www.hiv-druginteractions.org

Antiretrovirals and Recreational Drugs

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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
Stimulants																					
Cocaine	↑ a♥	↑ a♥	↑ a	↑ a	↑ a♥	↔	↑ b	↑ b	↑ b	↔♥	↔	↔	↔	↑ a	↑ a	↔	↔	↔	↔	↔	↔
Ecstasy (MDMA)	↑ c	↑ c	↑ c	↑ c	↑ c	↔	↔	↔	↔	↔	↔	↔	↔	↑ c	↑ c	↔	↔	↔	↔	↔	↔
Mephedrone	↑ d	↑ d	↑ d	↑ d	↑ d	↔	↔	↔	↔	↔	↔	↔	↔	↑ d	↑ d	↔	↔	↔	↔	↔	↔
Methamphetamine	↑	↑	↑	↑	↑	↔	↔	↔	↔	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Poppers (Amyl nitrate)	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Depressants																					
Alcohol	↔	↔	↔	↔	↔ e	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	⇑ 41%	↔	↔	↔	↔
Alprazolam	↑	↑ f	↑	↑ f	↑ f	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Codeine	↑ g	↑ g	↑ g	↑ g	↑ g	↔	↓ g	↓ g	↓ g	↔	↔	↔	↔	↑ g	↑ g	↔	↔	↔	↔	↔	↔
Diazepam	↑	↑	↑	↑	↑	↔	↓	↑	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
GHB (gamma hydroxybutyrate)	↑ h	↑ h	↑ h	↑ h	↑ h	↔	↔	↔	↔	↔	↔	↔	↔	↑ h	↑ h	↔	↔	↔	↔	↔	↔
Heroin (Diamorphine)	↔ i	↓ i	↔ i	↓ i	↓ i	↔	↑	↔ i	↔	↔	↔	↔	↔	↔ i	↔ i	↔	↔	↔	↔	↔	↔
Hydrocodone	↑	↑	↑	↑	↑	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Hydromorphone	↔	↓	↔	↓	↓	↔	↑	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ketamine	↑	↑	↑	↑	↑	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Methadone	↔♥	↔♥	↑	↓16%	↓53% ♥	⇓5% ⇓26%	↓52%	↑6%	↓~50%	↓16%♥	↔	↔	↓2%	↑7%	↑7%	↔	↓	↔	↔	↑~5%	⇑
Midazolam (oral)	↑ j	↑ j	↑ j	↑ j	↑ j	↓18%	↓ k	↓	↓	↔	↔	↔	↔	↑ j	↑ j	↔	↔	↔	↔	↔	↔
Morphine	↔ l	↓ l	↔ l	↓ l	↓ l	↔	↑	↔ l	↔	↔	↔	↔	↔	↔ l	↔ l	↔	↔	↔	↔	↔	↔
Oxycodone	↑	↑	↑	↑	↑160%	↔	↓	↓	↓	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Pethidine (Meperidine)	↑	↓ m	↑	↓ m	↓ m	↔	↓ m	↓ m	↓ m	↔	↔	↔	↔	↑	↑	↔	↔	↔	↔	↔	↔
Temazepam	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Triazolam	↑ j	↑ j	↑ j	↑ j	↑ j	↔	↓ k	↓	↓	↔	↔	↔	↔	↑ j	↑ j	↔	↔	↔	↔	↔	↔
Hallucinogens																					
Cannabis	↑ n ⇓	↑ n ⇓	↑ n	↑ n	↑ n	↔	↑ o	↑ o	↔	↔	↔	↔	↔	↑ n	↑ n	↔	↔	↔	↔	↔	↔
LSD (Lysergic acid diethylamide)	↑ p	↑ p	↑ p	↑ p	↑ p	↔	↓	↓	↓	↔	↔	↔	↔	↑ p	↑ p	↔	↔	↔	↔	↔	↔
Phencyclidine (PCP, angel dust)	↑ q	↑ q	↑ q	↑ q	↑ q	↔	↓	↓	↓	↔	↔	↔	↔	↑ q	↑ q	↔	↔	↔	↔	↔	↔

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 *a priori* dosage adjustment is recommended.

Text Legend

↑ Potential increased exposure of the recreational drug
↓ Potential decreased exposure of the recreational drug
↔ No significant effect

⇑ Potential increased exposure of HIV drug
⇓ Potential decreased exposure of HIV drug

♥ 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.

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).

Abbreviations ATV atazanavir DRV darunavir LPV lopinavir /c cobicistat /r ritonavir DOR doravirine EFV efavirenz ETV etravirine NVP nevirapine RPV rilpivirine MVC maraviroc
BIC bictegravir DTG dolutegravir EVG elvitegravir RAL raltegravir ABC Abacavir F or FTC emtricitabine 3TC lamivudine TAF tenofovir alafenamide TDF tenofovir-DF ZDV zidovudine