

S1 Table. Significant DDI-related drug terms for cyclosporine, rifampin and theophylline. The gold standard in the manuscript is known DDI pairs from four databases including LexiComp, Clinical Pharmacology, Drug Interaction Checker, and Micromedex. “Actual result” indicates whether the identified drug term is true (1) or false (0).

Cyclosporine

| Drug Name | p value | Micromedex | Lexicomp | Clinical Pharmacology | Drug Checker | Actual result |
|----------------|----------|-----------------|-------------------------------|-----------------------|--------------|---------------|
| Voriconazole | 0 | Major | Null | Level 2(Major) | Major | 1 |
| Rifampin | 0 | Major | Null | Level 2(Major) | Major | 1 |
| Fluconazole | 0 | Major | Null | Level 2(Major) | Moderate | 1 |
| Itraconazole | 0 | Major | Null | Level 2(Major) | Major | 1 |
| Ketoconazole | 0 | Moderate | Consider therapy modification | Level 2(Major) | Major | 1 |
| Simvastatin | 0 | Contraindicated | Null | Level 1(Severe) | Major | 1 |
| Warfarin | 0 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Estrone | 0 | Null | Null | Null | Null | 0 |
| Gemfibrozil | 0 | Null | Null | Null | Moderate | 1 |
| Digoxin | 0 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Clarithromycin | 0 | Moderate | Null | Level 2(Major) | Major | 1 |
| Probucol | 0 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Pravastatin | 0 | Major | Null | Null | Moderate | 1 |
| Erythromycin | 0 | Moderate | Monitor therapy | Level 2(Major) | Major | 1 |
| Cimetidine | 0 | Moderate | Null | Level 3(Moderate) | Minor | 1 |
| Doxorubicin | 0 | Major | Consider therapy modification | Level 2(Major) | Moderate | 1 |
| Verapamil | 0 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Midazolam | 0 | Moderate | Null | Null | Null | 1 |
| Diltiazem | 0 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Felodipine | 0 | Major | Null | Level 2(Major) | Moderate | 1 |
| Nifedipine | 1.22E-15 | Null | Null | Level 3(Moderate) | Moderate | 1 |
| Chloroquine | 2.57E-13 | Moderate | Null | Null | Moderate | 1 |
| Amphotericin B | 7.02E-13 | Moderate | Monitor therapy | Level 3(Moderate) | Moderate | 1 |
| Sirolimus | 1.36E-12 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Vincristine | 1.62E-11 | Major | Avoid combination | Null | Moderate | 1 |
| Probenecid | 5.64E-11 | Null | Null | Null | Major | 1 |
| Paclitaxel | 1.61E-10 | Null | Monitor therapy | Level 2(Major) | Moderate | 1 |
| Diclofenac | 1.94E-10 | Major | Consider therapy modification | Level 2(Major) | Moderate | 1 |
| Vinblastine | 6.95E-10 | Null | Null | Null | Minor | 1 |
| Lovastatin | 1.11E-08 | Major | Null | Null | Major | 1 |
| Colchicine | 4.55E-08 | Contraindicated | Null | Level 2(Major) | Major | 1 |

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|---------------|-------------|----------|-----------------|-------------------|----------|---|
| Amiodarone | 6.59E-08 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Daunorubicin | 2.75E-07 | Null | Monitor therapy | Level 2(Major) | Moderate | 1 |
| Tamoxifen | 5.12E-07 | Null | Null | Null | Null | 0 |
| Estradiol | 2.06E-06 | Null | Monitor therapy | Null | Moderate | 1 |
| Losartan | 3.27E-05 | Null | Null | Null | Moderate | 1 |
| Indomethacin | 0.000119002 | Major | Null | Null | Moderate | 1 |
| Vitamin E | 0.000243027 | Null | Monitor therapy | Null | Minor | 1 |
| Calcitriol | 0.000560794 | Null | Null | Null | Null | 0 |
| Etoposide | 0.000718607 | Major | Null | Null | Moderate | 1 |
| Cisplatin | 0.002769689 | Null | Null | Level 3(Moderate) | Null | 1 |
| Glycerol | 0.004404986 | Null | Null | Null | Null | 0 |
| Acetylcholine | 0.008687497 | Null | Null | Null | Null | 0 |
| Thalidomide | 0.0144237 | Moderate | Null | Null | Null | 1 |
| Phenytoin | 0.063315229 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Potassium | 0.077725096 | Null | Null | Null | Null | 0 |

Rifampin

| Drug name | p value | Micromedex | Lexicomp | Clinical Pharmacology | Drug Checker | Actual result |
|----------------|---------|-----------------|-------------------------------|-----------------------|--------------|---------------|
| Nelfinavir | 0 | Contraindicated | Null | Null | Major | 1 |
| Ketoconazole | 0 | Major | Consider therapy modification | Level 2(Major) | Moderate | 1 |
| Simvastatin | 0 | Moderate | Null | Null | Major | 1 |
| Warfarin | 0 | Moderate | Null | Level 2(Major) | Major | 1 |
| Digoxin | 0 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Tacrolimus | 0 | Major | Consider therapy modification | Level 2(Major) | Major | 1 |
| Cyclosporine | 0 | Major | Consider therapy modification | Level 2(Major) | Major | 1 |
| Methadone | 0 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Phenytoin | 0 | Major | Null | Level 2(Major) | Moderate | 1 |
| Digitoxin | 0 | Moderate | Null | Null | Moderate | 1 |
| Itraconazole | 0 | Major | Null | Level 2(Major) | Moderate | 1 |
| Ritonavir | 0 | Major | Null | Null | Major | 1 |
| Verapamil | 0 | Moderate | Consider therapy modification | Null | Moderate | 1 |
| Glyburide | 0 | Moderate | Null | Null | Moderate | 1 |
| Amphotericin B | 0 | Null | Null | Null | Null | 0 |
| Midazolam | 0 | Moderate | Null | Level 2(Major) | Minor | 1 |
| Colistin | 0 | Null | Null | Null | Null | 0 |
| Fluconazole | 0 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Cimetidine | 0 | Null | Null | Null | Null | 0 |
| Ethanol | 0 | Null | Null | Level 2(Major) | Null | 1 |
| Lopinavir | 0 | Contraindicated | Null | Null | Null | 1 |

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|-------------------|-------------|----------|-------------------|-------------------|----------|---|
| Nifedipine | 0 | Major | Avoid combination | Level 1(Severe) | Moderate | 1 |
| Carbamazepine | 0 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Nevirapine | 0 | Major | Consider therapy | Level 1(Severe) | Major | 1 |
| | | | modification | | | |
| Quinidine | 0 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Imipenem | 0 | Null | Null | Null | Null | 0 |
| Theophylline | 0 | Moderate | Null | Null | Moderate | 1 |
| Fosfomycin | 0 | Null | Null | Null | Null | 0 |
| Zidovudine | 0 | Moderate | Null | Null | Moderate | 1 |
| Tolbutamide | 0 | Moderate | Null | Null | Moderate | 1 |
| Phenobarbital | 9.99E-16 | Null | Null | Level 2(Major) | Moderate | 1 |
| Rifabutin | 1.20E-12 | Null | Null | Null | Null | 0 |
| Ceftazidime | 1.28E-12 | Null | Null | Null | Null | 0 |
| Pefloxacin | 5.44E-12 | Null | Null | Null | Null | 0 |
| Prednisolone | 3.63E-11 | Moderate | Monitor therapy | Null | Moderate | 1 |
| Polymyxin B | 9.41E-11 | Null | Null | Null | Null | 0 |
| Gentamicins | 3.75E-10 | Null | Null | Null | Null | 0 |
| Phenylbutazone | 6.29E-10 | Null | Null | Null | Null | 0 |
| Novobiocin | 1.45E-09 | Null | Null | Null | Null | 0 |
| Ethinyl Estradiol | 2.70E-09 | Moderate | Null | Null | Major | 1 |
| Vancomycin | 4.63E-09 | Null | Null | Null | Null | 0 |
| Hydrocortisone | 1.38E-07 | Moderate | Monitor therapy | Null | Moderate | 1 |
| Oxacillin | 1.41E-06 | Null | Null | Null | Null | 0 |
| Flucytosine | 4.91E-06 | Null | Null | Null | Null | 0 |
| Trimethoprim | 1.15E-05 | Null | Null | Level 3(Moderate) | Moderate | 1 |
| Acetaminophen | 7.83E-05 | Null | Null | Level 3(Moderate) | Minor | 1 |
| Clarithromycin | 0.000132095 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Antipyrine | 0.000149341 | Null | Null | Null | Null | 0 |
| Ciprofloxacin | 0.000181653 | Null | Monitor therapy | Null | Null | 1 |
| Testosterone | 0.000660474 | Null | Null | Null | Moderate | 1 |
| Methicillin | 0.001190581 | Null | Null | Null | Null | 0 |
| Clindamycin | 0.001536213 | Null | Null | Null | Null | 0 |
| Fusidic Acid | 0.00160905 | Null | Null | Null | Null | 0 |
| Bacitracin | 0.001947541 | Null | Null | Null | Null | 0 |
| Amikacin | 0.002012159 | Null | Null | Null | Null | 0 |
| Erythromycin | 0.002900355 | Null | Consider therapy | Level 2(Major) | Moderate | 1 |
| | | | modification | | | |
| Tobramycin | 0.012559574 | Null | Null | Null | Null | 0 |
| Sulfamethoxazole | 0.035978179 | Null | Null | Level 3(Moderate) | Moderate | 1 |
| Dexamethasone | 0.050438031 | Moderate | Consider therapy | Null | Moderate | 1 |
| | | | modification | | | |
| Glutathione | 0.056053813 | Null | Null | Null | Null | 0 |
| Tetracycline | 0.090097233 | Null | Null | Null | Moderate | 1 |

Theophylline

| Drug Name | p value | Micromedex | Lexicomp | Clinical Pharmacology | Drug Checker | Actual result |
|----------------|----------|------------|-------------------------------|-----------------------|--------------|---------------|
| Ciprofloxacin | 0 | Major | Consider therapy modification | Level 2(Major) | Major | 1 |
| Cimetidine | 0 | Major | Null | Level 2(Major) | Moderate | 1 |
| Erythromycin | 0 | Major | Consider therapy modification | Level 2(Major) | Moderate | 1 |
| Warfarin | 0 | Null | Null | Null | Null | 0 |
| Fluvoxamine | 0 | Major | Null | Level 2(Major) | Major | 1 |
| Clarithromycin | 0 | Minor | Null | Level 2(Major) | Moderate | 1 |
| Ofloxacin | 0 | Minor | Consider therapy modification | Null | Moderate | 1 |
| Ranitidine | 0 | Minor | Null | Level 3(Moderate) | Moderate | 1 |
| Enoxacin | 0 | Major | Null | Null | Major | 1 |
| Norfloxacin | 0 | Moderate | Null | Null | Moderate | 1 |
| Omeprazole | 0 | Null | Null | Null | Moderate | 1 |
| Mexiletine | 0 | Major | Null | Level 3(Moderate) | Moderate | 1 |
| Lansoprazole | 0 | Minor | Null | Level 4(Minor) | Moderate | 1 |
| Terfenadine | 0 | Null | Null | Null | Null | 0 |
| Midazolam | 0 | Moderate | Null | Null | Minor | 1 |
| Pimozide | 0 | Null | Null | Null | Null | 0 |
| Apomorphine | 1.11E-16 | Null | Null | Null | Null | 0 |
| Troleandomycin | 1.11E-16 | Major | Null | Level 2(Major) | Moderate | 1 |
| Isoniazid | 3.33E-16 | Minor | Null | Null | Moderate | 1 |
| Norepinephrine | 2.22E-15 | Null | Null | Null | Null | 0 |
| Rifampin | 8.25E-14 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Carbamazepine | 2.34E-13 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Isoproterenol | 3.22E-12 | Moderate | Null | Null | Moderate | 1 |
| Epinephrine | 1.20E-10 | Null | Monitor therapy | Null | Null | 1 |
| Lithium | 5.85E-10 | Moderate | Null | Level 2(Major) | Moderate | 1 |
| Propranolol | 8.61E-10 | Moderate | Null | Null | Major | 1 |
| Nifedipine | 8.96E-10 | Minor | Null | Null | Minor | 1 |
| Phenytoin | 1.05E-09 | Major | Null | Level 3(Moderate) | Moderate | 1 |
| Histamine | 4.19E-09 | Null | Null | Null | Null | 0 |
| Ketoconazole | 6.71E-09 | Null | Consider therapy modification | Level 4(Minor) | Minor | 1 |
| Allopurinol | 8.57E-09 | Moderate | Null | Level 4(Minor) | Minor | 1 |
| Ergotamine | 1.23E-08 | Null | Null | Null | Moderate | 1 |
| Reserpine | 7.21E-08 | Null | Null | Null | Null | 0 |
| Diltiazem | 1.57E-07 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Terbutaline | 1.03E-05 | Minor | Null | Null | Moderate | 1 |
| Hydroxyurea | 1.21E-05 | Null | Null | Null | Null | 0 |
| Haloperidol | 1.61E-05 | Null | Null | Null | Null | 0 |

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|--------------------|-------------|----------|-----------------|-------------------|----------|---|
| Glycerol | 2.41E-05 | Null | Null | Null | Null | 0 |
| Pentoxifylline | 4.02E-05 | Moderate | Null | Null | Moderate | 1 |
| Morphine | 0.000101897 | Null | Null | Null | Null | 0 |
| Nicotine | 0.000116199 | Null | Null | Null | Null | 0 |
| Antipyrine | 0.000123078 | Null | Null | Null | Null | 0 |
| Diazepam | 0.000142808 | Moderate | Null | Null | Minor | 1 |
| Clonidine | 0.000218889 | Null | Null | Null | Null | 0 |
| Phenoxybenzamine | 0.000222873 | Null | Null | Null | Null | 0 |
| Aspirin | 0.00024491 | Null | Null | Null | Null | 0 |
| Lysine | 0.000362401 | Null | Null | Null | Null | 0 |
| Phentolamine | 0.000503951 | Null | Null | Null | Null | 0 |
| Cholecystokinin | 0.000571972 | Null | Null | Null | Null | 0 |
| Tetracycline | 0.000623148 | Null | Null | Null | Null | 0 |
| Phenacetin | 0.000806017 | Null | Null | Null | Null | 0 |
| Dipyridamole | 0.000918772 | Null | Null | Null | Moderate | 1 |
| Phenylephrine | 0.001167878 | Null | Monitor therapy | Null | Moderate | 1 |
| Halothane | 0.001232781 | Major | Null | Null | Major | 1 |
| Ethanol | 0.002312524 | Null | Null | Null | Null | 0 |
| Epoprostenol | 0.003745631 | Null | Null | Null | Null | 0 |
| Digoxin | 0.003956863 | Null | Null | Null | Null | 0 |
| Verapamil | 0.004940374 | Moderate | Null | Level 3(Moderate) | Moderate | 1 |
| Alanine | 0.005125899 | Null | Null | Null | Null | 0 |
| Acetylcholine | 0.005204899 | Null | Null | Null | Null | 0 |
| Lidocaine | 0.006622202 | Null | Null | Null | Moderate | 1 |
| Caffeine | 0.007648404 | Null | Null | Level 2(Major) | Moderate | 1 |
| Arginine | 0.010821092 | Null | Null | Null | Null | 0 |
| Papaverine | 0.015567569 | Null | Null | Null | Null | 0 |
| Nitroprusside | 0.01814649 | Null | Null | Null | Null | 0 |
| Prednisolone | 0.023412626 | Null | Null | Null | Moderate | 1 |
| Fenoterol | 0.028820318 | Null | Null | Null | Null | 0 |
| Methylprednisolone | 0.035004248 | Null | Null | Null | Moderate | 1 |
| Dexamethasone | 0.042006899 | Null | Monitor therapy | Null | Moderate | 1 |
| Atropine | 0.042072221 | Null | Null | Null | Null | 0 |
| Adenosine | 0.075564767 | Major | Null | Level 2(Major) | Moderate | 1 |
| Estradiol | 0.077674371 | Null | Monitor therapy | Null | Moderate | 1 |
| Carbachol | 0.098154922 | Null | Null | Null | Null | 0 |