

There are a number of herb-drug interactions that can occur when using CBD. Cannabinoids such as CBD can inhibit cytochrome p450 enzymes in the liver. This is an important consideration when CBD is being used alongside other medications, particularly ones that are metabolised by CYP enzymes which CBD inhibits.

This may lead to the potentiation of a drug's effects, and lead to higher levels of potentially toxic metabolites. Unless otherwise considered within a treatment plan, CBD may affect a drug(s) treatment efficacy for health condition(s) for which the drug is prescribed.

CBD may also potentiate the effects of other drugs due to additive effects beyond just metabolic activity of liver enzymes.

CBD main inhibitory effects are on CYP2C and CYP3A4 enzyme varieties. The efficacy of drugs, and levels of their metabolites broken down by these enzyme families may be altered as a result of CBD co-administration.

Below is evidence of an interaction between CBD and CYP substrates, inducers and inhibitors. Theoretically, CBD may have similar effects to other drugs metabolised by the same CYP enzymes, although evidence has not yet been gathered.

Drug Class	Drug(s)	Interaction	Effect
Anticonvulsants	Eslicarbazepine		Co-administration with CBD results in modest increase in plasma levels of eslicarbazepine (1).
	Runamide		Co-administration with CBD results in modest increase in plasma levels of runamide (1).
	Phenytoin		Increase in phenytoin concentration
	Carbamazepine and phenytoin	Drugs that induce CYP3A4	CYP3A4 induction may accelerate metabolism of CBD leading to reduced bioavailability (6), (9)
	Zonisamide	CBD inhibits CYP3A4.	CBD has been associated with an increase in plasma levels of the CYP3A4 substrates Zonisamide (2)
	Toporimate	CBD inhibits CYP2C9	Blood levels of Toporimate have increased with CBD use (2).
Antifungal	ketoconazol and Itraconazol	Drugs that inhibit CYP3A4.	This may inhibit metabolism of CBD and lead to higher serum levels
Antiretroviral	Ritonavir	Drugs that inhibit CYP3A4.	CYP3A4 inhibition may slow metabolism of CBD and lead to higher serum levels (6), (9)
Antibiotic	Clarithromycin	Drugs that inhibit CYP3A4.	CYP3A4 inhibition may slow metabolism of CBD and lead to higher serum levels (6), (9)
	Rifampicin	Drugs that induce CYP3A4	CYP3A4 induction may accelerate metabolism of CBD leading to reduced bioavailability (6), (9)
Benzodiazapine	Clobazam	CBD inhibits CYP2C19.	Increase in clobazam concentration (2).
Barbiturate	Phenobarbital	Drugs that induce CYP3A4	CYP3A4 induction may accelerate metabolism of CBD leading to reduced bioavailability (6), (9)

CNS Depressants	Benzodiazepines, pentobarbital, phenobarbital, secobarbital, thiopental, fentanyl, morphine, propofol	Additive effects.	CBD has sedative and hypnotic effects (3). Drugs with shared effects may cause additive effects.
Immunosuppressive	Tacrolimus	CBD inhibits CYP3A4.	CBD has been associated with an increase in plasma levels of the CYP3A4 substrates Tacrolimus (4)
	Everolimus	CBD inhibits CYP3A4.	CBD has been associated with an increase in plasma levels of the CYP3A4 substrates Everolimus (5).
Proton pump inhibitor (PPI)	Omeprazole	CBD can inhibit CYP2D6	Potential for increased levels of Omeprazole.
Antipsychotic	Risperidone	CBD can inhibit CYP2D6	Potential for increased levels of Risperidone.
NSAID	Diclofenac	CBD inhibits CYP2C9	Potential for increased levels of Diclofenac.
Anticoagulant	Warfarin	CBD inhibits CYP2C9	Rise in International Normalized Ratio (INR) levels (7)
Bi-polar / Epilepsy	Valproic Acid	CBD inhibits CYP2A6	Elevated liver transaminases (11) (12).
Muscle Relaxant	Chlorzoxazone	CBD inhibits CYP1A1 & CYP2E1	CBD inhibited the chlorzoxazone-6-hydroxylase activity of recombinant CYP2E1 (8)
Respiratory	Theophylline	CBD inhibits CYP1A1.	Increased Theophylline clearance (10)
Hypertension	Lovastatin, atorvastatin and simvastatin	CBD inhibits CYP3A4. Additive effects.	Possible increased levels of statins. CBD reduces blood pressure - possible additive anti-hypertensive effect.