**All Interactions with Atazanavir (Reyataz)**

| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Acetaminophen  (others)(Tylenol) | 1 gram BID on d 1-20 | 300 mg atazanavir QD with 100 mg ritonavir QD on d 11-20 | - | Atazanavir Cmin: increased 26% | - | - | No dose adjustment necessary |
| Atenolol  (others) | 50 mg QD on days 7-11 and 19-23 | 400 mg QD on days 1-11 | Atenolol AUC: increased 25%; Cmax: increased 34%; Cmin: no significant change | Atazanavir AUC: no significant change; Cmax: no significant change; Cmin: decreased 26% | - | - | No dose adjustment necessary |
| Atovaquone[487](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#487)  (Mepron) | 250 mg with 100 mg proguanil x 1 | 300 mg with 100 mg ritonavir QD | Atovaquone AUC: decreased 46%; Cmax: decreased 49% | - | Potentially compromised antimalarial activity | Increased atovaquone glucuronidation; induction of CYP450 3A4 by atazanavir/ritonavir | Dose adjustment not established |
| Boceprevir[595](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#595)  (Victrelis) | 800 mg TID | 300 mg with 100 mg ritonavir QD | Boceprevir Cmin: decreased 18% | Atazanavir AUC: decreased 35%; Cmax: decreased 25%; Cmin: decreased 49% | Decreased HIV treatment efficacy | - | Do not coadminister |
| Bosentan[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727),[699](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#699) | - | - | - | Expected decreased atazanavir levels | Possible loss of antiviral efficacy | - | Do not coadminister bosentan with unboosted atazanavir |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Cimetidine[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Tagamet)(Tagamet) | - | - | - | - | May decrease atazanavir effects | Possible decreased GI absorption | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Cisapride  (Propulsid) | - | - | Not studied; may increase cisapride levels | - | Increased cisapride effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister  *Alternative Agents*:  **Metoclopramide** |
| Clarithromycin[363](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#363)  (Biaxin) | 500 mg BID on days 7-11 and 18-21 | 400 mg QD on days 1-10 | Clarithromycin AUC: increased 94%; Cmax: increased 50%; Cmin: decreased 62%; 14-hydroxyclarithromycin AUC: decreased 70%; Cmax: decreased 72%; Cmin: increased 164% | Atazanavir AUC: increased 28%; Cmax: no significant change; Cmin: increased 91% | Increased clarithromycin effects. May cause QTc prolongation. | Inhibition of CYP450 3A4 by atazanavir | Reduce clarithromycin dose by 50%  *Alternative Agents*:  **azithromycin** |
| Colchicine[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727),[551](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#551)  (Colcrys) | - | - | - | - | Increased colchicine effects | nhibition of P450 3A4 by atazanavir/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 |
| Daclatasvir[749](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#749)  (Daklinza) | 20 mg daily | 300 mg with ritonavir 100 mg | AUC(tau) increased 110% | No significant change | - | Inhibition of CYP3A4 | Decrease daclatasvir dose to 30 mg daily when used with atazanavir/ritonavir. No dose adjustment necessary if used with unboosted atazanavir |
| Darunavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#161)  (DRV)(Prezista) | 400 mg BID with ritonavir 100 mg BID | 300 mg QD | No significant change | Atazanavir Cmin: increased 52% | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Didanosine  (ddI)(Videx) | 200 mg (buffered tabs) x 1 dose | 400 mg x 1 dose (given simultaneously with stavudine and didanosine) | No significant change | Atazanavir AUC: decreased 87%; Cmin: decreased 84%; Cmax: decreased 89% | Decreased atazanavir effects | Altered gastric pH decreasing atazanavir absorption | Administer didanosine tablets on an empty stomach and 2 hours before or 1 hour after food or atazanavir |
| Didanosine  (ddI)(Videx) | 200 mg (buffered tabs) x 1 dose | 400 mg QD x 1 (given 1 hour after stavudine and didanosine) | Not studied | No significant change | - | - | No dose adjustment necessary |
| Didanosine[124](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#124)  (ddI)(Videx) | 250 mg EC x 1 dose | 400 mg QD with food | Didanosine AUC: no significant change (AUC comparable to that of didanosine 400 mg QD without tenofovir) | Atazanavir AUC: decreased 26%; Cmax: decreased 24% | - | - | No dose adjustment necessary |
| Didanosine[152](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#152),  (ddI)(Videx) | 400 mg (enteric coated capsule) QD with food | 400 mg QD with food | Didanosine AUC: decreased 34%; Cmax: decreased 36% | No significant change | Decreased didanosine effects | Reduced didanosine absorption due to presence of food | Administer didanosine EC and atazanavir at different times |
| Didanosine[152](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#152),  (ddI)(Videx) | 400 mg (enteric coated capsule) QD with food | 300 mg with ritonavir 100 mg QD | Didanosine AUC: decreased 34%; Cmax: decreased 38%; Cmin: increased 25% | Atazanavir AUC: no significant change; Cmax: no significant change; Ritonavir AUC: no significant change; Cmax: no significant change | Decreased didanosine effects | Reduced didanosine absorption due to presence of food | Administer didanosine EC and atazanavir at different times |
| Didanosine[122](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#122)  (ddI)(Videx) | Also dosed with stavudine | 400 mg x 1 dose | Not studied | Atazanavir Cmax: decreased 89%; AUC: decreased 87% | Decreased atazanavir effects | - | Dose adjustment not established |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Diltiazem  (Dilacor, Tiazac, Cardizem) | 180 mg QD on days 7-11 and 19-23 | 400 mg QD on days 1-11 | Diltiazem AUC: increased 125%; Cmax: increased 198%; Cmin: decreased 59% | No significant change | Increased diltiazem effects (eg, hypotension, heart block) | Inhibition of CYP450 3A4 by atazanavir | Reduce diltiazem dose by 50%. ECG monitoring is recommended. |
| Dolutegravir[641](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#641)  (Tivicay) | 30 mg QD | 400 mg QD | Dolutegravir AUC: increased 91%; Cmin: increased 180% | - | - | - | No dose adjustment necessary |
| Dolutegravir[641](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#641)  (Tivicay) | 30 mg QD | 300 mg QD with ritonavir 100 mg QD | Dolutegravir AUC increased 62%; Cmin: increased 121% | - | - | - | No dose adjustment necessary |
| Efavirenz[90](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#90)  (EFV)(Sustiva) | - | - | - | - | Decreased atazanavir effects | Induction of CYP450 3A4 by efavirenz | Increase dose to 300 mg atazanavir with 100 mg ritonavir taken at the same time (boosted atazanavir).Dose adjustments not established for treatment experienced patients. |
| Efavirenz[4](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#4)  (EFV)(Sustiva) | 600 mg QD on days 7-20 | 600 mg QD on days 7-20 | Not studied | Atazanavir (all values compared to atazanavir 400 mg QD) AUC: decreased 21%; Cmax: no significant change; Cmin: decreased 59% | Decreased atazanavir effects | Induction of P450 3A4 by efavirenz | Dose adjustment not established |
| Efavirenz[100](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#100),  (EFV)(Sustiva) | 600 mg QD on days 7-20 | 400 mg QD on days 1-20 | Not studied | Atazanavir AUC: decreased 74%; Cmax: decreased 59%; Cmin: decreased 93%; half-life: decreased 27% | Decreased atazanavir effects | Induction of CYP450 3A4 by efavirenz | Dose adjustment not established |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Efavirenz[101](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#101)  (EFV)(Sustiva) | 600 mg QD with ritonavir 200 mg on days 15-28 | 400 mg QD on days 1-28 | Not studied | Atazanavir AUC: increased 241%; Cmax: increased 124%; Cmin: increased 671%; half-life: increased 79% | Increased atazanavir effects | Inhibition of CYP450 3A4 by ritonavir | Dose adjustment not established |
| Efavirenz[4](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#4),  (EFV)(Sustiva) | 600 mg QD x days 7-20 | 400 mg QD on days 1-6 then 300 mg with ritonavir 100 mg QD on days 7-20 | Not studied | Atazanavir (all values compared to atazanavir 400 mg QD) AUC: increased 39% ; Cmax: no significant change; Cmin: increased 48% | Increased atazanavir effects | Inhibition of P450 3A4 by ritonavir | No dose adjustment necessary |
| Elbasvir/grazoprevir[733](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#733),[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Zepatier) | Elbasvir 50 mg QD with grazoprevir 100 mg QD | 300 mg QD | Elbasvir AUC ↑ 4.8 fold Grazoprevir AUC ↑ 10.6 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 atazanavir | Contraindicated: Do not coadminister |
| Elvitegravir/cobicistat[651](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#651),[645](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#645),[639](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#639)  (Stribild) | Elvitegravir 85 mg QD with COBI 150 mg QD | 300 mg QD | Elvitegravir AUC: increased 17%; Cmax: decreased 16%; Cmin: increased 83% | Atazanavir Cmax: decreased 24%; Cmin: decreased 20% | Potentially decreased or increased elvitegravir, cobicistat and/or atazanavir effects | - | Do not coadminister |
| Ergotamine  (Cafergot, Ergot derivatives)(Cafergot, others) | - | - | Not studied; may increase ergotamine levels | - | Increased ergotamine effects (eg, ergotism) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister  *Alternative Agents*:  **5-HT agonists ("triptans")** |
| Esomeprazole[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Nexium) | - | - | - | - | Decreased atazanavir effects | Decreased GI absorption | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 blockers** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Ethinyl estradiol/norethindrone acetate[4](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#4)  (others)(Ortho-Novum) | 1 tab QD (7/7/7) | 400 mg QD x 14 days | Norethindrone Cmax: increased 67%; AUC: increased 110%; Cmin: increased 262%; Ethinyl estradiol AUC: increased 48%; Cmax: no significant change; Cmin: increased 91% | Not studied | Increased norethindrone and ethinyl estradiol effects | Inhibition of UGT 1A1 by atazanavir | Use oral contraceptive that contains no more than 30 mcg of ethinyl estradiol or recommend an alternative contraceptive method. Oral contraceptives containing less than 25mcg of ethinyl estradiol or progestins other than norethindrone or norgestimate have not been studied.  *Alternative Agents*:  **Non hormonal contraceptive method, barrier devices, condoms** |
| Ethinyl estradiol/norgestimate[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (others)(Ortho Tri-Cyclen) | - | 300 mg QD with 100 mg atazanavir QD | Ethinyl estradiol AUC: decreased 19%; Cmax: decreased 16%; Cmin: decreased 37% 17-deacetyl norgestimate AUC: increased 85%; Cmax: increased 68%; Cmin: increased 102% | - | - | - | Use oral contraceptive containing at least 35 mcg of ethinyl estradiol. Oral contraceptives containing progestins other than norethindrone or norgestimate have not been studied.  *Alternative Agents*:  **Non-hormonal contraceptives, barrier devices, condoms** |
| Etravirine[405](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#405)  (ETR)(Intelence) | - | 400 mg QD | Etravirine AUC: increased 50%; Cmax: increased 47%; Cmin: increased 58% | Atazanavir AUC: decreased 17%; Cmin: decreased 47% | Possibly increased etravirine effects; decreased atazanavir effects | Inhibition of etravirine metabolism; induction of CYP450 3A4 by etravirine | Do not coadminister |
| Etravirine[405](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#405)  (ETR)(Intelence) | - | 300 mg QD with 100 mg ritonavir QD | Etravirine AUC: increased 30%; Cmax: increased 30%; Cmin: decreased 26% | Atazanavir AUC: decreased 14%; Cmin: decreased 38% | Possibly increased etravirine effects | - | Do not coadminister |
| Famotidine[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Pepcid) | - | - | - | - | May decrease atazanavir effects | Possible decreased GI absorption | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Famotidine  (Pepcid) | 20 mg BID on d 11-17 | 300 mg QD with 100 mg ritonavir QD with tenofovir on d 11-17 | - | Atazanavir AUC: decreased 41% | Decreased atazanavir effects | - | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Famotidine  (Pepcid) | 20 mg BID on d 11-17 (simultaneous administration with morning atazanavir/ritonavir) | 300 mg QD with 100 mg ritonavir | - | No significant change | - | - | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Famotidine[239](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#239)  (Pepcid) | 40 mg BID on d 11-20 | 300 mg QD with ritonavir 100 mg QD on d 1-20 (simultaneous administration) | Not studied | Atazanavir AUC: decreased 18%; Cmax: no significant change; Cmin: decreased 28% | Decreased atazanavir effects | Inhibition of atazanavir absorption by famotidine | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Famotidine  (Pepcid) | 40 mg BID on d 7-12 | 400 mg QD on d 1-12 (simultaneous administration) | - | Atazanavir AUC: decreased 41%; Cmax: decreased 47%; Cmin: decreased 42% | Decreased atazanavir effects | Inhibition of atazanavir absorption by famotidine | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Famotidine[239](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#239)  (Pepcid) | 40 mg Q12H | 400 mg QD | Not studied | Atazanavir AUC: decreased 38%; Cmax: decreased 42%; Cmin: decreased 40% | Decreased atazanavir effects | Inhibition of atazanavir absorption by famotidine | For treatment-naive patients, atazanavir 400 mg QD can be used if dosed 2 hrs before or 10 hours after the H2-blocker or atazanavir 300 mg with ritonavir 100 mg QD can be used.For treatment-experienced patients, atazanavir 300 mg with ritonavir 100 mg QD can be used if dosed at least 2 hs before and at least 10 hours after the H2-blocker. |
| Famotidine[155](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#155)  (Pepcid) | 40 mg Q12H on d 11-20 | 400 mg atazanavir with 100 mg ritonavir on d 11-20 | - | Atazanavir AUC: no significant change; Cmax: no significant change; Cmin: decreased 14%(compared to 300 mg atazanavir with 100 mg ritonavir QD) | - | Inhibition of atazanavir absorption by famotidine | For treatment-naive patients, atazanavir 400 mg QD can be used if dosed 2 hrs before or 10 hours after the H2-blocker or atazanavir 300 mg with ritonavir 100 mg QD can be used. For treatment-experienced patients, atazanavir 300 mg with ritonavir 100 mg QD can be used if dosed at least 2 hs before and at least 10 hours after the H2-blocker. |
| Famotidine  (Pepcid) | 40 mg QD on d 7-12 | 400 mg on d 1-6, d 7-12 (10 hr after, 2 hrs before famotidine) | - | Atazanavir Cmin: decreased 31% | Decreased atazanavir effects | Inhibition of atazanavir absorption by famotidine | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Fluconazole[268](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#268)  (Diflucan)(Diflucan) | 200 mg QD x 10 days | 300 mg QD with ritonavir 100 mg QD x 10 days | No significant change | No significant change | - | - | No dose adjustment necessary |
| Fluticasone  (Advair, Flonase, Aerobid) | - | - | Increased fluticasone concentrations | - | Decreased plasma cortisol concentrations (eg, Cushing's syndrome, adrenal suppression) | - | Use with caution with atazanavir; use with atazanavir/ritonavir is not recommended unless the potential benefit outweighs the risk  *Alternative Agents*:  **Beclomethasone** |
| Fosamprenavir[431](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#431)  (FPV)(Lexiva) | 1400 mg QD | 400 mg QD | Amprenavir AUC: increased 97%; Cmax: increased 58%; Cmin: increased 297% | Atazanavir AUC: decreased 33%; Cmax: decreased 27%; Cmin: decreased 60% | Increased amprenavir effects; reduced atazanavir effects | Possible induction of CYP450 3A4 by fosamprenavir | Do not coadminister |
| Fosamprenavir[163](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#163)  (FPV)(Lexiva) | 1400 mg QD x 14 days | 200 mg QD x 14 days | Fosamprenavir AUC: increased 78%; Cmax: increased 36%; Cmin: increased 283% | Atazanavir AUC: decreased 33%; Cmax: decreased 30%; Cmin: decreased 57% | Increased amprenavir levels | Inhibition of CYP450 3A4 by atazanavir | Dose adjustment not established |
| Fosamprenavir[159](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#159)  (FPV)(Lexiva) | 700 mg BID with 100 mg ritonavir BID on days 1-10 | 300 mg with 100 mg ritonavir QD on days 1-10, in crossover 300 mg QD when combined with FPV/r 700 mg/100 mg BID | Amprenavir AUC: no significant change; Cmax: no significant change; Cmin: no significant changeRitonavir AUC: increased 93%; Cmax: increased 96%; Cmin: increased 37% (when ATV 300 mg QD added to FPV/r 700 mg/100 mg BID) | Atazanavir AUC: decreased 22%; Cmax: decreased 24%; Cmin: no significant change | Possibly increased ritonavir effects | Inhibition of CYP450 3A4 by atazanavir and fosamprenavir | No dose adjustment necessary |
| Ketoconazole[283](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#283),  (Nizoral) | 200 mg QD on days 7-13 | 400 mg QD on days 1-13 | Not studied | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Lamivudine[106](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#106),  (3TC)(Epivir) | 150 mg BID with zidovudine 300 mg BID x 6 days | 400 mg QD x 6 days | No significant change | Not studied | - | - | No dose adjustment necessary |
| Lansoprazole[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727),[390](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#390)  (Prevacid) | 60 mg QD x 2 doses | 400 mg QD | - | Atazanavir AUC: decreased 94%; Cmax: decreased 91%; half-life: no significant change | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Ledipasvir/sofosbuvir[743](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#743),[713](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#713) | 90/400 mg | 300 mg with ritonavir 100 mg daily given simultaenously for 10 days | Ledipasvir AUC(tau) increased 96%; Cmax increased 68%. | Atazanavir AUC increased 27%; Cmin increased 63% | Potentially increased ledipasvir adverse effects. Potentially increased tenofovir disoproxil fumarate adverse effects if co-administered with protease inhibitor and ledipasvir. | - | No dose adjustment necessary. Monitor for tenofovir disoproxil fumarate toxicity if used in the regimen. |
| Ledipasvir/sofosbuvir[743](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#743),[713](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#713) | 90/400 mg | 300 mg with 100 mg ritonavir x 10 days given staggered from Harvoni by 12 hours | Ledipasvir AUC(tau) increased 134%; Cmax increased 75% | Atazanavir AUC(tau) increased 43% | Potentially increased ledipasvir adverse effects. Potentially increased tenofovir disoproxil fumarate adverse effects if co-administered with protease inhibitor and ledipasvir. | - | No dose adjustment necessary. Monitor for tenofovir disoproxil fumarate toxicity if used in the regimen. |
| Lopinavir/ritonavir[160](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#160)  (LPV/r)(Kaletra) | 400 mg/100 mg BID on d 11-24 | 300 mg QD on d 11-24 | No significant change | Atazanavir AUC: no significant change; Cmin: increased 45%; Cmax: no significant change (compared to 300 mg atazanavir with 100 mg ritonavir QD) | Increased atazanavir effects | Inhibition of CYP450 3A4 by ritonavir, lopinavir and atazanavir | No dose adjustment necessary |
| Lopinavir/ritonavir[160](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#160)  (LPV/r)(Kaletra) | 400 mg/100 mg BID on d 25-34 | 300 mg with 100 mg QD ritonavir on d 25-34 | - | Atazanavir AUC: no significant change; Cmin: increased 64% (compared to 300 mg atazanavir with 100 mg ritonavir QD) | - | Inhibition of CYP450 3A4 by ritonavir, lopinavir and atazanavir | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Lovastatin  (Mevacor)(Mevacor) | - | - | Not studied; may increase lovastatin levels | - | Increased lovastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin (low dose); Pravastatin** |
| Maraviroc[2](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#2)  (MVC)(Selzentry) | 300 mg BID | 400 mg QD | Maraviroc AUC: increased 257%; Cmax: increased 109%; Cmin: increased 319% | - | Increased maraviroc effects | Inhibition of CYP450 3A4 by atazanavir | Decrease maraviroc dose to 150 mg BID |
| Maraviroc[2](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#2)  (MVC)(Selzentry) | 300 mg BID | 300 mg QD with 100 mg ritonavir QD | Maraviroc AUC: increased 388%; Cmax: increased 167%; Cmin: increased 567% | - | Increased maraviroc effects | Inhibition of CYP450 3A4 by atazanavir/ritonavir | Decrease maraviroc dose to 150 mg BID |
| Methadone  (Dolophine)(Dolophine) | stable dose on d 1-15 | 400 mg QD on d 2-15 | Total methadone Cmax: decresed 15% | - | - | - | No dose adjustment necessary |
| Midazolam  (Versed) | - | - | Not studied; may increase midazolam levels | - | Increased midazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by atazanavir | 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** |
| Nelfinavir[157](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#157)  (NFV)(Viracept) | 1250 mg BID x 14 d | 400 mg QD x 7 d | Nelfinavir Cmin: increased 57%; M8 AUC: increased 30%; Cmax: increased 24%; Cmin: increased 124% | No significant change | - | Inhibition of CYP450 3A4 by atazanavir | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Nevirapine  (NVP)(Viramune) | 200 mg BID | 300 mg atazanavir QD with 100 mg ritonavir QD | Nevirapine AUC: increased 25%; Cmax: increased 17%; Cmin: increased 32% | Atazanavir AUC: decreased 42%; Cmax: decreased 28%; Cmin: decreased 72% | Decreased atazanavir effects | Induction of CYP4450 3A4 by nevirapine | Do not coadminister |
| Nevirapine  (NVP)(Viramune) | 200 mg BID | 400 mg atazanavir QD with 100 mg ritonavir QD | Nevirapine AUC: increased 26%; Cmax: increased 21%; Cmin: increased 35% | Atazanavir AUC: decreased 19%; Cmax: no significant change; Cmin: decreased 59% | Decreased atazanavir effects | Induction of CYP450 3A4 by nevirapine | Do not coadminister |
| Omeprazole  (Prilosec) | 20 mg QD on d 17-23 | 300 mg QPM with 100 mg ritonavir QPM on d 7-16, 17-23 | - | Atazanavir AUC: decreased 42%; Cmax: decreased 39%, Cmin: decreased 46% | Possibly decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Omeprazole  (Prilosec) | 20 mg QD on d 17-23 | 300 mg QD with 100 mg ritonavir QD on d 7-16 then 400 mg atazanavir QD with 100 mg ritonavir QD on d 17-23 | - | Atazanavir AUC: decreased 30%; Cmin: decreased 31%; Cmax: decreased 31% | Possibly decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Omeprazole[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240),[247](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#247)  (Prilosec) | 40 mg QD x 10 d | 300 mg with ritonavir 100 mg QD with 8 oz cola x 20 d | - | Atazanavir AUC: decreased 70%; Cmax: decreased 66%; Cmin: decreased 76% | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Omeprazole[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240),[248](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#248)  (Prilosec) | 40 mg QD x 10 d | 400 mg QD with ritonavir 100 mg QD x 20 d | - | Atazanavir AUC: decreased 61%; Cmax: decreased 56%; Cmin: decreased 66% | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Omeprazole[248](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#248),[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Prilosec) | 40 mg QD x 10 d | 300 mg QD with ritonavir 100 mg QD x 20 d | - | Atazanavir AUC: decreased 76%; Cmax: decreased 72%; Cmin: decreased 78% | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Omeprazole  (Prilosec) | 40 mg QD x 5 d | 400 mg QD x 12 d | - | Atazanavir AUC: decreased 94%; Cmax: decreased 96%; Cmin: decreased 95% | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Omeprazole  (Prilosec) | 40 mg x 1 on d 7 and 20 | 400 mg QD on d 1-12 | Omeprazole AUC: increased 45%; Cmax: increased 24% | - | Increased omeprazole effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Pantoprazole[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240),[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Protonix) | - | - | - | - | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| Phenobarbital[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (others)(Luminal) | - | - | - | Not studied, may decrease atazanavir levels | Potential loss of antiviral efficacy. | - | Avoid combination if possible; Do not use with unboosted atazanavir. Consider alternative agents. If using, monitor and adjust phenobarbital levels as indicated.  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| Phenytoin[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Dilantin) | - | - | - | Not studied; may decrease atazanavir levels. | Potentially decreased antiviral effects. | - | Avoid combination if possible; do not coadminister with unboosted atazanavir. Consider alternative agents. If using, monitor phenytoin levels and adjust as indicated and monitor for virologic response.  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Pimozide  (Orap)(Orap) | - | - | Not studied; may increase pimozide levels | - | Increased pimozide effects (eg, hypotension, cardiac arrhythmias) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister |
| Pitavastatin[515](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#515),[605](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#605)  (Livalo) | 4 mg QD | 300 mg QD x 5 days | Pitavastatin AUC: increased 31%; Cmax: increased 60% | No significant change | Possibly increased pitavastatin effects | - | Start at lowest dose and titrate to effect |
| Posaconazole[501](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#501),[424](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#424)  (Noxafil) | 400 mg BID | 300 mg QD | - | Atazanavir AUC: increased 268%; Cmax: increased 155% | Increased atazanavir effects | Inhibition of CYP450 3A4 by posaconazole | Dose adjustment not established; Monitor closely for adverse effects during coadministration |
| Posaconazole[519](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#519),[424](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#424)  (Noxafil) | 400 mg BID | 300 mg QD with 100 mg ritonavir QD | - | Atazanavir AUC: increased 146%; Cmax: increased 53% | Increased atazanavir effects | Inhibition of CYP450 3A4 by posaconazole | Dose adjustment not established; Monitor closely for adverse effects during coadministration |
| Proguanil[487](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#487)  (Malarone)(Malarone) | 100 mg with 250 mg atovaquone x 1 | 300 mg with 100 mg ritonavir QD | Proguanil AUC: decreased 41%; Cmax: no significant change | - | Potentially compromised antimalarial activity | Increased atovaquone glucuronidation; induction of CYP450 3A4 by atazanavir/ritonavir | Dose adjustment not established |
| Rabeprazole[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Aciphex) | - | - | - | - | Decreased atazanavir effects | Decreased GI absorption of atazanavir due to reduced acidity | Do not coadminister PPIs with unboosted atazanavir. PPIs may be administered 12 hours before atazanavir when boosted with ritonavir or cobicistat, in treatment naive patients. Doses should not exceed the equivalent of omeprazole 20 mg daily. PPIs are not recommended for treatment experienced patients.  *Alternative Agents*:  **H2 receptor antagonists** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Raltegravir[3](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#3)  (RAL)(Isentress) | 100 mg x 1 | 400 mg QD | Raltegravir AUC: increased 72%; Cmax: increased 53%; Cmin: increased 95% | - | Possibly increased raltegravir effects | - | No dose adjustment necessary |
| Raltegravir[3](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#3)  (RAL)(Isentress) | 400 mg BID | 300 mg with 100 mg ritonavir QD | Raltegravir AUC: increased 41%; Cmax: increased 24%; Cmin: increased 77% | - | Possibly increased raltegravir effects | - | No dose adjustment necessary |
| Raltegravir[461](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#461)  (RAL)(Isentress) | 400 mg BID | 300 mg BID | RAL AUC: no significant change | - | - | - | Dose adjustment not established |
| Raltegravir[428](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#428)  (RAL)(Isentress) | 400 mg BID on days 1-5 and days 13-26 | 300 mg BID on days 6-12 and days 13-26 | Raltegravir AUC: increased 54%; Cmin: increased 48%; Cmax: increased 39% | Atazanavir AUC: decreased 17%; Cmin: decreased 29% (compared to atazanavir BID) | Possibly increased raltegravir effects | - | Dose adjustment not established |
| Ranitidine[240](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#240)  (Zantac) | - | - | - | - | May decrease atazanavir effects | Possible decreased GI absorption | Unboosted atazanavir 400 mg: give atazanavir 2 hrs before or 10 hours after H2-blocker. Single doses of H2-blockers should not exceed 20 mg of famotidine (or equivalent). Additionally, if treatment naive, total daily dose of H2 blocker should not exceed 40 mg of famotidine (or equivalent). Atazanavir 300 mg boosted with ritonavir or cobicistat: Give boosted atazanavir at same time as H2 blocker or 10 hours or more after. Total doses of H2 blocker should not exceed the equivalent of 40 mg BID famotidine (treatment naive) or 20 mg BID for (treatment experienced patients). If using tenofovir disoproxil fumarate, atazanavir, and H2 blocker in treatment experienced patient, increase atazanavir dose to 400 mg in addition to boosting with ritonavir or cobicistat. |
| Ranolazine[709](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#709)  (Ranexa) | - | - | Not studied; may increase ranolazine levels | Not studied; may increase atazanavir levels | Potential increased ranolazine adverse effects (e.g. prolonged QT, cardiac arrythmias). | - | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Rifabutin[341](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#341)  (Mycobutin) | 150 mg QD on days 15-28 | 400 mg QD on days 1-14, 400 mg QD with ritonavir 100 mg QD on days 15-28 | Not studied | Atazanavir AUC: increased 191%; Cmax: increased 81% | Increased atazanavir effects | - | Reduce rifabutin dose to 150 mg daily or 300 mg 3x/week. Monitor for antimicrobial activity and/or consider therapeutic drug monitoring. |
| Rifabutin[341](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#341)  (Mycobutin) | 150 mg QD on days 15-28 | 400 mg QD on days 1-28 | Not studied | Atazanavir Cmax: increased 34% | - | - | Reduce rifabutin dose to 150 mg daily or 300 mg 3x/week. Monitor for antimicrobial activity and/or consider therapeutic drug monitoring. |
| Rifabutin  (Mycobutin) | 300 mg QD on days 1-10, then 150 mg QD on days 11-20 | 600 mg QD on days 11-20 | Rifabutin AUC: increased 110%; Cmax: increased 118%; Cmin: increased 243%; 25-O-desacetylrifabutin AUC: increased 2101%; Cmax: increased 720%; Cmin: increased 7460% | Not studied | Increased rifabutin effects (eg, uveitis) | Inhibition of CYP450 3A4 by atazanavir | Reduce rifabutin dose to 150 mg daily or 300 mg 3x/week. Monitor for antimicrobial activity and/or consider therapeutic drug monitoring. |
| Rifampin  (Rifampicin)(Rifadin) | - | - | - | - | Decreased atazanavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rifampin[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Rifampicin)(Rifadin) | 600 mg QD x 10 d | 300 mg with ritonavir 100 mg QD x 21 d | - | Atazanavir AUC: decreased 72%; Cmax: decreased 53%; Cmin: decreased 98% | Decreased atazanavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rifampin[247](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#247)  (Rifampicin)(Rifadin) | 600 mg QD x 10 d | 300 mg with ritonavir 100 mg QD x 10 d | - | Atazanavir AUC: decreased 57%; Cmax: decreased 56%; Cmin: decreased 93%(compared to atazanavir 400 mg QD) | Decreased atazanavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister; consider rifabutin |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Rifampin[247](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#247)  (Rifampicin)(Rifadin) | 600 mg QD x 10 d | 400 mg with ritonavir 200 mg QD x 10 d | - | Atazanavir AUC: no significant change; Cmax: decreased 18%; Cmin: decreased 40%(compared to atazanavir 400 mg QD) | Decreased atazanavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister; consider rifabutin |
| Rifampin[247](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#247)  (Rifampicin)(Rifadin) | 600 mg QD x 10 d | 300 mg with ritonavir 200 mg QD x 10 d | - | Atazanavir AUC: decreased 31%; Cmax: decreased 40%; Cmin: decreased 80%(compared to atazanavir 400 mg QD) | Decreased atazanavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister; consider rifabutin |
| Ritonavir[99](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#99),  (RTV)(Norvir) | 100 mg QD on days 11-20 | 300 mg QD on days 1-20 | Not studied | Atazanavir AUC: increased 238%; Cmax: increased 86%; Cmin: increased 1089% | Increased atazanavir effects | Inhibition of CYP450 3A4 by ritonavir | Dose adjustment not established |
| Rosiglitazone  (Avandia) | 4 mg x 1 | 400 mg QD | Rosiglitazone AUC: increased 35% | - | Possibly increased rosiglitazone effects | - | - |
| Rosiglitazone  (Avandia) | 4 mg x 1 | 300 mg QD with 100 mg ritonavir QD | Rosiglitazone AUC: decreased 17% | - | - | - | - |
| Rosuvastatin[411](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#411)  (Crestor) | 10 mg QD | 300 mg atazanavir QD with ritonavir 100 mg QD | Rosuvastatin AUC: increased 213%; Cmax: increased 600% | - | Increased rosuvastatin effects | Possibly atazanavir induced increase in rosuvastatin bioavailability | Initiate lowest dose and titrate carefully. Do not exceed 10mg rosuvastatin daily.  *Alternative Agents*:  **Pravastatin, atorvastatin** |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Saquinavir[162](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#162)  (SQV)(Fortovase, Invirase) | 1000 mg BID with ritonavir 100 mg BID | 200 mg BID with saquinavir 1500 mg BID | Saquinavir AUC: decreased 53%; Cmax: decreased 78%; Cmin: decreased 69% (when SQV/ATV BID compared to SQV/RTV BID) | Not studied | Decreased saquinavir levels (when compared to SQV 100 mg with RTV 100 mg BID) | Possible induction of P450 by atazanavir | Do not coadminister |
| Saquinavir  (SQV)(Fortovase, Invirase) | 1200 mg (soft gel caps) QD on days 1-13 | 400 mg QD on days 7-13 | Saquinavir AUC: increased 449%; Cmax: increased 339%; Cmin: increased 586% | Not studied | Increased saquinavir effects | Inhibition of CYP450 3A4 by atazanavir | Dose adjustment not established |
| Saquinavir[137](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#137)  (SQV)(Fortovase, Invirase) | 1600 mg QD with ritonavir 100 mg QD x 30 days | 300 mg QD x 30 days | Saquinavir AUC: increased 61%; Cmax: increased 42%; Cmin: increased 112%;Ritonavir AUC: increased 41%; Cmax: increased 58%; Cmin: decreased 27% | Not studied | Increased saquinavir effects | Inhibition of CYP450 3A4 by atazanavir and ritonavir | Dose adjustment not established |
| Saquinavir[122](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#122)  (SQV)(Fortovase, Invirase) | 800 mg, 1200 mg, 1600 mg QD | 400 mg x 7 days | Saquinavir AUC: increased 440-610%; Cmin: increased 560-1660% | No significant change | Increased saquinavir effects | Inhibition of CYP450 3A4 by atazanavir | Dose adjustment not established |
| Sildenafil[739](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#739),[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Viagra) | - | - | - | - | Potentially increased sildenafil effects (eg, hypotension, priapism) | - | 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[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727)  (Olysio) | - | - | - | - | - | Inhibition of CYP3A4 potentiating simeprevir effects | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Simvastatin  (Zocor)(Zocor) | - | - | Not studied; may increase simvastatin levels | - | Increased simvastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin (low dose); Pravastatin** |
| Sofosbuvir/velpatasvir[751](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#751)  (Epclusa) | 400 mg /100 mg | 300 mg with ritonavir 100 mg daily | Sofosbuvir AUC increased 22%. Velpatasvir Cmax increased 55%; AUC increased 142%; Cmin increased 301% | Atazanavir Cmax increased 9%; AUC increased 20%; Cmin increased 39%. | - | - | No dose adjustment necessary |
| St. John's Wort  (Hypericum perforatum, hypericin, hyperforin) | - | - | - | Not studied; may decrease atazanavir levels | Decreased atazanavir effects | Induction of CYP450 3A4 by St. John's Wort | Do not coadminister |
| Stavudine[122](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#122)  (d4T)(Zerit) | also dosed with didanosine | 400 mg x 1 | Not studied | Atazanavir AUC: decreased 87%; Cmax: decreased 89% | Decreased atazanavir effects | - | Dose adjustment not established |
| Tadalafil[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727) | - | - | Not studied; potentially increased tadalafil effects (e.g. hypotension, priapism) | - | - | - | 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=10&post=4#571)  (Incivek) | 750 mg Q8H | 300 mg atazanavir QD with 100 mg ritonavir QD | Telaprevir AUC: decreased 20%; Cmin: decreased 15%; Cmax: decreased 21% | Atazanavir AUC: increased 17%; Cmin: increased 85%; Cmax: decreased 15% | - | - | No dose adjustment necessary; monitor for telaprevir effectiveness and for toxicity of atazanavir. |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Atazanavir** | **Effect on Drug Levels** | **Effect on Atazanavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Tenofovir disoproxil fumarate[148](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#148)  (TDF)(Viread) | 300 mg QD | 300 mg QD with ritonavir 100 mg QD | - | Atazanavir AUC: no significant change; Cmax: no significant change; Cmin: decreased 21% (compared to atazanavir 300 QD with ritonavir 100 mg QD)Ritonavir AUC: increased 20%; Cmax: no signficant change; Cmin: no significant change | - | Unknown | No dose adjustment necessary |
| Tenofovir disoproxil fumarate[8](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#8),[9](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#9),[10](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#10)  (TDF)(Viread) | 300 mg QD on days 15-42 | 300 mg QD with ritonavir 100 mg QD on days 1-42 | Not studied | Atazanavir Cmax: decreased 28%; AUC: decreased 25%; Cmin: decreased 26%; Ritonavir Cmax: decreased 28%; AUC: decreased 25%; Cmin: no significant change | Decreeased atazanavir effects; possibly increased tenofovir effects | - | Do not coadminister with unboosted atazanavir (400 mg); Administer 300 mg atazanavir with 100 mg ritonavir when used as part of a tenofovir containing regimen |
| Tenofovir disoproxil fumarate[9](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#9),[123](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#123),[124](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#124),  (TDF)(Viread) | 300 mg QD with a light meal | 400 mg QD with a light meal | Tenofovir AUC: increased 25%; Cmax: no significant change | Atazanavir AUC: decreased 26%; Cmax: decreased 24%; Cmin: decreased 40% | Decreased atazanavir effects; increased tenofovir effects | Unknown | Do not coadminister with unboosted atazanavir (400 mg); Administer 300 mg atazanavir with 100 mg ritonavir when used as part of a tenofovir containing regimen |
| Tenofovir disoproxil fumarate[155](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#155)  (TDF)(Viread) | 300 mg QD x 10 d | 400 mg QD with 100 mg ritonavir QD x 10 d | Tenofovir AUC: increased 55%; Cmax: increased 39%; Cmin: increased 70% | Atazanavir AUC: increased 38%; Cmax: increased 31%; Cmin: increased 33% | Increased atazanavir and tenofovir effects | - | Do not coadminister |
| Tenofovir disoproxil fumarate[155](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#155)  (TDF)(Viread) | 300 mg QD x 10 d, separated 12 hours away from atazanavir/ritonavir | 300 mg QD with 100 mg ritonavir QD x 10 d | Tenofovir AUC: increased 37%; Cmax: increased 34%; Cmin: increased 29% | Atazanavir Cmin: decreased 20% | Increased tenofovir effects | - | Coadminister atazanavir/ritonavir together with tenofovir |
| Tipranavir[154](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#154)  (TPV)(Aptivus) | 500 mg with 100 mg ritonavir BID | 300 mg QD with 100 mg ritonavir QD | Tipranavir AUC: increased 20%; Cmin: increased 75% | Atazanavir AUC: decreased 68%; Cmax: decreased 57%; Cmin: decreased 81% | Decreased atazanavir effects | Induction of CYP450 3A4 by tipranavir | Do not coadminister |
| Triazolam  (Halcion) | - | - | Not studied; may increase triazolam levels | - | Increased triazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by atazanavir | Do not coadminister; consider alternative agents  *Alternative Agents*:  **Lorazepam; Oxazepam; Temazepam; Trazodone** |
| Voriconazole[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#727),[515](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#515)  (VFend) | 200 mg PO Q12H | - | Voriconazole AUC: decreased 39% when given with ritonavir 100 mg BID | - | Decreased voriconazole effects | Possible induction of CYP450 by ritonavir | With unboosted atazanavir no dose adjustment necessary; monitor for toxicity. Do not coadminister with boosted protease inhibitors unless benefit outweighs risks. If coadministering, consider therapeutic drug monitoring. |
| Zidovudine[106](http://arv.ucsf.edu/insite?page=ar-00-02&param=10&post=4#106),  (AZT, ZDV)(Retrovir) | 300 mg BID with lamivudine 150 mg BID x 6 days | 400 mg QD x 6 days | No significant change | Not studied | - | - | No dose adjustment necessary |
| "-" indicates that there are no data available | | | | | | | |

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