

PGx Drugs by Clinical Area

Clinical area, drug class, and associated PGx gene for drugs associated with actionable guidelines.

ANESTHESIOLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Anesthetics	Desflurane	Suprane	RYR1
	Enflurane	Ethrane, Compound 374	
	Halothane	Fluothane	
	Isoflurane	Forane, Terrell	
	Methoxyflurane	Penthane	
	Mivacurium	Mivacron	BCHE
	Sevoflurane	Ultane, Sojourn	RYR1, CACNA1S
	Succinylcholine	Anectine, Quelicin	BCHE, RYR1, CACNA1S

CARDIOLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
ACE Inhibitor	Captopril	Capoten	ACE
Anticoagulants	Warfarin	Coumadin, Jantoven	CYP2C9, CYP2C18, CYP4F2, GGCX, VKORC1
	Acenocoumarol	-	CYP2C9, CYP4F2, VKORC1
Antiplatelets	Clopidogrel	Plavix	CES1, CYP2C19
Antiarrhythmic Agents	Flecainide	Tambocor	CYP2D6
	Propafenone	Rythmol, Rythmol SR	CYP2D6
Beta Blocker	Metoprolol	Kapsargo Sprinkle, Lopressor, Toprol-XL	CYP2D6
Statins	Atorvastatin	Atorvaliq, Lipitor	SLCO1B1, APOE
	Fluvastatin	Lescol	SLCO1B1, CYP2C9
	Lovastatin	Altopen, Mevacor, Altacor	SLCO1B1
	Pitavastatin	Livalo, Zypitamag	SLCO1B1
	Pravastatin	Pravachol	SLCO1B1, KIF6
	Rosuvastatin	Crestor, Ezallor Sprinkle	SLCO1B1, ABCG2
	Simvastatin	Zocor	ABCB1, SLCO1B1

GASTROENTEROLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Proton Pump Inhibitors	Dexlansoprazole	Dexilant, Kapidex	CYP2C19
	Lansoprazole	FIRST Lansoprazole, Prevacid	
	Omeprazole	FIRST Omeprazole, Omeprazole + SyrSpend SF Alka, Prilosec, Prilosec OTC, Zegerid (Original Formulation)	
	Pantoprazole	Protonix	
	Rabeprazole	AcipHex, AcipHex Sprinkle	

GYNECOLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
5-HT Receptor Modulator	Flibanserin	Addyi	CYP2C19

IMMUNOLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Immune Modulatory Agents	Siponimod	Mayzent	CYP2C9
Immunosuppressants	Azathioprine	Azasan, Imuran	NUDT15, TPMT
	Tacrolimus	Astagraf XL, Envarsus XR, Prograf, Hecoria	CYP3A4, CYP3A5

INFECTIOUS DISEASE

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Antibiotic	Isoniazid	Nydrazid	NAT2
	Amikacin	Amikin	MT-RNR1
	Dibekacin	Panimycin	
	Gentamicin	Garamycin	
	Kanamycin	Kantrex	
	Neomycin	Neo-Fradin	
	Netilmicin	Netromycin	
	Paromomycin	Humatin	
	Plazomicin	Zemdri	
	Ribostamycin	Vistamycin	
	Streptomycin	-	
	Tobramycin	Nebcin	
	Dapsone	-	G6PD
	Nitrofurantoin	Macrobid, Macrochantin	

INFECTIOUS DISEASE CONT.

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Antimalarial	Primaquine	-	G6PD
	Tafenoquine	Arakoda	
Antiretrovirals	Abacavir	Ziagen	HLA-B
	Efavirenz	Sustiva	CYP2B6
Antivirals	Peginterferon Alfa-2A	Pegasys, Pegasys ProClick Autoinjector, Pegasys Prefilled Syringe	IFNL4
	Peginterferon Alfa-2B	PegIntron, Sylatron, PegIntron Redipen	IFNL3/4, ITPA
	Ribavirin	Copegus, Moderiba, Rebetol, RibaPak, Ribasphere, RibaTab	
	Nevirapine	Viramune, Viramune XR	ABCB1, CYP2B6
Antifungal Agents	Voriconazole	Vfend	CYP2C19
Protease Inhibitors	Atazanavir	Reyataz	UGT1A1

NEUROLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Anticonvulsants	Brivaracetam	Briviact	CYP2C19
	Clobazam	Onfi, Sympazan	
	Phenytoin	Dilantin, Phenytek	CYP2C9, HLA-B
	Fosphenytoin	Cerebyx, Sesquient	
	Carbamazepine	Carbatrol, Epitol, Equetro, Tegretol, Tegretol XR	HLA-B, HLA-A
	Oxcarbazepine	Oxtellar XR, Trileptal	HLA-B
Central Monoamine Depleting Agents	Deutetrabenazine	Austedo	CYP2D6
Monoamine Depletors	Tetrabenazine	Xenazine	CYP2D6
Potassium Channel Blockers	Amifampridine	Ruzurgi	NAT2
	Amifampridine Phosphate	Firdapse	
VMAT2 Inhibitor	Valbenazine	Ingrezza	CYP2D6

PAIN MANAGEMENT

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Non-steroidal Anti-Inflammatory Drugs	Celecoxib	CeleBREX	CYP2C9
	Flurbiprofen	Ansaid	
	Lornoxicam	-	
	Meloxicam	Anjeso, Mobic, Qmiiz OD, Vivlodex	
	Piroxicam	Feldene	
	Tenoxicam	Mobiflex	
	Ibuprofen	Advil, Genpril, IBU, Midol IB, Motrin IB, Proprinal	CYP2C8, CYP2C9
Opioids	Codeine	Many, including combination products	COMT, CYP2D6
	Fentanyl	Actiq, Lazanda, Fentora, Subsys	ABCB1, COMT, CYP3A4
	Hydrocodone	Hysingla ER, Zohydro ER	COMT CYP2D6, OPRM1
	Methadone	Dolophine, Methadose, Methadose Sugar-Free, Diskets	COMT, CYP2B6, DRD2, OPRM1
	Oliceridine	Olinvyk	COMT CYP2D6, OPRM1
	Tramadol	ConZip, Qdolo, Ultram, Ultram ER	COMT, CYP2D6, OPRM1
	Oxycodone	Oxaydo, OxyContin, Oxyfast, Roxicodone, RoxyBond, Xtampza ER Oxycodone is also present in the following combination drugs: Combunox, Endocet, Endodan, Moxduo, Oxycodan, Percocet, Percodan, Primlev, Roxicet, Xartemis XR, and others	CYP2D6
Central Alpha Adrenergic Agonists	Lofexidine	Lucemyra	CYP2D6

ONCOLOGY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Antibody-drug Conjugate	Sacituzumab Govitecan-hziy	Trodelvy	<i>UGT1A1</i>
Antimetabolites	Methotrexate	Trexall, Xatmep	<i>ABCB1, MTHFR</i>
Antiemetics	Dronabinol	Marinol, Syndros	<i>CYP2C9</i>
	Metoclopramide	Metozolv ODT, Reglan	<i>CYP2D6</i>
	Tropisetron	-	
	Ondansetron	Zofran, Zofran ODT, Zuplenz	<i>ABCB1, CYP2D6</i>
Antiestrogens	Tamoxifen	Soltamox	<i>CYP2D6, UGT1A4</i>
Antineoplastic Agents	Belinostat	Beleodaq	<i>UGT1A1</i>
	Irinotecan	Camptosar	
	Capecitabine	Xeloda	<i>DPYD</i>
	Fluoruracil	Adrucil	<i>DPYD, GSTP1</i>
	Erdafitinib	Balversa	<i>CYP2C9</i>
	Gefitinib	Iressa	<i>CYP2D6</i>
	Mercaptopurine	Purixan, Purinethol	<i>NUDT15, TPMT</i>
	Thioguanine	Tabloid	
	Tegafur	Taysuno	<i>DPYD</i>
Detoxifying Agents	Rasburicase	Elitek, Fasturtec, Fasturtec(obs)	<i>G6PD</i>
Hypoxia-Inducible Factor Inhibitors	Belzutifan	Welireg	<i>CYP2C19</i>
Platinum Compounds	Platinum Compounds	-	<i>ERCC1, GSTP1, NQO1, XRCC1</i>

PSYCHIATRY

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Antidepressants	Antidepressants	-	GRIK4
	Bupropion	Aplenzin, Forfivo XL, Wellbutrin SR, Wellbutrin XL, Zyban, Budeprion XL	CYP2B6
	Mirtazapine	Remeron	CYP2D6
Antipsychotics	Aripiprazole Lauroxil	Aristada, Aristada Initio	CYP2D6
	Aripiprazole	Abilify, Abilify Discmelt	
	Brexipiprazole	Rexulti	
	Haloperidol	Haldol	
	Iloperidone	Fanapt	
	Pimozide	Orap	
	Thioridazine	Mellaril, Mellaril-S	
	Zuclopenthixol	Cisordinol, Acuphase, Clopixol	
	Clozapine	Clozaril, FazaClo, Versacloz, Clopine, CloZAPine, Synthron, Denzapine, Zaponex	CYP2D6, HTR2C
	Quetiapine	Seroquel, Seroquel XR	CYP3A4
SSRIs	Risperidone	Risperdal	ANKK1 CYP2D6, DRD2, HTR2C
	Citalopram	CeleXA	CYP2C19, HTR2A
	Escitalopram	Lexapro	CYP2C19
	Sertraline	Zoloft	
	Fluvoxamine	Luvox, Luvox CR	CYP2D6
	Vortioxetine	Trintellix, Brintellix	
	Paroxetine	Brisdelle, Paxil, Paxil CR, Pexeva	CYP2D6, HTR1A
Selective Norepinephrine Reuptake Inhibitor	Atomoxetine	Strattera	CYP2D6
	Venlafaxine	Effexor XR, Effexor	
Tricyclic Antidepressants	Amitriptyline	Elavil, Endep, Vanatrip	CYP2C19, CYP2D6
	Clomipramine	Anafranil	
	Imipramine	Tofranil, Tofranil-PM	
	Trimipramine	Surmontil	
	Doxepin	Silenor, Prudoxin, Zonalon	
	Desipramine	Norpramin	CYP2D6
	Nortriptyline	Pamelor, Aventyl HCl	

OTHER

Drug Class	Drug Name	Brand Name(s)	Associated Gene(s)
Antidiabetic	Nateglinide	Starlix	<i>CYP2C9</i>
Antihistamine	Mecizine	Antivert, Bonine, D-Vert, Dramamine Less Drowsy, Driminate II, Meclicot, Medivert, Ru-Vert-M, Meni-D	<i>CYP2D6</i>
Antihyperuricemic Agent	Allopurinol	Zyloprim	<i>ABCG2, HLA-B</i>
	Pegloticase	Krystexxa	<i>G6PD</i>
Biguanides	Metformin	Fortamet, Glucophage, Glucophage XR, Glumetza, Riomet	<i>ATM</i>
Dye	Toluidine Blue	-	<i>G6PD</i>
Enzyme Inhibitors	Eliglustat	Cerdelga	<i>CYP2D6</i>
H3 Blockers	Pitolisant	Wakix	<i>CYP2D6</i>
Hormonal Contraceptives	Hormonal Contraceptives	-	<i>F2, F5</i>
JAK Inhibitor	Abrocitinib	Cibinqo	<i>CYP2C19</i>
Oxidation-Reduction Agent	Methylene Blue	Proveblue	<i>G6PD</i>
Stimulant	Amphetamine	Adderall	<i>CYP2D6</i>