Resource: ART Drug-Drug Interactions

April 2023

Table 5: Bictegravir (BIC) Interactions (also see drug package inserts)

Class or Drug	Mechanism of Action	Clinical Comments
Antacids	BIC chelates with cations, forming insoluble compounds that inactivate both drugs.	• **Aluminum/magnesium-containing antacids:** Administer antacids at least 6 hours before or 2 hours after BIC. • **Calcium-containing antacids:** – Administer BIC and antacids together with food. – Do not coadminister BIC simultaneously with antacids on empty stomach.
Other polyvalent cations	BIC can chelate with cations, reducing absorption of both drugs.	**Calcium- or iron-containing supplements:** • If taken with food, BIC can be taken at same time. • If not taken with food, these supplements should be administered as with antacids.
Dofetilide [Feng and Varma 2016]	BIC inhibits renal OCT2 and MATE1, and these transporters eliminate dofetilide.	Avoid concomitant use (may cause QT prolongation or torsades de pointes).
Metformin [Custodio, et al. 2017]	BIC inhibits renal OCT2 and MATE1, which are involved in metformin elimination.	• Drug interaction studies suggest that prospective dose adjustment of metformin is not required when using BIC. • Administer at lowest dose possible to achieve glycemic control; monitor for adverse effects.
Atenolol	Atenolol is eliminated via OCT2 and MATE1, which are inhibited by BIC. Coadministration may increase atenolol levels.	• Start at lower atenolol dose and titrate slowly to achieve clinical effect. • If patient is already using atenolol but starting BIC, monitor for atenolol-related adverse effects. • Reduce atenolol dose if necessary or switch to another ARV.
Cyclosporine	Cyclosporine may increase BIC concentrations to modest degree via P-gP inhibition.	Monitor for BIC-related adverse effects.
Rifabutin, rifampin, rifapentine	• **Rifabutin:** CYP3A and P-gP induction decrease BIC levels. • **Rifampin, rifapentine:** CYP3A induction reduces bioavailability.	• **Rifampin:** Concomitant use is contraindicated. • **Rifabutin, rifapentine:** Concomitant use is not recommended [FDA 2021].
COVID-19 therapeutics	• **Molnupiravir and monoclonal antibodies** do not affect CYP450, P-gP, or other drug metabolism transporters. • **Nirmatrelvir/RTV:** Inhibition of CYP3A4, P-gP, and other transporters may increase plasma concentrations of other medications.	• **Molnupiravir, monoclonal antibodies:** Drug interactions are unlikely. • **Nirmatrelvir/RTV:** Drug interactions are unlikely; BIC levels may increase.

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Class or Drug	**Mechanism of Action**	**Clinical Comments**
Abbreviations: ARV, antiretroviral; CYP, cytochrome P450; DTG, dolutegravir; INSTI, integrase strand transfer inhibitor; MATE, multidrug and toxin extrusion; OCT, organic cation transporter; P-gP, P-glycoprotein; RTV, ritonavir; TDM, therapeutic drug monitoring.		
No significant interactions/no dose adjustments necessary: Common oral antibiotics (Table 19); anticoagulants (Table 21); antiplatelet drugs (Table 22); statins (Table 23); acid-reducing agents (Table 25); asthma and allergy medications (Table 27); long-acting beta agonists (Table 28); inhaled and injected corticosteroids (Table 29); antidepressants (Table 30); benzodiazepines (Table 31); sleep medications (Table 32); antipsychotics (Table 33); nonopioid pain medications (Table 35); opioid analgesics and tramadol (Table 36); hormonal contraceptives (Table 37); erectile and sexual dysfunction agents (Table 38); alpha-adrenergic antagonists for benign prostatic hyperplasia (Table 39); tobacco and smoking cessation products (Table 40); alcohol, disulfiram, and acamprosate (Table 41); methadone, buprenorphine, naloxone, and naltrexone (Table 42); mpox treatments (Table 46); gender-affirming hormones (Table 47).		

References

Custodio J, West S, Yu A, et al. Lack of clinically relevant effect of bictegravir (BIC, B) on metformin (MET) pharmacokinetics (PK) and pharmacodynamics (PD). *Open Forum Infect Dis* 2017;4(Suppl 1):S429. [PMID: PMC5631370] https://pubmed.ncbi.nlm.nih.gov/PMC5631370

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Feng B, Varma MV. Evaluation and quantitative prediction of renal transporter-mediated drug-drug interactions. *J Clin Pharmacol* 2016;56 Suppl 7:S110-21. [PMID: 27385169] https://pubmed.ncbi.nlm.nih.gov/27385169