



Resource: ART Drug-Drug Interactions

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Table 7: Dolutegravir (DTG) Interactions (also see drug package inserts)		
Class or Drug	Mechanism of Action	Clinical Comments
Dofetilide [Feng and Varma 2016; Max and Vibhakar 2014]	DTG inhibits renal OCT2 and MATE1, and these transporters eliminate dofetilide.	Avoid concomitant use (may cause QT prolongation or torsades de pointes).
Metformin [Gervasoni, et al. 2017; Song, et al. 2016]	DTG inhibits renal OCT2, MATE1, and MATE2, which are involved in metformin elimination.	<ul style="list-style-type: none"> Administer at lowest dose possible to achieve glycemic control; monitor for adverse effects. Titrate to achieve clinical effect but do not exceed 1,000 mg daily; monitor for adverse effects, including lactic acidosis.
Divalent and trivalent cations (aluminum, magnesium, calcium, zinc, etc.) [Song, et al. 2015; Cottrell, et al. 2013]	DTG chelates with cations forming insoluble compounds that inactivate both drugs.	<ul style="list-style-type: none"> Administer DTG 2 hours before or 6 hours after. Calcium- and iron-containing supplements: DTG and supplement may be used concomitantly if taken with food.
Iron salts [Song, et al. 2015]	DTG chelates with cations, forming insoluble compounds that inactivate both drugs.	<ul style="list-style-type: none"> Administer DTG 2 hours before or 6 hours after. DTG and iron salts may be used concomitantly if taken with food.
Atenolol	Atenolol is eliminated via OCT2 and MATE1, which are inhibited by DTG. Coadministration may increase atenolol levels.	<ul style="list-style-type: none"> Start at lower atenolol dose and titrate slowly to achieve clinical effect. If patient is already using atenolol but starting DTG, monitor for atenolol-related adverse effects. Reduce atenolol dose if necessary or switch to another ARV.
Etravirine (ETR) [Green, et al. 2017]	<ul style="list-style-type: none"> ETR induces UGT1A1 and CYP3A enzymes. DTG is a substrate of UGT1A1 and CYP3A enzymes. 	ETR reduces DTG concentrations. Do not use concomitantly unless boosted PI is also part of treatment regimen.
Rifabutin, rifampin, rifapentine	<ul style="list-style-type: none"> Rifabutin: No clinically significant interactions are expected. Rifampin: CYP3A induction reduces DTG bioavailability. Rifapentine: Reduced rifapentine levels are expected. 	<ul style="list-style-type: none"> Rifabutin: No dose adjustments are necessary. Rifampin: When used concomitantly, administer DTG at 50 mg twice per day instead of 50 mg once per day in patients without suspected or documented INSTI-associated resistance mutations. Consider rifabutin in patients with INSTI resistance. Rifapentine, once weekly: <ul style="list-style-type: none"> If using concomitant DTG 50 mg once daily, monitor for virologic efficacy. Do not coadminister with DTG 50 mg twice daily. Rifapentine, once daily: Do not coadminister DTG.

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Abbreviations: ARV, antiretroviral; CYP, cytochrome P450; INSTI, integrase strand transfer inhibitor; MATE, multidrug and toxin extrusion; OCT, organic cation transporter.

No significant interactions/no dose adjustments necessary (see guideline section [Drug-Drug Interactions by Common Medication Class](#)): Common oral antibiotics; anticoagulants; antiplatelet medications; statins; acid-reducing agents; asthma and allergy medications; long-acting beta agonists; inhaled and injected corticosteroids; antidepressants; benzodiazepines; sleep medications; antipsychotics; nonopioid pain medications; opioid analgesics and tramadol; hormonal contraceptives; erectile and sexual dysfunction agents; alpha-adrenergic antagonists for benign prostatic hyperplasia; tobacco and smoking cessation products; alcohol, disulfiram, and acamprosate; methadone, buprenorphine, naloxone, and naltrexone; immunosuppressants; COVID-19 therapeutics; mpox treatments; gender-affirming hormones; ADHD medications and lithium.

References

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