**All Interactions with Darunavir (Prezista)**

| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Amiodarone[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161) | - | - | Not studied; may increase amiodarone levels | - | Increased amiodarone effects (eg, hypotension, bradycardia, cardiac arrhythmias) | Inhibition of CYP450 3A4 by darunavir | Monitor and adjust amiodarone as indicated |
| Artemether[611](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#611)  (Coartem) | Artemether/Lumefantrine 80/480 mg | 600/100 mg BID | Artmether AUC: decreased 16%; Lumefrantrine AUC: increased 2.75 fold | No significant change | - | - | Dose adjustment not established |
| Astemizole[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Hismanal) | - | - | Not studied; may increase astemizole levels | - | Increased astemizole effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Cetirizine Fexofenadine Loratadine** |
| Atazanavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (ATV)(Reyataz) | 300 mg QD | 400 mg BID with ritonavir 100 mg BID | Atazanavir Cmin: increased 52% | No significant change | - | - | No dose adjustment necessary |
| Atorvastatin[217](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#217),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161) | 40 mg QD on days 1-4, then 10 mg QD on days 4-7 | darunavir 300 mg with 100 mg ritonavir BID on days 1-9 | Atorvastatin AUC: decreased 15%; Cmin: increased 81%; Cmax: decreased 44% (10 mg QD with darunavir/ritonavir compared to atorvastatin 40 mg QD alone) | - | Increased atorvastatin effects (eg, myopathy, rhabdomyolysis | Inhibition of CYP450 3A4 by darunavir/ritonavir | Consider low dose atorvastatin and titrate to effect; monitor for myopathy |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Beclomethasone[581](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#581) | 160 mcg inhaled BID | 600 mg darunavir BID with 100 mg ritonavir BID | Beclomethasone 17-monopropionate AUC: no significant change Cmax: decreased 19% | Not studied | - | - | No dose adjustment necessary |
| Bepridil[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161) | - | - | Not studied; may increase bepridil levels | - | Increased bepridil effects | Inhibition of CYP450 3A4 by darunavir | Do not coadminister |
| Boceprevir[597](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#597)  (Victrelis) | 800 mg TID | 600 mg BID with 100 mg ritonavir BID | Boceprevir AUC: decreased 45%; Cmin: decreased 57% | Darunavir AUC: decreased 34%; Cmax: decreased 30%; Cmin: decreased 43% | Decreased HIV and HCV treatment efficacy | - | Do not coadminister |
| Bosentan[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#727) | - | - | - | - | Possible increased bosentan effects | - | Start low and titrate bosentan to effect. If patient has been on protease inhibitor (other than unboosted atazanavir) for more than 10 days, start bosentan at 62.5 mg daily or every other day. If patient is currently on bosentan and requires a PI (other than unboosted atazanavir), stop bosentan for at least 36 hours prior to initiating ART. Wait 10 days and then resume bosentan starting with 62.5 mg daily or every other day. |
| Buprenorphine[543](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#543),[541](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#541)  (Suboxone)(Buprenex) | 8-16 mg | 600 mg BID with ritonavir 100 mg BID | Norbuprenorphine AUC: increased 46%; Cmin: increased 71%; Cmax: increased 36% | - | - | Inhibition of P450 3A4 by darunavir/ritonavir | No dose adjustment necessary |
| Carbamazepine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (others)(Tegretol) | - | - | - | Not studied; may decrease darunavir levels | Decreased darunavir/ritonavir effects | Induction of CYP450 by carbamazepine | Avoid combination if possible; consider alternative agents  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Carbamazepine[412](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#412)  (others)(Tegretol) | 200 mg BID | 600 mg BID with 100 mg ritonavir BID | Carbamazepine AUC: 45%; Cmax: increased 43%; Cmin: increased 54% | Darunavir: No significant change; Ritonavir AUC: decreased 49%; Cmax: decreased 44%; Cmin: decreased 56% | Increased carbamazepine effects | Inhibition of CYP450 3A4 by darunavir/ritonavir | Consider carbamazepine dose reduction by 25-50% |
| Cisapride[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Propulsid) | - | - | Not studied; may increase cisapride levels | - | Increased cisapride effects (eg, cardiac arrhythmias | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Metoclopramide** |
| Clarithromycin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Biaxin) | 500 mg BID | 400 mg BID with ritonavir 100 mg BID | Clarithromycin AUC: increased 57% | Darunavir Cmax: decreased 17% | - | - | No dose adjustment necessary |
| Colchicine[553](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#553)  (Colcrys) | - | - | - | - | Increased colchicine effects | Inhibition of P450 3A4 by darunavir/ritonavir | For treatment of gout, reduce colchicine dosage to 0.6 mg x 1 then 0.3 mg one hour later. Dose not to be repeated no earlier than 3 days. For prophylaxis of gout, reduce colchicine dosage to 0.3 mg QD if on 0.6 mg BID prior to PI therapy or reduce colchicine dose to 0.3 mg QOD if on 0.6 mg QD prior to PI therapy. For treatment of familial Mediterranean fever: Do not exceed colchicine 0.6 mg once daily or 0.3 mg BID. Do not coadminister in patients with hepatic or renal impairment |
| Cyclosporine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Neoral, Sandimmune) | - | - | May increase cyclosporine levels | - | Increased cyclosporine effects (increased immunosuppression, renal toxicity) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Monitor and adjust cyclosporine as indicated |
| Daclatasvir[747](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#747)  (Daklinza) | 30 mg daily | 600 mg with ritonavir 100 mg BID | - | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Daclatasvir[747](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#747)  (Daklinza) | 30 mg daily | 800 mg with ritonavir 100 mg daily | Daclatasvir Cmax decreased 62%; AUC decreased 30% | - | - | - | No dose adjustment necessary |
| Dasabuvir, Ombitasvir/Paritaprevir/Ritonavir[745](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#745)  (Viekira) | paritaprevir 150 mg with ritonavir 100 mg with ombitasvir 25 mg daily + dasabuvir 250 mg twice daily | 800 mg daily | Dasabuvir Cmax ↓ 10%; AUC ↓ 6%; Cmin ↓10%. Ombitasvir Cmax and AUC ↓ 14%; Cmin ↓13%. Paritaprevir Cmin ↑ 54%, AUC ↑ 29%; Cmin ↑ 30% | Darunavir Cmax ↓ 8%; AUC decreased 24%; Cmin decreased 48% | Potentially decreased anti-HCV and anti-HIV efficacy | - | Do not co-administer. |
| Dasabuvir, Ombitasvir/Paritaprevir/Ritonavir[745](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#745)  (Viekira) | paritaprevir 150 mg with ritonavir 100 mg with ombitasvir 25 mg daily + dasabuvir 250 mg twice daily | 600 mg twice daily with ritonavir 100 mg in the evening | Dasabuvir Cmax ↓ 16%; AUC ↓ 15%; Cmin increased 7%. Ombitasvir Cmax and AUC ↓ 24%; Cmin ↓27%. Paritaprevir Cmax ↓ 30%, AUC ↓ 41%; Cmin ↓ 17% | Darunavir Cmax decreased 13%; AUC decreased 20%; Cmin decreased 43% | Potentially decreased anti-HCV and anti-HIV efficacy | - | Do not coadminister |
| Dasabuvir, Ombitasvir/Paritaprevir/Ritonavir[745](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#745)  (Viekira) | paritaprevir 150 mg with ritonavir 100 mg with ombitasvir 25 mg daily + dasabuvir 250 mg twice daily | 800 mg with ritonavir 100 mg once daily in the evening | Dasabuvir Cmax ↓ 25%; AUC ↓ 28%; Cmin ↓ 35%. Ombitasvir Cmax, AUC,and Cmin ↓ 13%. Paritaprevir Cmax ↓ 30%, AUC ↓ 19%; Cmin increased 59% | Darunavir Cmax decreased 13%; AUC decreased 20%; Cmin decreased 43% | Potentially decreased anti-HCV and anti-HIV efficacy | - | Do not coadminister |
| Dexamethasone[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Decadron) | - | - | - | May decrease darunavir levels | Decreased darunavir effects | Induction of CYP450 3A4 by dexamethasone | No dose adjustment necessary; use with caution |
| Digoxin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (others)(Lanoxin) | 0.4 mg | 600 mg BID with ritonavir 100 mg BID | Digoxin AUC: increased 36%; Cmax: increased 15% | - | - | - | Monitor digoxin level and adjust digoxin dose based on clinical signs and digoxin level |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Dolutegravir[641](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#641)  (Tivicay) | 30 mg QD | 600 mg BID with ritonavir 100 mg BID | Dolutegravir AUC: decreased 22%; Cmin: decreased 38% | - | - | - | No dose adjustment necessary |
| Efavirenz[409](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#409),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (EFV)(Sustiva) | 600 mg QD | 300 mg BID with ritonavir 100 mg BID | Efavirenz AUC: increased 21%; Cmin: increased 17% | Darunavir Cmin: decreased 31%; Cmax: decreased 15% | Possibly increased efavirenz effects | - | No dose adjustment necessary; use with caution and monitor for increased risk of efavirenz related side effects |
| Elbasvir/grazoprevir[733](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#733),[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#727)  (Zepatier) | Elbasvir 50 mg QD with grazoprevir 100 mg QD | 800 mg QD | Elbasvir AUC ↑ 66% Grazoprevir AUC ↑ 7.5 fold | - | May increase the risk of ALT elevations due to a significant increase in grazoprevir plasma concentrations caused by OATP1B1/3 inhibition | OATP1B1/3 inhibition by darunavir | Contraindicated: Do not coadminister |
| Elvitegravir/cobicistat[643](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#643),[639](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#639)  (Stribild) | 125 mg QD | 600 mg BID with RTV 100 mg BID | Elvitegravir Cmin: increased 18% | Darunavir Cmin: decreased 17% | Potentially decreased or increased elvitegravir, cobicistat and/or darunavir effects | - | Do not coadminister |
| Elvitegravir/cobicistat[639](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#639),[633](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#633)  (Stribild) | Elvitegravir 150 mg QD with COBI 150 mg BID | 600 mg BID | No significant change (compared to historical controls) | No significant change | Potentially decreased or increased elvitegravir, cobicistat and/or darunavir effects | - | Do not coadminister |
| Elvitegravir/cobicistat[643](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#643),[633](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#633)  (Stribild) | Elvitegravir 150 mg QD with COBI 150 mg QD | 800 mg QD | Elvitegravir AUC: decreased 20%; Cmin: decreased 52% Cobicistat AUC: decreased 15-20% | Darunavir AUC: no significant change; Cmin: decreased 21% | Potentially decreased or increased elvitegravir, cobicistat and/or darunavir effects | - | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Ergotamine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Cafergot, Ergot derivatives)(Cafergot, others) | - | - | Not studied; may increase ergotamine levels | - | Increased ergotamine effects (eg, ergotism) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **5-HT agonists ("triptans")** |
| Ethinyl estradiol/norethindrone acetate[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[365](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#365)  (others)(Ortho-Novum) | Ethinyl estradiol (EE) 35 mcg/ Norethindrone (N) 1.0 mg QD x 21 days | 600 mg BID with ritonavir 100 mg BID | Ethinyl estradiol AUC: decreased 44%; Cmax: decreased 32%; Cmin: decreased 62%; Norethindrone AUC: no significant change; Cmax: no significant change; Cmin: decreased 30% | No significant effect | Decreased ethinyl estradiol and norethindrone effects (eg, contraceptive failure) | Induction of CYP450 3A4 by ritonavir | Use alternative contraceptive method  *Alternative Agents*:  **Barrier devices; Condoms** |
| Etravirine[410](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#410),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[405](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#405)  (ETR)(Intelence) | 100 mg BID | 600 mg BID with 100 mg ritonavir BID | Etravirine AUC: decreased 37%; Cmax: decreased 32%; Cmin: decreased 49% | No significant change | - | Induction of CYP450 3A4 by etravirine | No dose adjustment necessary |
| Etravirine[410](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#410),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[405](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#405)  (ETR)(Intelence) | 200 mg BID | - | Etravirine AUC: increased 80%; Cmax: increased 81%; Cmin: increased 67% (compared to etravirine 100 mg BID) | Darunavir AUC: increased 15% | - | - | No dose adjustment necessary |
| Felodipine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Plendil)(Plendil) | - | - | Not studied; may increase felodipine levels | - | Increased felodipine effects (hypotension, bradycardia) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Monitor and adjust felodipine as indicated |
| Fluticasone[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Flonase, Aerobid)(Advair, Flonase, Aerobid) | - | - | Increased fluticasone concentrations | - | Decreased plasma cortisol concentrations (eg, Cushing's syndrome, adrenal suppression) | - | Use with caution; use with darunavir/ritonavir is not recommended unless the potential benefit outweighs the risk |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Indinavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (IDV)(Crixivan) | 800 mg BID | 400 mg BID with ritonavir 100 mg BID | Indinavir AUC: increased 23%; Cmin: increased 125% | Darunavir AUC: increased 24%; Cmin: increased 44% | Increased indinavir and darunavir effects | Inibition of CYP450 3A4 by darunavir and indinavir | Dose adjustment not established |
| Itraconazole[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Sporanox)(Sporanox) | - | - | - | - | Increased darunavir and itraconazole effects | Inhibition of CYP450 3A4 by darunavir and itraconazole | Dose adjustment not established; if co-administration needed, itraconazole dose should not exceed 200 mg daily |
| Ketoconazole[414](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#414),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Nizoral) | 200 mg BID | 400 mg BID with ritonavir 100 mg BID | Ketoconazole AUC: increased 212%; Cmax: increased 111%; Cmin: increased 868% | Darunavir AUC: increased 42%; Cmax: increased 21%; Cmin: increased 73% | Increased darunavir effects; increased ketoconazole effects | Inhibition of CYP450 3A4 by darunavir and ketoconazole | Dose adjustment not established; if co-administration needed, ketoconazole dose should not exceed 200 mg daily |
| Ledipasvir/sofosbuvir[743](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#743),[713](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#713) | 90/400 mg | 800 mg with 100 mg ritonavir x 10 days | Sofosbuvir AUC(tau) decreased 27%; Cmax decreased 37% when given simultaneously with DRV/RTV. Sofosbuvir AUC(tau) decreased 37% and Cmax decreased 31% when staggered 12 hours apart from DRV/RTV. | No change in AUC or Cmax | - | - | No dose adjustment necessary. |
| Lidocaine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Xylocaine) | Systemic lidocaine | - | Not studied; may increase lidocaine levels | - | Increased lidocaine effects | Inhibition of CYP450 3A4 by darunavir | Monitor and adjust lidocaine as indicated |
| Lopinavir/ritonavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (LPV/r)(Kaletra) | 400/100 mg BID | 300 mg BID with ritonavir 100 mg BID | Lopinavir AUC: increased 37%; Cmax: increased 22%; Cmin: increased 72% | Darunavir AUC: decreased 53%; Cmax: decreased 39%; Cmin: decreased 65% | Decreased darunavir/ritonavir effects; increased lopinavir/ritonavir effects | - | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Lopinavir/ritonavir[164](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#164)  (LPV/r)(Kaletra) | 400/100 mg BID | 1200 mg BID with ritonavir 100 mg BID | Lopinavir Cmin: increased 23% | Darunavir AUC: decreased 38%; Cmax: decreased 21%; Cmin: decreased 51% (compared to DRV/r 600/100 mg BID) | Decreased darunavir/ritonavir effects; increased lopinavir/ritonavir effects | Possible induction of CYP450 3A4 | Do not coadminister |
| Lovastatin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Mevacor)(Mevacor) | - | - | Not studied; may increase lovastatin levels | - | Increased lovastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin (low dose)** |
| Lumefantrine[611](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#611)  (Coartem) | Artemether/Lumefantrine 80/480 mg | 600 mg BID | Lumefantrine AUC: increased 2.75 fold | No significant effect | - | - | Dose adjustment not established |
| Maraviroc[631](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#631)  (MVC)(Selzentry) | 150 mg BID | 600 mg BID with 100 mg ritonavir BID | Maraviroc AUC: increased 4.05 fold; Cmax: increased 2.29 fold; Cmin: increased 8.0 fold | - | Increased maraviroc effects | Inhibition of CYP450 3A4 by darunavir/ritonavir | No dose adjustment necessary; utilize maraviroc 150 mg BID when combined with darunavir/ritonavir |
| Maraviroc[565](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#565)  (MVC)(Selzentry) | 300 mg QD | 800/100 mg BID | Maraviroc Cmin: increased 16%; Cmax: no significant change (when compared to maraviroc 300 mg BID without darunavir/ritonavir in separate control arm) | Not studied | - | Inhibition of CYP450 3A4 by darunavir/ritonavir | No dose adjustment necessary |
| Methadone[543](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#543),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[181](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#181)  (Dolophine)(Dolophine) | 55-200 mg QD (stable dose) | 600 mg BID with ritonavir 100 mg BID | R-methadone AUC: decreased 16%; Cmax: decreased 24%; S-methadone AUC: decreased 36%; Cmax: decreased 44%; Cmin: decreased 40% | Not studied | May decrease methadone effects (eg, withdrawal) | - | Monitor for signs and symptoms of methadone withdrawal; some patients may need an increase in the methadone dose |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Midazolam[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Versed) | - | - | Not studied; may increase midazolam levels | - | Increased midazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Parenteral midazolam can be used with caution when given as a single dose in a monitored situation for procedural sedation; chronic midazolam administration (oral or intravenous) should be avoided  *Alternative Agents*:  **Lorazepam** |
| Milk thistle[613](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#613)  (Silymarin, Silybum marianum) | 150 mg Q8H | - | - | Darunavir AUC: decreased 14%; Cmax: decreased 17%; Cmin: no significant change | - | - | No dose adjustment necessary |
| Nevirapine[537](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#537),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (NVP)(Viramune) | 200 mg BID | 400 mg BID with ritonavir 100 mg BID | Nevirapine AUC: increased 27%; Cmax: increased 18%; Cmin: increased 47% | Darunavir AUC: increased 24%; Cmax: increased 40% | Possibly increased darunavir effects; possibly increased nevirapine effects | - | No dose adjustment necessary |
| Nicardipine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Cardene)(Cardene) | - | - | Not studied; may increase nicardipine levels | - | Increased nicardipine effects (eg, hypotension, heart block) | Inhibition of CYP450 3A4 by darunavir | Monitor and adjust nicardipine as indicated |
| Nifedipine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Procardia, Adalat)(Adalat, Procardia) | - | - | Not studied; may increase nifedipine levels | - | Increased nifedipine effects (hypotension, bradycardia) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Monitor and adjust nifedipine as indicated |
| Omeprazole[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[242](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#242)  (Prilosec)(Prilosec) | 20 mg QD | 400 mg BID with ritonavir 100 mg BID | - | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Omeprazole[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Prilosec)(Prilosec) | 40 mg x 1 | 600 mg BID with ritonavir 100 mg BID | Omeprazole AUC: decreased 42%; Cmax: decreased 34% | - | - | - | No dose adjustment necessary |
| Paroxetine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Paxil)(Paxil) | 20 mg QD | 400 mg BID with ritonavir 100 mg BID | Paroxetine AUC: decreased 39%; Cmax: decreased 36%; Cmin: decreased 37% | No significant change | Decreased paroxetine effects | - | Titrate paroxetine to effect; monitor for continued response if darunavir/ritonavir initiated |
| Phenobarbital[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (others)(Luminal) | - | - | - | Not studied; may decrease darunavir levels | Decreased darunavir/ritonavir effects | Induction of CYP450 by phenobarbital | Avoid combination if possible; consider alternative agents. If using, monitor and adjust phenobarbital levels as indicated.  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| Phenytoin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Dilantin) | - | - | - | Not studied; may decrease darunavir levels | Decreased darunavir/ritonavir effects | Induction of CYP450 by phenytoin | Avoid combination if possible; consider alternative agents. Monitor phenytoin levels and adjust as indicated. Monitor virologic response.  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| Pimozide[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Orap)(Orap) | - | - | Not studied; may increase pimozide levels | - | Increased pimozide effects (eg, hypotension, cardiac arrhythmias) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister |
| Pitavastatin[617](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#617)  (Livalo) | 4 mg QD | 800 mg darunavir with 100 mg ritonavir QD | Pitavastatin AUC: decreased 26%; Cmax: no significant change | No significant change | - | - | Titrate pitavastatin to effect |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Pravastatin[587](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#587)  (Pravachol) | 40 mg on days 1-4, and days 15-18 | 600 mg BID with 100 mg ritonavir BID on days 12-18 | Pravastatin AUC: increased 21%; Cmax: increased 23% | Not studied | - | - | Use lowest possible starting dose, monitor for toxicity and titrate. |
| Pravastatin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Pravachol) | 40 mg x 1 | 600 mg BID with ritonavir 100 mg BID | Pravastatin AUC: increased 81% (increased up to 5-fold in some individuals); Cmax: increased 63% | - | Increased pravastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Use lowest possible starting dose, monitor for toxicity and titrate.  *Alternative Agents*:  **Atorvastatin (low dose)** |
| Quinidine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Quindex, others)(Quindex) | - | - | Not studied; may increase quinidine levels | - | Increased quinidine effects (eg, cardiac arrhythmias, exacerbation of heart failure) | Inhibition of CYP450 3A4 by darunavir | Monitor and adjust quinidine as indicated |
| Raltegravir[416](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#416)  (RAL)(Isentress) | 400 mg Q12H | 600 mg Q12H with 100 mg ritonavir Q12H | Raltegravir AUC: decreased 29%; Cmin: increased 38%; Cmax: decreased 33% | - | - | - | No dose adjustment necessary |
| Ranitidine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161),[242](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#242)  (Zantac)(Zantac) | 150 mg BID | 400 mg BID with ritonavir 100 mg BID | - | No significant change | - | - | No dose adjustment necessary |
| Ranolazine[709](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#709)  (Ranexa) | - | - | Not studied; may increase ranolazine levels | Not studied; may increase darunavir levels | Potential increased ranolazine adverse effects (e.g. prolonged QT, cardiac arrythmias). | - | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Rifabutin[417](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#417)  (Mycobutin) | 150 mg QOD | 600 mg Q12H | Rifabutin AUC: no significant change; Cmin: increased 64%; Cmax: decreased 28% 25-O-desacetylrifabutin AUC: increased 881%; Cmin: increased 2610%; Cmax: increased 377% | Darunavir AUC: increased 57%; Cmin: increased 75%; Cmax: increased 42% Ritonavir AUC: increased 66%; Cmin: increased 31%; Cmax: increased 68% | Increased darunavir and rifabutin effects | Inhibition of CYP450 3A4 by darunavir | Reduce rifabutin dose to 150 mg daily or 300 mg 3x/week. Monitor for antimicrobial activity and/or consider therapeutic drug monitoring. |
| Rifampin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Rifampicin)(Rifadin) | - | - | - | Not studied; may decrease darunavir/ritonavir levels | Decreased darunavir/ritonavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rilpivirine[567](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#567)  (RPV)(Edurant) | 150 mg QD | 800 mg darunavir with 100 mg ritonavir QD | Rilpivirine AUC: increased 130%; Cmin: increased 178%; Cmax: increased 79% | No significant change | Increased rilpivirine effects | - | No dose adjustment necessary |
| Rosuvastatin[523](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#523)  (Crestor) | 10 mg QD | 600 mg BID with ritonavir 100 mg BID | Rosuvastatin AUC: increased 48%; Cmax: increased 144% | No significant change | No change in lipid lowering ability within 35 day study period | - | Avoid coadministration if possible; if used, use caution and start at 5 mg daily |
| Saquinavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (SQV)(Fortovase, Invirase) | 1000 mg BID | 400 mg BID with ritonavir 100 mg BID | Saquinavir Cmin: decreased 18% | Darunavir AUC: decreased 26%; Cmax: decreased 17%; Cmin: decreased 42% | Decreased darunavir effects | - | Do not coadminister |
| Sertraline[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Zoloft)(Zoloft) | 50 mg QD | 400 mg BID with ritonavir 100 mg BID | Sertraline AUC: decreased 49%; Cmax: decreased 44%; Cmin: decreased 49% | No significant change | Decreased sertraline effects | - | Titrate sertraline to effect; monitor to ensure continued response if darunavir/ritonavir initiated |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Sildenafil[739](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#739),[297](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#297),[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#727),[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Viagra) | 25 mg x 1 | 400 mg BID with ritonavir 100 mg BID | Sildenafil Cmax: decreased 38%; Cmin: no significant change; AUC: no significant change (compared to sildenafil 100 mg x 1 without darunavir/ritonavir) | Not studied | Increased sildenafil effects (eg, hypotension, priapism) | Inhibition of CYP450 3A4 by darunavir/ritonavir | For erectile dysfunction, initiate sildenafil 25 mg every 48 hours and monitor for adverse effects. Manufacturer recommends not to exceed dose of 25 mg every 48 hours. Do not coadminister if using sildenafil for pulmonary arterial hypertension. |
| Simeprevir[669](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#669)  (Olysio) | 50 mg and 150 mg x 7 days | 800 mg with ritonavir 100 mg QD x 7 days | Simeprevir AUC: increased 159%' Cmax: increased 79%; Cmin: increased 358% | Darunavir AUC: increased 18%; Cmin: increased 31%; Ritonavir AUC: increased 32%; Cmax: increased 23%; Cmin: increased 44% | Increased simeprevir effects | Inhibition of CYP450 3A4 | Do not coadminister |
| Simvastatin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Zocor)(Zocor) | - | - | Not studied; may increase simvastatin levels | - | Increased simvastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin (low dose)** |
| Sirolimus[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Rapamycin)(Rapamune) | - | - | Not studied; may increase rapamycin levels | - | Increased sirolimus effects (eg, excessive immunosuppression) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Monitor and adjust sirolimus dose as indicated |
| Sofosbuvir[659](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#659)  (Sovaldi) | 400 mg x 1 | 800/100 mg QD | Sofosbuvir Cmax increased 45%; AUC increased 34% | - | - | - | No dose adjustment necessary |
| Sofosbuvir/velpatasvir[751](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#751)  (Epclusa) | 400 mg /100 mg | 800 mg with ritonavir 100 mg daily | Sofosbuvir Cmax decreased 38%; AUC decreased 28%. Velpatasvir Cmax decreased 24%; AUC decreased 16%. | Darunavir Cmax decreased 10%; AUC decreased 8%; Cmin decreased 13%. | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| St. John's Wort[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Hypericum perforatum, hypericin, hyperforin) | - | - | - | Not studied; may decrease darunavir/ritonavir levels | Decreased darunavir/ritonavir effects | Induction of CYP450 3A4 by St. John's Wort | Do not coadminister |
| Tacrolimus[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Prograf)(Prograf) | - | - | Not studied; may increase tacrolimus levels | - | Increased tacrolimus effects (increased immunosuppression) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Monitor and adjust tacrolimus as indicated |
| Tadalafil[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161) | - | - | Not studied; may increase tadalafil levels | - | Increased tadalafil effects (eg, hypotension, priapism) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Initiate tadalafil at 5 mg QD; adjust dose as indicated; not recommended to exceed 10 mg in 72 hour period |
| Telaprevir[571](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#571)  (Incivek) | 1125 mg Q12H x 4 days | 600 mg darunavir BID with 100 mg ritonavir BID x 24 days | - | Darunavir AUC: decreased 51%; Cmin: decreased 38%; Cmax: decreased 47% | Possibly telaprevir effects; decreased darunavir effects | - | Do not coadminister  *Alternative Agents*:  **Atazanavir/ritonavir** |
| Telaprevir[571](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#571)  (Incivek) | 750 mg Q8H x 10 days | 600 mg darunavir BID with 100 mg ritonavir BID x 20 days | Telaprevir AUC: decreased 35%; Cmin: decreased 32%; Cmax: decreased 36% | Darunavir AUC: decreased 40%; Cmin: decreased 42%; Cmax: decreased 40% | Decreased telaprevir effects; decreased darunavir effects | - | Do not coadminister  *Alternative Agents*:  **Atazanavir/ritonavir** |
| Tenofovir disoproxil fumarate[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (TDF)(Viread) | 300 mg QD | 300 mg BID with ritonavir 100 mg BID | Tenofovir AUC: increased 22%; Cmax: increased 24%; Cmin: increased 37% | Darunavir AUC: increased 21%; Cmax: increased 16%; Cmin: increased 24% | Possibly increased darunavir effects; possibly increased tenofovir effects | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Darunavir** | **Effect on Drug Levels** | **Effect on Darunavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Terfenadine[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Seldane)(Seldane) | - | - | Not studied; may increase terfenadine levels | - | Increased astemizole effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Cetirizine Fexofenadine Loratadine** |
| Trazodone[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Desyrel)(Desyrel) | - | - | Increased trazodone concentrations | - | Increased trazodone effects (eg, nausea, dizziness, hypotension, syncope) | Possible inhibition of trazodone metabolism | Use with caution; if benefit outweighs risk, initiate trazodone at lower dose |
| Triazolam[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Halcion) | - | - | Not studied; may increase triazolam levels | - | Increased triazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Do not coadminister; consider alternative agents  *Alternative Agents*:  **Lorazepam Oxazepam Temazepam Trazodone** |
| Vardenafil[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161) | - | - | Not studied; may increase vardenafil levels | - | Increased vardenafil effects (eg, hypotension, priapism) | Inhibition of CYP450 3A4 by darunavir/ritonavir | Initiate vardenafil at 2.5 mg QD; adjust dose as indicated; not recommended to exceed 2.5 mg in 72 hour period |
| Voriconazole[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (VFend) | - | - | Decreased voriconazole levels | - | Decreased voriconazole effects | Possible induction of CYP450 by ritonavir | Do not coadminister with boosted protease inhibitors unless benefit outweighs risks. If coadministering, consider therapeutic drug monitoring. |
| Warfarin[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=25&post=4#161)  (Coumadin) | 10 mg x 1 | 600 mg BID with ritonavir 100 mg BID | S-warfarin AUC: decreased 21%; | - | Decreased warfarin effects (eg, decreased INR, increased risk of clotting) | Induction of CYP450 3A4 by darunavir | Monitor INR and adjust warfarin as indicated |
| "-" indicates that there are no data available | | | | | | | |

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