

Supplementary Table 1. Pharmacogenetic target gene-drug pairs with conflicting level of evidence according to CPIC and PharmGKB database

Gene	Drug	CPIC level (status)	PharmGKB LOE	FDA Label	Phenotype	Publications (PMID)
<i>ABCG2</i>	Allopurinol	NA	1A		Dosage, Efficacy	29341237;29342288
<i>CFTR</i>	Lumacaftor	NA	1A		Efficacy	27898234;27805836;29327948
<i>CYP2A6</i>	Nicotine	NA	1B		Metabolism/PK	19365400;22569203
<i>CYP2C9</i>	Fosphenytoin	A (Final)	NA	Actionable PGx		25099164;32779747
	Acenocoumarol	B (Provisional)	1B		Dosage, Toxicity	15128048;24530212
<i>CYP2D6</i>	Pitolisant	A (Provisional)	NA	Actionable PGx		
	Oliceridine	A/B (Provisional)	NA	Actionable PGx		
	Eliglustat, Pimozide, Tetrabenazine	A/B (Provisional)	NA	Testing Required		
	Metoprolol	NA	1A		Dosage, Metabolism/PK	24193112;28181117
	Aripiprazole, Flecainide, Haloperidol, Propafenone, Risperidone, Zuclopenthixol	NA	1A		Metabolism/PK	30604050;22941032;12960748;33203295;23609392;12107620
<i>CYP3A4</i>	Quetiapine	NA	1A		Metabolism/PK	24525658
<i>DPYD</i>	Tegafur	C (Final)	1A		Toxicity	23988873;29152729
<i>EGFR</i>	Gefitinib	NA	1A		Efficacy	19692680
<i>G6PD</i>	Dapsone	A (Final)	4	Actionable PGx		36049896
	Methylene blue, Nitrofurantoin	A (Final)	3	Actionable PGx		36049896
	Pegloticase, Primaquine	A (Final)	3	Testing Required		36049896
	Tafenoquine	A (Final)	3	Testing Required		36049896
	Toluidine blue	A (Final)	NA			36049896
<i>GBA</i>	Velaglutrase alfa	A/B (Provisional)	NA	Testing Required		
<i>HLA-B</i>	Fosphenytoin	A (Final)	NA	Actionable PGx		25099164;32779747
	Flucloxacillin, Lamotrigine	NA	1A		Toxicity	19483685;34175889
<i>IFNL3</i>	Ribavirin	NA	1B		Efficacy	21346780;24768758
<i>IFNL4</i>	Ribavirin	NA	1B		Efficacy	24205831;24748394
<i>MT-RNR1</i>	Plazomicin	A (Final)	NA	Actionable PGx		34032273
	Neomycin	A (Final)	3			34032273
	Paromomycin	A (Final)	NA			34032273
<i>NAT2</i>	Hydralazine	A/B (Provisional)	3		Efficacy, Metabolism/ PK, Toxicity	
<i>NUDT15</i>	Thioguanine	A (Final)	NA	Testing Recommended		21270794;23422873;30447069
<i>POLG</i>	Divalproex sodium	A/B (Provisional)	3	Testing Required	Toxicity	
	Valproic acid	A/B (Provisional)	3	Testing Required	Toxicity	21038416
<i>VKORC1</i>	Acenocoumarol, Phenprocoumon	NA	1A		Dosage	23159639;23423913;24224579

Abbreviations: LOE, Level of evidence; NA, Not available; PGx, Pharmacogenomics; PK, Pharmacokinetics.