Immunosuppressants (for SOT)

Charts revised November 2024. Full information available at www.hiv-druginteractions.org

	ATV/c	ATV/r	DRV/c	DRV/r	LPV/r	DOR	EFV	ETV	NVP	RPV oral	FTR	LEN	MVC	BIC/ F/TAF	CAB oral	CAB/ RPV	DTG	EVG/c/ F/TAF	EVG/c/ F/TDF	RAL	FTC/ TAF	FTC/ TDF
Corticosteroids																						
Prednisone	↑a	↑a	↑a	↑a	↑a	↔	↓20%	↓	↓	↔	↔	↑a	↔	↔	↔	↔	⇑ 11%	↑a	↑a	↔	↔	↔
Antimetabolites																						
Azathioprine	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Mycophenolate	↔	↓b	↔	↓b	↓b	↔	↓b	↔	↓b ⇓13%	↔	↔	↔	↔	↔	↔	↔	↔	↔	↑⇑c	↔	↔	↑⇑d
Calcineurin inhibitors																						
Ciclosporin	↑b	↑b	↑b	↑b	↑b	⇑	↓b	↓b	↓b	⇑	↔	↑b	⇑	⇑e	↔	⇑	↔	↑b	↑b	↔	⇑f	⇑g
Tacrolimus	↑b♥	↑b♥	↑b	↑b	↑b♥	↓b	↓b♡	↓b	↓b	↔♥	↔♥	↑b	↔	↔	↔	↔♥	↔	↑b	↑b	↔	↔	↔h
mTOR inhibitors																						
Everolimus	↑	↑	↑	↑	↑	↔	↓b	↓b	↓b	↔	↔	↑	↔	↔	↔	↔	↔	↑	↑	↔	↔	↔
Sirolimus	↑	↑	↑	↑	↑	↓b	↓b	↓b	↓b	↔	↔	↑b	↔	↔	↔	↔	↔	↑	↑	↔	↔	↔h
Other																						
Anti-thymocyte globulin	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Basiliximab	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Belatacept	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔

Interactions with CAB/RPV long acting injections
Pharmacokinetic interactions shown are mostly with RPV.
QT interactions shown are with RPV.

Interactions with Lenacapavir
Residual LEN may affect exposure of sensitive CYP3A4 substrates initiated within 9 months after stopping subcutaneous LEN.

Interactions with Ibalizumab
None

Interactions with Abacavir (ABC), Lamivudine (3TC), Tenofovir-DF (TDF) or Zidovudine (ZDV)
ABC: Potential decrease in mycophenolate exposure.
3TC: No clinically relevant interactions expected.
TDF: Concentrations of mycophenolate and tenofovir could be increased. Monitor renal function.
TDF: Ciclosporin may increase tenofovir concentrations. Monitor renal function.
TDF: Monitor renal function with tacrolimus and sirolimus.
ZDV: Potential risk of additive haematoxicity with azathioprine.
ZDV: Potential alteration in mycophenolate exposure, monitor plasma concentrations.

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 immunosuppressant
↓ Potential decreased exposure of the immunosuppressant
↔ 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. Rilpivirine and fostemsavir were shown to prolong the QT interval at supratherapeutic doses. Caution is advised with rilpivirine. ECG monitoring is advised with fostemsavir and drugs with a known QT prolongation risk.
♡ Efavirenz has a potential risk of QT prolongation relating specifically to homozygous carriers of CYP2B6*6/*6.
Numbers refer to increase or decrease in AUC as observed in drug-drug interaction studies.

Notes

a Risk of elevated corticosteroid levels, Cushing's syndrome and adrenal suppression. This risk is present for oral and injected administration, and also for topical, inhaled or eye drop formulations.
b TDM of immunosuppressant is recommended.
c Concentrations of tenofovir-DF may increase, but no effect on elvitegravir, cobicistat or emtricitabine is expected. Monitor renal function.
d Concentrations of both tenofovir and mycophenolate could be increased due to competition for active tubular secretion. Monitor renal function. No effect on emtricitabine expected.
e Coadministration may increase concentrations of bictegravir and tenofovir alafenamide; no effect on emtricitabine is expected.
f Coadministration may increase concentrations of tenofovir alafenamide; no effect on emtricitabine is expected.
g Concentrations of tenofovir may increase. Monitor renal function. No effect on emtricitabine expected.
h Monitor renal function.

Abbreviations ATV atazanavir, DRV darunavir, LPV lopinavir, /c cobicistat, /r ritonavir, DOR doravirine, EFV efavirenz, ETV etravirine, NVP nevirapine, RPV rilpivirine, FTR fostemsavir, LEN lenacapavir, MVC maraviroc, BIC bictegravir, CAB cabotegravir, DTG dolutegravir, EVG elvitegravir, RAL raltegravir, F or FTC emtricitabine, TAF tenofovir alafenamide, TDF tenofovir-DF