>	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Temazepam	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Triazolam	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↑ <sup>j</sup>	↔	↓ <sup>k</sup>	↓	↓	↔	↔	↔	↔	↑ <sup>j</sup>	↑ <sup>j</sup>	↔	↔	↔	↔	↔	↔
<b>Hallucinogens</b>																					
Cannabis	↑ <sup>n</sup> ↓	↑ <sup>n</sup> ↓	↑ <sup>n</sup>	↑ <sup>n</sup>	↑ <sup>n</sup>	↔	↑ <sup>o</sup>	↑ <sup>o</sup>	↔	↔	↔	↔	↔	↑ <sup>n</sup>	↑ <sup>n</sup>	↔	↔	↔	↔	↔	↔
LSD (Lysergic acid diethylamide)	↑ <sup>p</sup>	↑ <sup>p</sup>	↑ <sup>p</sup>	↑ <sup>p</sup>	↑ <sup>p</sup>	↔	↓	↓	↓	↔	↔	↔	↔	↑ <sup>p</sup>	↑ <sup>p</sup>	↔	↔	↔	↔	↔	↔
Phencyclidine (PCP, angel dust)	↑ <sup>q</sup>	↑ <sup>q</sup>	↑ <sup>q</sup>	↑ <sup>q</sup>	↑ <sup>q</sup>	↔	↓	↓	↓	↔	↔	↔	↔	↑ <sup>q</sup>	↑ <sup>q</sup>	↔	↔	↔	↔	↔	↔

**Colour Legend**

	No clinically significant interaction expected.
	These drugs should not be coadministered.
	Potential interaction which may require a dose adjustment or close monitoring.
	Potential interaction predicted to be of weak intensity. No <i>a priori</i> dosage adjustment is recommended.

**Text Legend**

- ↑ Potential increased exposure of the recreational drug
- ↓ Potential decreased exposure of the recreational drug
- ↔ No significant effect
- ♥ One or both drugs may cause QT and/or PR prolongation. ECG monitoring is advised if coadministered with atazanavir or lopinavir; caution is advised with rilpivirine as supratherapeutic doses of rilpivirine (75 and 300 mg once daily) were shown to prolong the QT interval.
- Numbers refer to increase or decrease in AUC as observed in drug-drug interaction studies.
- ↑↑ Potential increased exposure of HIV drug
- ↓↓ Potential decreased exposure of HIV drug

**Notes**

- a Clinical relevance unknown as cocaine is metabolized by other non-CYP mediated pathways. Ensure patient is aware of signs/symptoms of cocaine toxicity (tremor, seizures, anxiety, headache, increased body temperature).
- b Concentrations of hepatotoxic metabolite increased.
- c Ensure patient is aware of signs/symptoms of ecstasy toxicity (increased body temperature, dehydration, dry mouth, tense jaw, teeth grinding).
- d Ensure patient is aware of signs/symptoms of mephedrone toxicity (agitation, tachycardia, hypertension).
- e Not recommended with oral solution due to large amount of propylene glycol in the solution which may compete with alcohol elimination.
- f Initial inhibitory effect followed by induction in presence of ritonavir.
- g Potential opiate withdrawal due to reduced conversion to morphine.
- h Ensure patient is aware of signs/symptoms of GHB toxicity (myoclonic or seizure activity, bradycardia, respiratory depression, loss of consciousness).
- i Heroin is rapidly deacetylated to 6-monoacetylmorphine (6-MAM) by plasma esterases and subsequently to morphine by liver esterases. 6-MAM enters the brain at a much faster rate than morphine and has been correlated to the acute effects of heroin. PIs/EFV are unlikely to alter 6-MAM concentrations but may alter morphine concentrations. Also PIs, ETV, EVG/c could increase the amount of morphine entering the brain (via P-gp inhibition) and thus potentiate the effects of opiate in the CNS.
- j Increased sedation or respiratory depression.
- k Contraindicated by manufacturer.
- l Amount of morphine entering the CNS may be increased due to inhibition of P-gp and thus potentiate the effects of opiate in the CNS.
- m Concentrations of neurotoxic metabolite increased.
- n Concentrations of tetrahydrocannabinol (THC, the psychoactive component of cannabis) could be increased, although to a modest extent.
- o Concentrations of tetrahydrocannabinol (THC, the psychoactive component of cannabis) could be increased.
- p Ensure patient is aware of signs/symptoms of LSD toxicity (hallucination, agitation, psychosis, flashbacks).
- q Ensure patient is aware of signs/symptoms of PCP toxicity (seizure, hypertension, increased body temperature).