Clinically relevant Drug-Drug interaction between AEDs and medications used in the treatment of COVID-19 patients

The Liverpool Drug Interaction Group (based at the University of Liverpool, UK), in collaboration with the University Hospital of Basel (Switzerland) and Radboud UMC (Netherlands) (http://www.covid19-druginteractions.org/) is constantly updating a list of interactions for many comedication classes. This table is adapted from their valuable work and includes other drugs. **In light of pharmacological interaction, single cases management is mandatory.**

**Drugs reported (constantly updated):** ATV, atazanivir; DRV/c, darunavir/ritonavir; LPV/r, lopinavir/ritonavir; RDV, remdesivir; FAVI, favipiravir; CLQ, chloroquine; HCLQ, hydroxychloroquine; NITA, nitazoxanide; RBV, ribavirin; TCZ, tocilizumab; IFN-β-1a; interferon β-1a; OSV, oseltamivir.

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*Should not be administered without booster drug (ritonavir or cobicistat).

† Potential increased exposure of the co-medication; ‡ Potential decreased exposure of the co-medication; \* Potential increased exposure of COVID-19 drug; \* Potential decreased exposure of COVID-19 drug; ↔ No significant effect; ♥ One or both drugs may cause QT and/or PR prolongation.

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1 Currently, the Johnson & Johnson, holder of Janssen Pharmaceutica owner of the drug Darunavir, highlighted the lack of evidence to support use of Darunavir-based treatments for SARS-CoV-2 (https://www.jnj.com/lack-of-evidence-to-support-darunavir-based-hiv-treatments-for-coronavirus).
2 Some data on drug interactions of Remdesivir are not available yet.
3 An increase in IL-6, as well as other cytokines, can improve plasmatic concentration of administered drugs reducing hepatic metabolism (CYP-mediated), a treatment with Tocilizumab (anti-IL6R) could reduce plasmatic concentrations of other previous co-treatments due to hepatic metabolism normalization2.
4 No studies have been performed yet in humans to assess drugs-interactions.

**Notes:**
- Ritonavir is a strong inhibitor of CYP 3A and 2D6 per se, independently to co-administered antiviral.
- Atazanavir can increase midazolam plasmatic concentration until 4-fold.
- Also refer to SmPC for further information.