**All Interactions with Indinavir (Crixivan)**

| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Adefovir[45](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#45)  (Hepsera) | - | - | No significant change | No significant change | - | - | No dose adjustment necessary |
| Amiodarone[314](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#314) | 200 mg QD | 800 mg TID | Amiodarone levels: increased 44% | - | Increased amiodarone effects (eg, hypotension, bradycardia, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Monitor and adjust amiodarone as indicated; amiodarone dose reduction may be necessary |
| Amlodipine[313](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#313) | 5 mg QD on days 1-7 and 20-26 | 800 mg Q12H with 100 mg ritonavir Q12H on days 8-26 | Amlodipine AUC: increased 89.8%; Cmax: increased 89% | No significant change | Increased amlodipine effects (eg, hypotension, heart block) | Inhibition of CYP450 3A4 by indinavir and ritonavir | Use lower starting dose and titrate to effect |
| Amprenavir[111](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#111)  (APV)(Agenerase) | 1200 mg BID with efavirenz 600 mg QD | 1200 mg BID | Amprenavir clearance: decreased 54% | Not studied | - | Induction of CYP450 3A4 by amprenavir or efavirenz | Dose adjustment not established |
| Amprenavir[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[60](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#60)  (APV)(Agenerase) | 750 mg or 800 mg TID (fasted) | 800 mg TID (fasted) | Amprenavir Cmax: increased 18%; AUC: increased 33%; Cmin: increased 25% | Indinavir Cmax: decreased 22%; AUC: decreased 38%; Cmin: decreased 27% | - | Inhibition of CYP450 3A4 by indinavir | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Amprenavir[60](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#60),[63](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#63)  (APV)(Agenerase) | 800 mg TID x 2 weeks (fasted) | 750 mg or 800 mg TID x 2 weeks (fasted) | Amprenavir AUC: increased 33%; Cmax: increased 18%; Cmin: increased 25% | Indinavir AUC: decreased 38%; Cmax: decreased 22%; Cmin: decreased 27% | - | Inhibition of CYP450 3A4 by indinavir; induction of CYP450 3A4 by amprenavir | No dose adjustment necessary |
| Astemizole[253](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#253)  (Hismanal) | - | - | Not studied; may increase astemizole levels | - | Increased astemizole effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Cetirizine Fexofenadine Loratadine** |
| Atorvastatin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16) | - | - | Not studied; may increase atorvastatin levels | - | Increased atorvastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by indinavir | Avoid combination if possible; may consider low dose atorvastatin or alternative agents; monitor for myopathy  *Alternative Agents*:  **Pravastatin** |
| Atovaquone[325](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#325)  (Mepron) | 750 mg BID (with food) | 800 mg TID (fasted) | Atovaquone Cmax: increased 16%; AUC: increased 13% | Indinavir Cmin: decreased 23% | - | - | No dose adjustment necessary |
| Azithromycin[330](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#330)  (Zithromax) | 1200 mg x 1 dose | 800 mg TID | - | No significant change | - | - | No dose adjustment necessary |
| Bosentan[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&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. |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Carbamazepine[291](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#291),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (others)(Tegretol) | 200 mg QD | 800 mg Q8H | - | Indinavir levels: decreased 4-25% of mean population values | Decreased indinavir effects | Induction of CYP450 3A4 by carbamazepine | Avoid combination if possible; consider alternative agents; monitor carbamazepine levels and adjust as indicated  *Alternative Agents*:  **Gabapentin Lamotrigine Tiagabine Topiramate** |
| Cerivastatin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16) | - | - | Not studied; may increase cerivastatin levels | - | Increased cerivastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin Pravastatin** |
| CHOP[304](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#304)  (Cyclophosphamide, Doxorubicin, Vincristine, Prednisone) | Doxorubicin 75mg/square meter, cyclophosphamide 1200 mg/square meter, vincristine 1.4 mg/square meter | 800 mg Q8H | Not studied | Indinavir AUC: increased 38% | Increased indinavir effects | - | No dose adjustment necessary |
| Cimetidine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Tagamet)(Tagamet) | 600 mg Q12 | 400 mg x 1 dose | - | No significant change | - | - | No dose adjustment necessary |
| Cisapride[294](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#294),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Propulsid) | - | - | Not studied; may increase cisapride levels | - | Increased cisapride effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Metoclopramide** |
| Clarithromycin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Biaxin) | 500 mg Q12H x 1 week | 800 mg Q8H x 1 week | Clarithromycin AUC: increased 53% | Indinavir AUC: increased 29% | - | Inhibition of CYP450 3A4 by both drugs | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Clarithromycin[359](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#359)  (Biaxin) | 500 mg Q12H x 1 week | 800 mg Q8H x 1 week | Clarithromycin AUC: increased 47%; Cmax: increased 20%; 14-hydroxyclarithromycin AUC: decreased 49%; Cmax: decreased 49% | Indinavir AUC: increased 19%; Cmax: no significant change; Cmin: increased 52% | Increased indinavir effects | Inhibition of CYP450 3A4 by both drugs | No dose adjustment necessary |
| Co-trimoxazole[331](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#331),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (TMP/SMX, Trimethoprim/Sulfamethoxazole)(Bactrim, Septra) | 160 mg/800 mg Q12H x 1 week | 400 mg Q6H x 1 week | Trimethoprim AUC: increased 19%; sulfamethoxazole AUC: no significant change | No significant change | - | - | No dose adjustment necessary |
| Colchicine[557](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#557)  (Colcrys) | - | - | - | - | Increased colchicine effects | Inhibition of P450 3A4 by indinavir | 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 daily 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. |
| Darunavir[161](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#161)  (DRV)(Prezista) | 400 mg BID with ritonavir 100 mg BID | 800 mg BID | Darunavir AUC: increased 24%; Cmin: increased 44% | Indinavir AUC: increased 23%; Cmin: increased 125% | Increased indinavir and darunavir effects | Inibition of CYP450 3A4 by darunavir and indinavir | Dose adjustment not established |
| Delavirdine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[17](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#17),[18](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#18)  (DLV)(Rescriptor) | 400 mg TID | 600 mg x 1 dose | No significant change | Indinavir AUC: increased 44% (compared to 800 mg dose) | Increased indinavir effects | Inhibition of CYP450 3A4 by delavirdine | Decrease indinavir to 600 mg Q8H |
| Delavirdine[88](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#88)  (DLV)(Rescriptor) | 400 mg TID | 400 mg x 1 dose | Not studied | Indinavir AUC: increased 40% | Increased indinavir effects | Inhibition of CYP450 3A4 by delavirdine | Decrease indinavir to 600 mg Q8H |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Delavirdine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (DLV)(Rescriptor) | 400 mg TID | 400 mg TID x 7 days | No significant change | Indinavir AUC: no signficant change; Cmax: decreased 36%; Cmin: increased 118% | - | Inhibition of CYP450 3A4 by delavirdine | Decrease indinavir to 600 mg Q8H |
| Delavirdine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (DLV)(Rescriptor) | 400 mg TID | 600 mg TID x 7 days | No significant change | Indinavir AUC: increased 53%; Cmax: no significant change; Cmin: increased 298% | Increased indinavir effects | Inhibition of CYP450 3A4 by delavirdine | Decrease indinavir to 600 mg Q8H |
| Dexamethasone[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Decadron) | - | - | - | May decrease indinavir levels | Decreased indinavir effects | Induction of CYP450 3A4 by dexamethasone | No dose adjustment necessary |
| Didanosine[84](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#84),[19](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#19)  (ddI)(Videx) | 200 mg (buffered formulation) x 1 dose | 800 mg x 1 dose | No significant change | Not studied | - | - | No dose adjustment necessary |
| Didanosine[84](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#84),[19](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#19)  (ddI)(Videx) | 200 mg (buffered formulation) x 1 dose | 800 mg x 1 dose (administered 1 hour before didanosine) | Didanosine AUC: decreased 17%; Cmax: no significant change | Not studied | - | - | No dose adjustment necessary |
| Didanosine[84](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#84),[19](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#19)  (ddI)(Videx) | 400 mg (enteric coated capsule) x 1 dose | 800 mg x 1 dose | Not studied | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Didanosine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[19](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#19),[20](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#20)  (ddI)(Videx) | Buffered formulation | - | Not studied | Indinavir AUC: decreased 84% | Decreased indinavir effects | Decreased indinavir absorption | Take drugs at least one hour apart  *Alternative Agents*:  **Didanosine enteric coated** |
| Didanosine[19](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#19),[83](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#83)  (ddI)(Videx) | Buffered formulation | - | Not studied | Indinavir AUC: decreased 84% | Decreased indinavir effects | Decreased indinavir absorption due to decreased gastric acidity resulting from antacid buffer contained within didanosine tablets/suspension | Consider didanosine EC or administer indinavir at least 1 hour prior to didanosine tablets/suspension |
| Diltiazem[313](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#313)  (Dilacor, Tiazac, Cardizem) | 120 mg QD on days 1-7 and 20-26 | 800 mg Q12H with 100 mg ritonavir Q12H on days 8-26 | Diltiazem AUC: increased 26.5%; Cmax: increased 24.9%; Desacetyldiltiazem AUC: increased 102%; Desmethyldiltiazem AUC: decreased 27% | No significant change | Increased diltiazem effects (eg, hypotension, heart block) | Possible inhibition of CYP450 3A4 by indinavir and ritonavir | Use lower starting dose and titrate to effect |
| DMP450[264](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#264) | 100 mg on days 1 and 32 | 800 mg Q8H on days 2-32 | No significant change | Indinavir AUC: increased 40%; Cmin: increased 40% | Increased indinavir effects | Inhibition of CYP450 3A4 by DMP450 | Dose adjustment not established |
| Dofetilide[316](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#316)  (Tikosyn) | - | - | Not studied; may increase dofetilide levels | - | Increased defetilide effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Monitor and adjust dofetilide as indicated |
| Dronabinol[171](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#171)  (Marinol) | 2.5 mg TID | 800 mg Q8H x 21 days (PK measured at day 14) | - | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Efavirenz[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[21](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#21),[22](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#22)  (EFV)(Sustiva) | 200 mg QD x 14 days | 800 mg Q8H x 14 days | No significant change | Indinavir AUC: decreased 31-35%; Cmax: decreased 16% | Decreased indinavir effects | Induction of CYP450 3A4 by efavirenz | Do not coadminister. Increasing indinavir dose to 1000 mg Q8H may not be sufficient to compensate for interaction. |
| Efavirenz[90](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#90)  (EFV)(Sustiva) | 200 mg x 14 days | 800 mg Q8H x 14 days | No significant change | Indinavir AUC: decreased 31%; Cmax: decreased 16% | Decreased indinavir effects | Induction of CYP450 3A4 by efavirenz | Do not coadminister. Increasing indinavir dose to 1000 mg Q8H may not be sufficient to compensate for interaction. |
| Efavirenz[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (EFV)(Sustiva) | 600 mg QD x 10 days | 1000 mg TID x 10 days | Not studied | Indinavir AUC: decreased 33-46%; Cmax: decreased 29%; Cmin: decreased 39-57% | Decreased indinavir effects | Induction of CYP450 3A4 by efavirenz | Do not coadminister. Increasing indinavir dose to 1000 mg Q8H may not be sufficient to compensate for interaction. |
| Efavirenz[23](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#23)  (EFV)(Sustiva) | 600 mg QD x 14 days | 800 mg indinavir/100 mg ritonavir Q12H x 29 days | No significant change | Indinavir AUC: decreased 19%; Cmin: decreased 48%; Cmax: decreased 13% | Decreased indinavir effects | Induction of CYP450 3A4 by efavirenz | Increase indinavir to 1000 mg Q12H if dosed with ritonavir 100 mg Q12H |
| Elbasvir/grazoprevir  (Zepatier) | - | - | - | - | Potentially increased grazoprevir levels expected | OATP1B1/3 inhibition by indinavir | Do not coadminister |
| Elbasvir/grazoprevir[727](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#727)  (Zepatier) | - | - | - | - | 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 indinavir | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Emivirine[266](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#266)  (MKC-442) | 500 mg BID x 21 days | 800 mg TID x 21 days | Emivirine AUC: increased 88.5% | Indinavir AUC: decrease 74.5% | - | Induction of CYP450 3A4 by emivirine; inhibition of CYP450 3A4 by indinavir | Do not coadminister |
| Emtricitabine[125](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#125)  (FTC)(Emtriva) | 200 mg x 1 dose | 800 mg x 1 dose | No significant change | No significant change | - | - | No dose adjustment necessary |
| Ergotamine[317](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#317),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Cafergot, Ergot derivatives)(Cafergot, others) | - | - | Not studied; may increase ergotamine levels | - | Increased ergotamin effects (eg, ergotism) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **5-HT agonists ("triptans")** |
| Ethinyl estradiol/norethindrone acetate[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (others)(Ortho-Novum) | 0.035 mcg ethinyl estradiol/1 mg norethindrone QD x 1 week | 800 mg Q8H x 1 week | Ethinyl estradiol AUC: increased 24%; norethindrone AUC: increased 26% | Not studied | - | - | No dose adjustment necessary |
| Etravirine[407](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#407)  (ETR)(Intelence) | - | - | Etravirine AUC: increased 51% | Indinavir AUC: decreased 46% | Decreased indinavir effects | - | Do not coadminister |
| Fluconazole[271](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#271),[272](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#272),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Diflucan)(Diflucan) | 400 mg QD | 1000 mg Q8H | No significant change | Indinavir AUC: decreased 19-24%; Cmax: no significant change; Cmin: no significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Fosphenytoin[222](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#222),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Cerebyx)(Cerebyx) | - | - | - | Not studied, may decrease indinavir levels | Decreased indinavir effects | Induction of CYP450 3A4 by phenytoin | Dose adjustment not established |
| Ginseng[446](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#446)  (Panax, others) | 1000 mg Q8H | 800 mg Q8H | - | No significant change | - | - | No dose adjustment necessary |
| Grapefruit juice[230](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#230) | 6 ounces double strength | 800 mg x 1 | - | No significant change | - | - | No dose adjustment necessary |
| Grapefruit juice[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16) | 8 oz grapefruit juice | 400 mg x 1 dose | Not studied | Indinavir AUC: decreased 26% | Decreased indinavir effects | Increased gastric acidity reduced indinavir absorption | Consider separating grapefruit juice and indinavir by at least 2 hours |
| Grapefruit juice[229](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#229) | Single strength | 800 mg Q8H x 4 doses | - | No significant change | - | Inhibition of CYP450 3A4 by Seville orange juice or grapefruit juice was not observed in this study | No dose adjustment necessary |
| Interleukin-2[309](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#309)  (IL-2)(Aldesleukin) | Continuous Infusion x 5 days | 800 mg Q8H | - | AUC: increased 88% | - | Possible inhibition of CYP450 3A4 by IL-6 triggered by IL-2 | No dose adjustment established |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Isoniazid[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (INH, others)(Tubizid) | 300 mg QD x 1 week | 800 mg Q8H x 1 week | No significant change | No significant change | - | - | No dose adjustment necessary |
| Itraconazole[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Sporanox)(Sporanox) | 200 mg BID | 600 mg Q8H | - | Indinavir AUC: similar to AUC of 800 mg Q8H alone | Increased indinavir effects | Inhibition of CYP450 3A4 by itraconazole | Decrease indinavir to 600 mg Q8; do not exceed itraconazole 200 mg BID |
| Ketoconazole[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Nizoral) | 400 mg QD | 600 mg Q8H | - | Indinavir AUC: decreased 18% | Decreased indinavir effects | - | Dose adjustment not established |
| Ketoconazole[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Nizoral) | 400 mg x 1 dose | 400 mg x 1 dose | - | Indinavir AUC: increased 68% | Increased indinavir effects | Inhibition of CYP450 3A4 by ketoconazole | May consider decreasing indinavir to 600 mg Q8H |
| Lamivudine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (3TC)(Epivir) | 150 mg BID x 1 week | 800 mg Q8H x 1 week | No significant change | No significant change | - | - | No dose adjustment necessary |
| Levodopa[295](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#295)  (L-DOPA)(Larodopa) | 700-750 mg per day | 2400 mg per day | - | - | Increased levodopa effects (eg, gastrointestinal distress, dystonia, confusion) | Inhibition of CYP450 3A4 by indinavir | Decrease levodopa dose as tolerated |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Lopinavir/ritonavir[78](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#78)  (LPV/r)(Kaletra) | 400 mg/100 mg BID x 10 days | 600 mg x 1 dose | Not studied | Indinavir AUC: no significant change; Cmax: decreased; Cmin: increased | No significant change | - | Dose adjustment not established |
| Lopinavir/ritonavir[13](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#13)  (LPV/r)(Kaletra) | 400/100 mg BID | 400 mg BID x 14 days | No significant change | Indinavir Cmax: no significant change; Cmin: increased 46%; AUC: increased 20% | - | Inhibition of P450 3A4 by lopinavir/ritonavir | No dose adjustment necessary |
| Lopinavir/ritonavir[108](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#108)  (LPV/r)(Kaletra) | 400/100 mg BID on days 6-15 | 800 mg TID on days 1-5, 600 mg BID on days 6-15 | No significant change | Indinavir AUC: no significant change; Cmax: decreased 29%; Cmin: increased 247% | - | Inhibition of CYP450 3A4 by lopinavir/ritonavir | No dose adjustment necessary |
| Lovastatin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Mevacor)(Mevacor) | - | - | Not studied; may increase lovastatin levels | - | Increased lovastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin Pravastatin** |
| Marijuana[171](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#171)  (Pot, THC) | 4% THC cigarettes | 800 mg Q8H x 21 days (PK measured at 14 days) | Not studied | Indinavir AUC: no significant change; Cmax: no significant change; Cmin: decreased 34% | - | Possible induction of CYP450 3A4 by cannabinoids | No dose adjustment necessary |
| Methadone[193](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#193),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Dolophine)(Dolophine) | 20-60 mg QD x 1 week | 800 mg Q8H x 1 week | No significant change | No significant change | - | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Midazolam[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[257](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#257)  (Versed) | - | - | No significant change in procedure time or oxygenation | - | Increased midazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by indinavir | 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[373](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#373)  (Silymarin, Silybum marianum) | 160 mg TID on days 3-17 | 800 mg TID x 4 doses on days 1, 2 and days 16 and 17 | Not studied | No significant effect | - | - | No dose adjustment necessary |
| Milk thistle[374](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#374)  (Silymarin, Silybum marianum) | 175 mg TID x 3 weeks | 800 mg Q8H | - | Indinavir AUC: no significant change; Cmin: decreased 25% | - | Unknown | No dose adjustment necessary |
| Milk thistle[372](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#372)  (Silymarin, Silybum marianum) | 450 mg TID on days 2-30 | 800 mg Q8H on days 1-30 | - | No significant change | - | - | No dose adjustment necessary |
| Mycophenolate[312](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#312)  (CellCept)(CellCept) | 500 mg BID x 8 weeks | 800 mg BID | Not studied | No significant change | - | - | No dose adjustment necessary |
| Nelfinavir[72](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#72)  (NFV)(Viracept) | 1250 mg Q12H | 1200 mg Q12H | No significant change | Indinavir AUC: no significant change (similar to indinavir 800 mg Q8H); indinavir Cmax: no significant change | - | - | Indinavir 1200 mg Q12H and nelfinavir 1250 mg Q12H |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Nelfinavir[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[24](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#24),[25](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#25),[26](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#26),[27](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#27),[72](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#72)  (NFV)(Viracept) | 750 mg Q8H x 7 days | 800 mg x 1 dose | Nelfinavir AUC: increased 83%; Cmax: increased 31% | Indinavir AUC: increased 51%; AUC of 1000 mg Q12H with nelfinavir was similar to AUC of 800 mg Q8H without nelfinavir | Increased nelfinavir and indinavir effects | Inhibition of CYP450 3A4 by both drugs | Dose adjustment not established; may consider indinavir 1000-1200 mg Q12H when coadminstered with nelfinavir 1000-1250 mg Q12H |
| Nelfinavir[24](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#24),[25](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#25),[26](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#26),[27](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#27),[72](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#72)  (NFV)(Viracept) | 750 mg x 1 dose | 800 mg Q8H x 7 days | Nelfinavir AUC: increased 83%; Cmax: increased 31% | Not studied | Increased nelfinavir effects | Inhibition of CYP450 3A4 by indinavir | Indinavir 1200 mg Q12H and nelfinavir 1250 mg Q12H |
| Nelfinavir[24](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#24)  (NFV)(Viracept) | 750 mg x 7 days | 800 mg x 1 dose | Not studied | Indinavir AUC: increased 51%; Cmax: no significant change | Increased indinavir effects | Inhibition of CYP450 3A4 by nelfinavir | Indinavir 1200 mg Q12H and nelfinavir 1250 mg Q12H |
| Nevirapine[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[29](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#29),[30](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#30),[31](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#31),[32](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#32)  (NVP)(Viramune) | 200 mg BID | 800 mg Q8H | No significant change | Indinavir AUC: decreased 28%; Cmax: decreased 11% | Decreased indinavir effects | Induction of CYP450 3A4 by nevirapine | Increase indinavir to 1000 mg Q8H |
| Nevirapine[95](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#95)  (NVP)(Viramune) | 200 mg QD x 2 weeks, 200 mg BID x 28 days | 800 mg Q8H | Not studied | Indinavir AUC: decreased 28%; Cmax: no significant change | Decreased indinavir effects | Induction of CYP450 3A4 by nevirapine | Increase indinavir to 1000 mg Q8H |
| Omeprazole[249](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#249)  (Prilosec)(Prilosec) | 20 mg or 40 mg x 7 days | 800 mg or 800 mg with 200 mg ritonavir | Not studied | Indinavir AUC: decreased 47%; Cmin: decreased 55% | Decreased indinavir effects | - | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Omeprazole[250](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#250),[251](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#251)  (Prilosec)(Prilosec) | 20-40 mg QD | 800 mg TID | - | Indinavir AUC: decreased 25% | Decreased indinavir effects | Decreased gastric acidity may affect indinavir solubility and absorption | No dose adjustment necessary |
| Orange juice (Seville)[229](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#229) | 8 oz | 800 mg Q8H x 4 doses | - | No significant change | - | Inhibition of intestinal CYP450 3A4 by Seville orange juice or grapefruit juice was not observed in this study | No dose adjustment necessary |
| Paclitaxel[296](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#296)  (Taxol) | 100 mg/square meter over 3 hrs | 1200 mg BID | No significant change | No significant change | - | - | No dose adjustment necessary |
| Phenobarbital[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (others)(Luminal) | - | - | - | Not studied, may decrease indinavir levels | Decreased indinavir effects | Induction of CYP450 3A4 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[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Dilantin) | - | - | - | Decreased indinavir levels | Decreased indinavir effects | Induction of CYP450 3A4 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[177](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#177)  (Orap)(Orap) | - | - | May increase pimozide levels | - | Increased pimozide effects (eg, hypotension, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Quinidine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Quindex, others)(Quindex) | 200 mg x 1 dose | 400 mg x 1 dose | Not studied | AUC: increased 10% | - | - | No dose adjustment necessary |
| Quinupristin/Dalfopristin[334](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#334)  (Synercid) | - | - | - | May increase indinavir levels | Increased indinavir effects | Inhibition of CYP450 3A4 by quinupristin/ dalfopristin | Dose adjustment not established |
| Rifabutin[342](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#342),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Mycobutin)(Mycobutin) | 150 mg QD | 800 mg Q8H x 1 week | Rifabutin AUC: increased 60% | Indinavir AUC: decreased 31%; AUC of indinavir 800 mg Q8H is comparable to that of 1000 mg Q8H if given with rifabutin | Increased rifabutin effects (eg, uveitis); decreased indinavir effects | Inhibition of CYP450 3A4 by indinavir; induction of CYP450 3A4 by rifabutin | Decrease rifabutin to 150 mg QD or 300 mg 3 times/week and increase indinavir to 1000 mg Q8H |
| Rifabutin[337](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#337)  (Mycobutin)(Mycobutin) | 150 mg QD x 10 days | 800 mg Q8H x 10 days | Rifabutin AUC: increased 54% (compared to 300 mg rifabutin) | Indinavir AUC: decreased 32% | Increased rifabutin effects (eg, uveitis); decreased indinavir effects | Inhibition of CYP450 3A4 by indinavir | Decrease rifabutin to 150 mg QD or 300 mg 3 times/week and increase indinavir to 1000 mg Q8H |
| Rifabutin[343](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#343)  (Mycobutin)(Mycobutin) | 150 mg QD x 14 days | 1000 mg Q8H | Rifabutin AUC: increased 60% (when compared to rifabutin 300 mg QD monotherapy); 25-desacetyl rifabutin AUC: increased 125% (when compared to 25-desacetyl rifabutin from rifabutin 300 mg QD monotherapy) | Indinavir AUC: increased 15% | Increased rifabutin effects (eg, uveitis) | Induction of CYP450 3A4 by rifabutin | Decrease rifabutin to 150 mg QD or 300 mg 3 times/week and increase indinavir to 1000 mg Q8H |
| Rifabutin[342](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#342),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Mycobutin)(Mycobutin) | 300 mg QD | 800 mg Q8H | Rifabutin AUC: increased 204% | Indinavir AUC: decreased 32% | Increased rifabutin effects (eg, uveitis); decreased indinavir effects | Inhibition of CYP450 3A4 by indinavir; induction of CYP450 3A4 by rifabutin | Decrease rifabutin to 150 mg QD or 300 mg 3 times/week and increase indinavir to 1000 mg Q8H |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Rifabutin[337](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#337)  (Mycobutin)(Mycobutin) | 300 mg QD x 10 days | 800 mg Q8H x 10 days | Rifabutin AUC: increased 173% | Indinavir AUC: decreased 34% | Increased rifabutin effects (eg, uveitis); decreased indinavir effects | Inhibition of CYP450 3A4 by indinavir | Decrease rifabutin to 150 mg QD or 300 mg 3 times/week and increase indinavir to 1000 mg Q8H |
| Rifampin[355](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#355)  (Rifampicin)(Rifadin) | - | 800 mg with ritonavir 100 mg BID x 1, administered with food | Rifampin AUC: increased 25%; desacetylrifampin AUC: increased 63% | Indinavir AUC: decreased 81%; ritonavir AUC: decreased 89% | Increased rifampin effects; decreased indinavir and ritonavir effects | Induction of CYP450 3A4 by rifampin; inhibition of CYP450 3A4 by indinavir/ritonavir | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rifampin[353](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#353)  (Rifampicin)(Rifadin) | 300 mg QD x 4 days | 800 mg with ritonavir 100 mg BID | Not studied | Indinavir Cmin: decreased 87%; Cmax: no significant change; half-life: decreased 39%;Ritonavir Cmin: decreased 94%; Cmax: decreased 38%; half-life: decreased 53% | Decreased indinavir and ritonavir effects | Induction of P450 3A4 by rifampin | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rifampin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Rifampicin)(Rifadin) | 600 mg QD x 1 week | 800 mg Q8H x 1 week | - | Indinavir AUC: decreased 89% | Decreased indinavir effects | Induction of CYP450 3A4 by rifampin | Do not coadminister  *Alternative Agents*:  **Rifabutin** |
| Rifapentine[335](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#335),[336](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#336)  (Priftin)(Priftin) | 600 mg twice a week x 14 days | 800 mg TID x 14 days | No significant change | Indinavir AUC: decreased 70%; Cmax: decreased 55% | Decreased indinavir effects | Induction of CYP450 3A4 by rifapentine | Dosage adjustment not established  *Alternative Agents*:  **Rifabutin** |
| Ritonavir[119](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#119)  (RTV)(Norvir) | 100 mg BID x 14 days | 800 mg BID x 14 days | Not studied | Indinavir AUC: increased 170%; Cmax: increased 60%; Cmin: increased 1000% (compared to indinavir 800 mg Q8H) | Increased indinavir effects | Inhibition of CYP450 3A4 by ritonavir | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Ritonavir[119](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#119)  (RTV)(Norvir) | 200 mg BID x 14 days | 800 mg BID x 14 days | Not studied | Indinavir AUC: increased 254%; Cmax: increased 77%; Cmin: increased 2356% (compared to indinavir 800 mg Q8H) | Increased indinavir effects | Inhibition of CYP450 3A4 by ritonavir | No dose adjustment necessary |
| Ritonavir[119](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#119)  (RTV)(Norvir) | 400 mg BID x 14 days | 800 mg BID x 14 days | Not studied | Indinavir AUC: increased 209%; Cmax: increased 49%; Cmin: increased 2344% (compared to indinavir 800 mg Q8H) | Increased indinavir effects | Inhibition of CYP450 3A4 by ritonavir | No dose adjustment necessary |
| Ritonavir[119](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#119)  (RTV)(Norvir) | 400 mg BID x 14 days | 400 mg BID x 14 days | Not studied | Indinavir AUC: increased 62%; Cmax: no significant change; Cmin: increased 929% (compared to indinavir 800 mg Q8H) | Increased indinavir effects | Inhibition of CYP450 3A4 by ritonavir | No dose adjustment necessary |
| Ritonavir[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[33](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#33),[34](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#34),[35](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#35),[36](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#36),[37](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#37),[38](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#38),[39](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#39),[40](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#40),[41](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#41)  (RTV)(Norvir) | 400 mg Q12H x 15 days | 400 mg Q12H x 15 days | Not studied | Indinavir Cmin: increased 400% | - | Inhibition of CYP450 3A4 by ritonavir | May consider indinavir/ritonavir combination as follows (BID dosing): 800/100; 800/200; 400/400 |
| Saquinavir[44](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#44)  (SQV)(Fortovase, Invirase) | 1200 mg x 1 dose | 800 mg Q8H x 2 days | Saquinavir AUC: increased 364%; Cmax: increased 299% | Indinavir concentration: increased | Increased saquinavir effects | Inhibition of CYP450 3A4 by indinavir | Dose adjustment not established |
| Saquinavir[44](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#44),[43](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#43)  (SQV)(Fortovase, Invirase) | Saquinavir soft gel cap 800 mg or 1200 mg x 1 dose | 800 mg Q8H x 2 days | Saquinavir 800 mg AUC: increased 620%; Cmax: increased 551%; saquinavir 1200mg AUC: increased 364%; Cmax: increased 299% | Not studied | Increased saquinavir effects | Inhibition of CYP450 3A4 by indinavir | Dose adjustment not established |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Sargramostim[310](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#310)  (Leukine, GM-CSF)(Prokine, Leukine) | 250 mcg SQ three times a week x 8 weeks | - | - | No significant change | - | - | No dose adjustment necessary |
| Sildenafil[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254),[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[299](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#299)  (Viagra) | 25 mg x 1 dose | 800 mg TID | Sildenafil AUC: increased 340%; Cmax: increased 300% (Levels exceeded those achieved by a 100 mg single dose) | Indinavir AUC: increased 11%; Cmax: increased 48% | Increased sildenafil effects (eg, hypotension, priapism) | Inhibition of CYP450 3A4 by indinavir | 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=14&post=4#727)  (Olysio) | - | - | - | - | - | Inhibition of CYP3A4 potentiating simeprevir effects | Do not coadminister |
| Simvastatin[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16),[254](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#254)  (Zocor)(Zocor) | - | - | Increased simvastatin levels | - | Increased simvastatin effects (eg, myopathy, rhabdomyolysis) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Atorvastatin Pravastatin** |
| Sirolimus[311](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#311)  (Rapamycin)(Rapamune) | - | - | May increase sirolimus levels | - | Increased sirolimus effects (eg, excessive immunosuppression) | Inhibition of CYP450 3A4 by indinavir | Dose adjustment not established; monitor and adjust sirolimus as indicated |
| St. John's Wort[173](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#173)  (Hypericum perforatum, hypericin, hyperforin) | 300 mg TID (with meals) | 800 mg Q8H | Not studied | Indinavir AUC: decrease 57+/-19% | May decrease effect of indinavir; indinavir resistance | Possible induction of CYP450 3A4 by St. John's wort | Do not coadminister; active ingredient/quantity of hypericum varies between products and among individual tablets or capsules within the same product |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Stavudine[105](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#105)  (d4T)(Zerit) | 40 mg BID | 800 mg on days 1 and 2, 800 mg indinavir with 200 mg ritonavir BID on days 3-17 | Stavudine AUC: increased 24% (with indinavir and ritonavir); AUC: increased 14% (with indinavir alone); Cmax: no significant effect | Not studied | - | - | No dose adjustment necessary |
| Stavudine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (d4T)(Zerit) | 40 mg Q12H x 1 week | 800 mg Q8H x 1 week | Stavudine AUC: increased 25% | No significant change | - | - | No dose adjustment necessary |
| Sulfamethoxazole | - | - | - | - | - | - | - |
| Tenofovir disoproxil fumarate[96](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#96),[98](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#98)  (TDF)(Viread) | 300 mg QD x 7 days | 800 mg TID x 7 days | No significant change | No significant change | - | - | No dose adjustment necessary |
| Terfenadine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Seldane)(Seldane) | - | - | - | - | Increased terfenadine effects (eg, cardiac arrhythmias) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister  *Alternative Agents*:  **Cetirizine Fexofenadine Loratadine** |
| Theophylline[302](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#302)  (Slo-Phyllin, Theo-Dur) | 250 mg x 1 dose | 800 mg Q8H x 6 days | Theophylline AUC: increased 18%; theophylline Cmax: within 8% of that when given alone | Not studied | - | Inhibition of P450 3A4 by indinavir | No dose adjustment necessary |
| **Coadministered Drug** | **Dose of Drug** | **Dose of Indinavir** | **Effect on Drug Levels** | **Effect on Indinavir Levels** | **Potential Clinical Effects** | **Mechanism of Interaction** | **Management** |
| Trazodone[259](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#259)  (Desyrel)(Desyrel) | - | - | - | - | Increased trazodone effects (eg, nausea, dizziness, hypotension, syncope) | Inibition of CYP450 3A4 by indinavir | Decrease trazodone dose or start low and titrate to effect |
| Triazolam[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (Halcion) | - | - | Not studied; may increase triazolam levels | - | Increased triazolam effects (eg, increased sedation, confusion, respiratory depression) | Inhibition of CYP450 3A4 by indinavir | Do not coadminister; consider alternative agents  *Alternative Agents*:  **Lorazepam Oxazepam Temazepam Trazodone** |
| Vardenafil[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16) | 10 mg x 1 dose | 800 mg Q8H | Vardenafil AUC: increased 16-fold; Cmax: increased 7-fold; half-life: increased 2-fold | Not studied | Increased vardenafil effects (eg, hypotension, nausea, priapism, syncope) | Inhibition of CYP450 3A4 by indinavir | Consider initiating vardenafil at lower dose and titrate to effect. Dose should not exceed 2.5 mg in any 24 hour period. |
| Vitamin C[383](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#383)  (Ascorbic acid) | 1 g QD x 7 days | 800 mg Q8H x 4 doses | - | Indinavir AUC: no significant change; Cmin: decreased 32%; Cmax: decreased 20% | - | - | No dose adjustment necessary |
| Voriconazole[517](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#517),[382](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#382)  (VFend)(VFend) | 200 mg Q12H x 7 days | 800 mg TID x 10 days | No significant effect | No significant effect | - | - | No dose adjustment necessary |
| Warfarin[322](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#322)  (Coumadin) | 5 mg QD | 800 mg Q8H x 12 days | Prothrombin complex activity increased from 25-35% to 53 and 43% at 10 and 25 days after indinavir discontinued in one patient | - | Increased warfarin effects (eg, increased INR, risk of bleeding) | Inhibition of CYP450 by indinavir | Monitor INR and adjust warfarin as indicated |
| Zidovudine[16](http://arv.ucsf.edu/insite?page=ar-00-02&param=14&post=4#16)  (AZT, ZDV)(Retrovir) | 200 mg Q8H x 1 week | 1000 mg Q8H x 1 week | Zidovudine AUC: increased 17-36% | No significant change | - | - | No dose adjustment necessary |
| "-" indicates that there are no data available | | | | | | | |

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