

Supplementary Material

Table S1. List of drug metabolizing enzymes and transporters common variants analyzed in the Chilean population.

CHR	SNP	Associated Gene	A1	A2	AF A1	AF A2	Type	Level of evidence	Chemicals	phenotypes
1	rs16851030	<i>ADORA1</i>	T	C	0.08021	0.91979	Toxicity/ADR	3	aspirin	Asthma
1	rs11122576	<i>AGT</i>	G	A	0.1579	0.8421	Efficacy	4	amlodipine,chlorthalidone,lisino pril	
1	rs5050	<i>AGT</i>	G	T	0.2816	0.7184	Toxicity/ADR	3	aspirin	
1	rs5051	<i>AGT</i>	C	T	0.3789	0.6211	Efficacy	3	atenolol	Hypertension
1	rs17602729	<i>AMPD1</i>	T	C	0.05263	0.94737	Toxicity/ADR	3	regadenoson	
1	rs2072671	<i>CDA</i>	C	A	0.3658	0.6342	Toxicity/ADR	3	cytarabine	Leukemia,Lymphoma
1	rs3215400	<i>CDA</i>	I	D	0.4974	0.5026	Toxicity/ADR	3	cytarabine	
1	rs471760	<i>CDA</i>	T	C	0.3658	0.6342	Toxicity/ADR	4	gemcitabine	Neutropenia,Pancreatic Neoplasms
1	rs602950	<i>CDA</i>	C	T	0.3506	0.6494	Toxicity/ADR	3	capecitabine	Neoplasms
1	rs646776	<i>CELSR2</i>	G	A	0.2079	0.7921	Efficacy	3	hmg coa reductase inhibitors	
1	rs800292	<i>CFH</i>	T	C	0.3605	0.6395	Efficacy	3	bevacizumab	
1	rs1801133	<i>CLCN6, MTHFR</i>	T	C	0.4632	0.5368	Toxicity/ADR	3	antipsychotics	Schizophrenia
1	rs2808630	<i>CRP</i>	C	T	0.2698	0.7302	Efficacy	3	rosuvastatin	Coronary Disease
1	rs983332	<i>CSRP3</i>	A	C	0.1474	0.8526	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
1	rs4646487	<i>CYP4B1</i>	T	C	0.1105	0.8895	Toxicity/ADR	3	docetaxel,thalidomide	Prostatic Neoplasms
1	rs1801158	<i>DPYD</i>	A	G	0.01316	0.98684	Toxicity/ADR	3	capecitabine,fluorouracil	Neoplasms
1	rs1801159	<i>DPYD</i>	G	A	0.3053	0.6947	Efficacy,Toxicity/A DR,Metabolism/PK	3	capecitabine,fluorouracil,Pyrimi dine analogues,tegafur	Neoplasms

Supplementary Material

1	rs1801160	<i>DPYD</i>	A	G	0.04497	0.95503	Toxicity/ADR, Metabolism/PK	3	capecitabine, fluorouracil, s 1 (combination)	Neoplasms
1	rs1801265	<i>DPYD</i>	C	T	0.1858	0.8142	Toxicity/ADR	3	fluorouracil	Neoplasms
1	rs2297595	<i>DPYD</i>	C	T	0.06053	0.93947	Toxicity/ADR, Metabolism/PK	3	capecitabine, fluorouracil, Pyrimidine analogues, s 1 (combination)	Neoplasms
1	rs1051740	<i>EPHX1</i>	C	T	0.3395	0.6605	Dosage	2B	carbamazepine	Epilepsy
1	rs2234922	<i>EPHX1</i>	G	A	0.1289	0.8711	Dosage	2B	carbamazepine	Epilepsy
1	rs324420	<i>FAAH</i>	A	C	0.3553	0.6447	Other	3	methamphetamine	Substance-Related Disorders
1	rs11587213	<i>FCER1G</i>	G	A	0.1184	0.8816	Toxicity/ADR	3	aspirin	Asthma
1	rs12720462	<i>FMO1</i>	A	C	0.2947	0.7053	Other	3	olanzapine	
1	rs1736557	<i>FMO3</i>	A	G	0.06053	0.93947	Efficacy	3	rosuvastatin	
1	rs2266780	<i>FMO3</i>	G	A	0.07368	0.92632	Other	3	olanzapine	
1	rs2266782	<i>FMO3</i>	A	G	0.2447	0.7553	Other	3	itopride	
1	rs2144300	<i>GALNT2</i>	C	T	0.4263	0.5737	Other	3	atenolol	Hypertension
1	rs1741981	<i>HDAC1</i>	C	T	0.2132	0.7868	Efficacy	3	corticosteroids	Asthma
1	rs1800871	<i>IL10</i>	T	C	0.3263	0.6737	Dosage, Efficacy	3	tacrolimus	Kidney Transplantation
1	rs11209026	<i>IL23R</i>	A	G	0.04211	0.95789	Toxicity/ADR	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
1	rs3219484	<i>MUTYH</i>	A	G	0.02368	0.97632	Toxicity/ADR	3	cisplatin, cyclophosphamide	Ovarian Neoplasms
1	rs10494366	<i>NOS1AP</i>	G	T	0.4842	0.5158	Toxicity/ADR	3	verapamil	Acquired Long QT Syndrome (aLQTS)
1	rs5065	<i>NPPA</i>	G	A	0.06842	0.93158	Efficacy	4	amlodipine, chlorthalidone	Cardiovascular Diseases, Coronary Disease, Stroke
1	rs2768759	<i>NTRK1</i>	A	C	0.4289	0.5711	Efficacy	3	aspirin	
1	rs12566888	<i>PEAR1</i>	T	G	0.1632	0.8368	Efficacy	4	ticagrelor	
1	rs340874	<i>PROX1</i>	G	A	0.3895	0.6105	Toxicity/ADR	3	atenolol	Hypertension
1	rs2819742	<i>RYSR2</i>	G	A	0.4974	0.5026	Toxicity/ADR	3	cerivastatin	Rhabdomyolysis
1	rs10494227	<i>ZNF697</i>	G	A	0.07407	0.92593	Efficacy	3	interferon beta-1a, interferon	Multiple Sclerosis

									beta-1b	
1	rs12118636	-	A	G	0.04211	0.95789	Efficacy	3	carboplatin,cisplatin,gemcitabine	Carcinoma, Non-Small-Cell Lung
1	rs12143842	-	T	C	0.2553	0.7447	Efficacy	4	amlodipine,chlorthalidone,lisino pril	
2	rs55754655	<i>AOX1</i>	G	A	0.06316	0.93684	Efficacy	3	azathioprine	Inflammatory Bowel Diseases
2	rs676210	<i>APOB</i>	A	G	0.2342	0.7658	Efficacy	3	fenofibrate	Hypertriglyceridemia
2	rs10210302	<i>ATG16L1</i>	T	C	0.2921	0.7079	Efficacy	3	adalimumab	Crohn Disease
2	rs13393173	<i>CERS6</i>	A	G	0.1658	0.8342	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
2	rs3087243	<i>CTLA4</i>	G	A	0.4895	0.5105	Toxicity/ADR	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
2	rs2304429	<i>DNMT3A</i>	G	A	0.4947	0.5053	Dosage	3	warfarin	heart valve replacement
2	rs2241883	<i>FABP1</i>	C	T	0.2974	0.7026	Efficacy	3	fenofibrate	Hypertriglyceridemia
2	rs757978	<i>FARP2</i>	T	C	0.09211	0.90789	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
2	rs17583889	<i>HNMT</i>	A	C	0.1	0.9	Toxicity/ADR	3	anthracyclines and related substances	Neoplasms
2	rs1804645	<i>NCOA1</i>	T	C	0.01053	0.98947	Toxicity/ADR	3	tamoxifen	Breast Neoplasms
2	rs17183814	<i>SCN2A</i>	A	G	0.08158	0.91842	Efficacy	3	antiepileptics,carbamazepine,phe nobarbital,phenytoin,valproic acid	Epilepsy
2	rs7574865	<i>STAT4</i>	T	G	0.3789	0.6211	Efficacy	3	etanercept	Arthritis, Rheumatoid
2	rs6749447	<i>STK39</i>	G	T	0.4895	0.5105	Efficacy	3	losartan	
2	rs7582141	<i>TANC1</i>	T	G	0.1005	0.8995	Toxicity/ADR	2B	radiotherapy	Prostatic Neoplasms
2	rs1042640	<i>UGT1A</i>	G	C	0.2579	0.7421	Toxicity/ADR	3	acetaminophen	Liver Failure, Acute
2	rs10929303	<i>UGT1A</i>	T	C	0.2737	0.7263	Toxicity/ADR	3	acetaminophen	Liver Failure, Acute
2	rs8330	<i>UGT1A</i>	G	C	0.2751	0.7249	Other	4	acetaminophen	
2	rs10929302	<i>UGT1A1</i>	A	G	0.3222	0.6778		3	irinotecan	
2	rs4124874	<i>UGT1A1</i>	C	A	0.4474	0.5526	Toxicity/ADR	3	irinotecan	Lymphoma,Neoplasms

Supplementary Material

2	rs4148323	<i>UGT1A1</i>	A	G	0.01579	0.98421	Other	2A	SN-38	Neoplasms
2	rs4148324	<i>UGT1A1, UGT1A10, UGT1A3, UGT1A4, UGT1A5, UGT1A6, UGT1A7, UGT1A8, UGT1A9</i>	G	T	0.3447	0.6553	Metabolism/PK	3	methotrexate	Osteosarcoma
2	rs2070959	<i>UGT1A10, UGT1A6, UGT1A7, UGT1A8, UGT1A9</i>	G	A	0.2026	0.7974	Dosage	3	valproic acid	Epilepsy
2	rs6755571	<i>UGT1A4</i>	A	C	0.02105	0.97895	Other	3	ABT-751	Neoplasms
2	rs1105879	<i>UGT1A6</i>	G	T	0.2737	0.7263	Dosage	3	valproic acid	Epilepsy
2	rs17863783	<i>UGT1A6</i>	T	G	0.07105	0.92895	Toxicity/ADR	3	anthracyclines and related substances	Neoplasms
2	rs7586110	<i>UGT1A7</i>	G	T	0.2263	0.7737	Toxicity/ADR	3	atazanavir,ritonavir	HIV,Hyperbilirubinemia
2	rs1344706	<i>ZNF804A</i>	G	T	0.4026	0.5974	Efficacy	3	antipsychotics	Schizophrenia
2	rs13432159	-	G	T	0.04211	0.95789	Toxicity/ADR	3	sertraline	Depressive Disorder, Major
2	rs2952768	-	C	T	0.4658	0.5342	Dosage	2B	buprenorphine,fentanyl,meperidine,morphine,opiods,pentazocine	
3	rs13064411	<i>CFAP44</i>	G	A	0.08684	0.91316	Efficacy	3	hmg coa reductase inhibitors	
3	rs167771	<i>DRD3</i>	G	A	0.25	0.75	Toxicity/ADR	3	risperidone	Bipolar Disorder,Schizophrenia
3	rs1470579	<i>IGF2BP2</i>	C	A	0.3053	0.6947	Efficacy	3	repaglinide	Diabetes Mellitus, Type 2
3	rs4402960	<i>IGF2BP2</i>	T	G	0.3053	0.6947	Efficacy	3	repaglinide	Diabetes Mellitus, Type 2
3	rs2535629	<i>ITIH3</i>	T	C	0.3895	0.6105	Efficacy	3	clozapine	Schizophrenia
3	rs710446	<i>KNG1</i>	G	A	0.4342	0.5658	Toxicity/ADR	3	hormonal contraceptives for systemic use	

3	rs6853	<i>MYD88</i>	G	A	0.08947	0.91053	Toxicity/ADR	3	fentanyl	
3	rs6785930	<i>P2RY12</i>	A	G	0.3368	0.6632	Efficacy, Toxicity/ADR	3	clopidogrel	
3	rs1801282	<i>PPARG</i>	G	C	0.1053	0.8947	Toxicity/ADR	3	olanzapine	Schizophrenia
3	rs2742417	<i>SACMIL</i>	C	T	0.4816	0.5184	Toxicity/ADR	3	bupropion	Depressive Disorder, Major
3	rs1799852	<i>TF</i>	T	C	0.1243	0.8757	Efficacy	4	adalimumab	Crohn Disease
3	rs7624766	-	G	A	0.4734	0.5266	Efficacy	4	methotrexate	Arthritis, Rheumatoid
4	rs12505410	<i>ABCG2</i>	G	T	0.4122	0.5878	Efficacy	3	imatinib	Leukemia, Myelogenous, Chronic, BCR-ABL Positive
4	rs2231142	<i>ABCG2</i>	A	C	0.09737	0.90263	Efficacy	2A	rosuvastatin	Hypercholesterolemia, Myocardial Infarction
4	rs4148155	<i>ABCG2</i>	C	T	0.09788	0.90212	Efficacy	4	allopurinol	
4	rs4961	<i>ADD1</i>	T	G	0.1842	0.8158	Efficacy	2B	furosemide, spironolactone	Liver Cirrhosis
4	rs1229984	<i>ADH1B</i>	A	G	0.04696	0.95304	Metabolism/PK	3	ethanol	
4	rs729147	<i>ADH7</i>	G	A	0.4605	0.5395	Toxicity/ADR	3	anthracyclines and related substances	
4	rs437943	<i>ARAP2</i>	G	A	0.4184	0.5816	Efficacy	4	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
4	rs4444903	<i>EGF</i>	A	G	0.4474	0.5526	Efficacy	2B	cetuximab	Colorectal Neoplasms, Rectal Neoplasms
4	rs2289252	<i>F11</i>	T	C	0.3921	0.6079	Toxicity/ADR	3	hormonal contraceptives for systemic use	
4	rs1495509	<i>KCNIP4</i>	C	T	0.2316	0.7684	Toxicity/ADR	3	Ace Inhibitors, Plain	
4	rs7661530	<i>KCNIP4</i>	T	C	0.2632	0.7368	Toxicity/ADR	3	Ace Inhibitors, Plain	
4	rs1364805	<i>LOC105377356</i>	T	G	0.2526	0.7474	Efficacy	3	montelukast	Asthma
4	rs1816702	<i>TLR2</i>	T	C	0.07895	0.92105	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Crohn Disease
4	rs3775291	<i>TLR3</i>	A	G	0.3947	0.6053	Efficacy	3	Measles vaccines	
4	rs7662029	<i>UGT2B7</i>	A	G	0.3842	0.6158	Efficacy, Toxicity/ADR	3	methadone	Opioid-Related Disorders

Supplementary Material

4	rs7668258	<i>UGT2B7</i>	T	C	0.3842	0.6158	Efficacy, Toxicity/ADR	3	methadone	Opioid-Related Disorders
5	rs4702484	<i>ADCY2</i>	T	C	0.3237	0.6763	Efficacy	4	capecitabine	Colorectal Neoplasms
5	rs1650697	<i>DHFR</i>	T	C	0.2211	0.7789	Toxicity/ADR	3	pemetrexed	Carcinoma, Non-Small-Cell Lung, Mesothelioma
5	rs4532	<i>DRD1</i>	C	T	0.2289	0.7711	Toxicity/ADR	3	dextroamphetamine, methylphenidate	Attention Deficit Disorder with Hyperactivity
5	rs1801020	<i>F12</i>	T	C	0.35	0.65	Efficacy	3	Enzymes	Stroke
5	rs351855	<i>FGFR4</i>	T	C	0.3474	0.6526	Efficacy	3	cyclophosphamide, fluorouracil, methotrexate	Breast Neoplasms
5	rs12654264	<i>HMGR</i>	T	A	0.3447	0.6553	Other	3	hmg coa reductase inhibitors	Colonic Neoplasms
5	rs17238540	<i>HMGR</i>	G	T	0.02895	0.97105	Efficacy	3	pravastatin	
5	rs17671591	<i>HMGR</i>	T	C	0.2737	0.7263	Efficacy	3	atorvastatin	Hypercholesterolemia
5	rs3846662	<i>HMGR</i>	C	T	0.3921	0.6079	Other	4	simvastatin	Cardiovascular Diseases
5	rs2546890	<i>IL12B</i>	A	G	0.4	0.6	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
5	rs3213094	<i>IL12B</i>	A	G	0.3947	0.6053	Efficacy	3	ustekinumab	Psoriasis
5	rs1295686	<i>IL13</i>	A	G	0.377	0.623	Efficacy	3	Hepatitis vaccines	
5	rs924607	<i>LOC105374608, LOC100996325</i>	T	C	0.4101	0.5899	Toxicity/ADR	2B	vincristine	Precursor Cell Lymphoblastic Leukemia-Lymphoma
5	rs1801394	<i>MTRR</i>	G	A	0.3263	0.6737	Toxicity/ADR	2B	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
5	rs2562519	<i>POLR3G</i>	G	A	0.2263	0.7737	Toxicity/ADR	3	nevirapine	HIV
5	rs2631367	<i>SLC22A5</i>	G	C	0.3378	0.6622	Efficacy	3	imatinib	Gastrointestinal Stromal Tumors
5	rs11960832	<i>SV2C</i>	T	C	0.4105	0.5895	Efficacy	3	olanzapine	Schizophrenia
5	rs2075685	<i>TMEM167A, XRCC4</i>	T	G	0.3184	0.6816	Efficacy	3	fluorouracil, Platinum compounds, radiotherapy	Stomach Neoplasms
5	rs12054895	-	T	G	0.3947	0.6053	Efficacy	3	citalopram, escitalopram	Depressive Disorder, Major
6	rs2781659	<i>ARG1</i>	G	A	0.3316	0.6684	Efficacy	3	selective beta-2-adrenoreceptor	Asthma

									agonists	
6	rs209474	<i>BRD2</i>	G	A	0.266	0.734	Efficacy	3	lithium	Bipolar Disorder
6	rs1265112	<i>CCHCR1</i>	G	A	0.2698	0.7302	Toxicity/ADR	3	nevirapine	HIV
6	rs130072	<i>CCHCR1</i>	A	G	0.1026	0.8974	Toxicity/ADR	3	nevirapine	HIV
6	rs746647	<i>CCHCR1</i>	C	T	0.2684	0.7316	Toxicity/ADR	2B	nevirapine	HIV
6	rs6908425	<i>CDKAL1</i>	T	C	0.3	0.7	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
6	rs7754840	<i>CDKAL1</i>	C	G	0.2868	0.7132	Efficacy	3	Dipeptidyl peptidase 4 (DPP-4) inhibitors	Diabetes Mellitus
6	rs7756992	<i>CDKAL1</i>	G	A	0.3211	0.6789	Efficacy	3	Dipeptidyl peptidase 4 (DPP-4) inhibitors	Diabetes Mellitus
6	rs806368	<i>CNR1</i>	C	T	0.3395	0.6605	Other	3	cocaine	Cocaine-Related Disorders
6	rs2734583	<i>DDX39B, ATP6V1G2- DDX39B, SNORD117</i>	C	T	0.04762	0.95238	Toxicity/ADR	3	allopurinol	drug reaction with eosinophilia and systemic symptoms,Stevens-Johnson Syndrome
6	rs5370	<i>EDN1</i>	T	G	0.2079	0.7921	Toxicity/ADR	3	muraglitazar	Diabetes Mellitus,Edema,Hyperlipidemias
6	rs5985	<i>F13A1</i>	T	G	0.2763	0.7237	Efficacy	3	aspirin	
6	rs451774	<i>GPX5</i>	G	A	0.3658	0.6342	Efficacy	3	carboplatin,cisplatin,gemcitabine	Carcinoma, Non-Small-Cell Lung
6	rs2523864	<i>HCG22</i>	A	G	0.3789	0.6211	Toxicity/ADR	3	triamcinolone	Retinal Diseases
6	rs12191877	<i>HLA-C</i>	T	C	0.1176	0.8824	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
6	rs9461684	<i>HLA-C</i>	T	C	0.1263	0.8737	Toxicity/ADR	3	nevirapine	HIV,HIV Infections
6	rs3077	<i>HLA-DPA1</i>	C	T	0.2026	0.7974	Efficacy	3	peginterferon alfa-2b	Hepatitis B, Chronic
6	rs1042151	<i>HLA-DPB1</i>	G	A	0.1921	0.8079	Toxicity/ADR	3	aspirin	aspirin-induced asthma,Asthma
6	rs3097671	<i>HLA-DPB1</i>	C	G	0.1816	0.8184	Toxicity/ADR	3	aspirin	aspirin-induced asthma
6	rs3129294	<i>HLA-DPB2</i>	G	T	0.3132	0.6868	Toxicity/ADR	3	aspirin	aspirin-induced asthma,Asthma
6	rs9272105	<i>HLA-DQA1</i>	G	A	0.4368	0.5632	Efficacy	3	interferon beta-1a,interferon beta-1b	

Supplementary Material

6	rs1063320	<i>HLA-G</i>	G	C	0.3	0.7	Efficacy	3	hmg coa reductase inhibitors	Asthma
6	rs2227956	<i>HSPA1L</i>	C	T	0.1132	0.8868	Toxicity/ADR	3	carbamazepine	Epilepsy
6	rs6924995	<i>LOC107986517</i>	G	A	0.3342	0.6658	Efficacy	4	simvastatin	Hypercholesterolemia
6	rs10945919	<i>LOC107986666</i>	G	A	0.2789	0.7211	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
6	rs10455872	<i>LPA</i>	G	A	0.03947	0.96053	Efficacy, Toxicity/ADR	2B	hmg coa reductase inhibitors	Coronary Artery Disease
6	rs3828913	<i>MICB</i>	A	C	0.03968	0.96032	Efficacy	3	peginterferon alfa-2a, peginterferon alfa-2b, ribavirin	Hepatitis C, Chronic
6	rs10485058	<i>OPRM1</i>	G	A	0.07368	0.92632	Efficacy	3	methadone	Opioid-Related Disorders
6	rs1799971	<i>OPRM1</i>	G	A	0.1868	0.8132	Efficacy	2B	naloxone	
6	rs9479757	<i>OPRM1</i>	A	G	0.07895	0.92105	Other	3	opioids	Opioid-Related Disorders
6	rs3130501	<i>POU5F1</i>	A	G	0.2553	0.7447	Toxicity/ADR	3	allopurinol	Epidermal Necrolysis, Toxic, severe cutaneous adverse reactions, Stevens-Johnson Syndrome
6	rs3130931	<i>POU5F1</i>	A	G	0.2816	0.7184	Toxicity/ADR	3	allopurinol	Epidermal Necrolysis, Toxic, severe cutaneous adverse reactions, Stevens-Johnson Syndrome
6	rs2016520	<i>PPARD</i>	G	A	0.1789	0.8211	Efficacy	3	docetaxel, thalidomide	Prostatic Neoplasms
6	rs2233945	<i>PSORSIC1</i>	T	G	0.1368	0.8632	Efficacy	3	etanercept	Arthritis, Rheumatoid
6	rs3131003	<i>PSORSIC1</i>	A	G	0.4418	0.5582	Toxicity/ADR	3	allopurinol	severe cutaneous adverse reactions
6	rs3815087	<i>PSORSIC1</i>	T	C	0.2158	0.7842	Toxicity/ADR	4	allopurinol	Epidermal Necrolysis, Toxic, severe cutaneous adverse reactions, Stevens-Johnson Syndrome
6	rs9263726	<i>PSORSIC1</i>	A	G	0.1158	0.8842	Toxicity/ADR	3	allopurinol	drug reaction with eosinophilia and systemic symptoms, Stevens-Johnson Syndrome

6	rs3094188	<i>PSORSIC3</i>	G	T	0.3868	0.6132	Toxicity/ADR	3	allopurinol	Epidermal Necrolysis, Toxic,severe cutaneous adverse reactions,Stevens-Johnson Syndrome
6	rs2282143	<i>SLC22A1</i>	T	C	0.05163	0.94837	Metabolism/PK	3	metformin	
6	rs34130495	<i>SLC22A1</i>	A	G	0.0079	0.992105	Other	3	tramadol	
6	rs628031	<i>SLC22A1</i>	A	G	0.2263	0.7737	Efficacy	3	metformin	Diabetes Mellitus, Type 2
6	rs72552763	<i>SLC22A1</i>	D	I	0.3237	0.6763	Metabolism/PK	3	metformin	
6	rs12210538	<i>SLC22A16</i>	G	A	0.2105	0.7895	Toxicity/ADR	3	cyclophosphamide,doxorubicin	Breast Neoplasms
6	rs6907567	<i>SLC22A16</i>	G	A	0.15	0.85	Efficacy,Toxicity/A DR	3	cyclophosphamide,doxorubicin,f luorouracil	Breast Neoplasms
6	rs316019	<i>SLC22A2</i>	T	G	0.06053	0.93947	Toxicity/ADR	3	cisplatin	Neoplasms
6	rs4149178	<i>SLC22A7</i>	G	A	0.1667	0.8333	Toxicity/ADR	3	capecitabine	Diarrhea,Neoplasms
6	rs760370	<i>SLC29A1</i>	G	A	0.3605	0.6395	Efficacy	3	gemcitabine	Neoplasms
6	rs2071888	<i>TAPBP</i>	C	G	0.3968	0.6032	Toxicity/ADR	3	aspirin	Asthma
6	rs2073724	<i>TCF19</i>	T	C	0.1026	0.8974	Toxicity/ADR	3	nevirapine	HIV
6	rs1799964	<i>TNF</i>	C	T	0.1711	0.8289	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Spondylitis, Ankylosing
6	rs6920220	<i>TNFAIP3</i>	A	G	0.1085	0.8915	Efficacy	3	methotrexate	
6	rs2500535	<i>UST</i>	A	G	0.1868	0.8132	Efficacy	3	nortriptyline	Depressive Disorder, Major
6	rs3025000	<i>VEGFA</i>	T	C	0.3237	0.6763	Efficacy	3	bevacizumab,ranibizumab	Macular Degeneration
6	rs3130100	<i>ZBTB22</i>	T	C	0.45	0.55	Toxicity/ADR	3	aspirin	aspirin-induced asthma,Asthma
6	rs2647087	-	C	A	0.3553	0.6447	Toxicity/ADR	3	azathioprine,mercaptopurine	Drug Toxicity,Inflammatory Bowel Diseases,Pancreatitis
6	rs2844665	-	A	G	0.2816	0.7184	Toxicity/ADR	3	allopurinol	Epidermal Necrolysis, Toxic,severe cutaneous adverse reactions,Stevens-Johnson Syndrome
6	rs4273729	-	C	G	0.3579	0.6421	Efficacy	3	peginterferon alfa- 2a,peginterferon alfa-	Hepatitis C, Chronic

Supplementary Material

									2b, ribavirin	
7	rs1128503	<i>ABCB1</i>	T	C	0.4553	0.5447	Other	3	phenytoin	
7	rs3213619	<i>ABCB1</i>	C	T	0.08684	0.91316	Toxicity/ADR	3	atenolol	Hypertension
7	rs9282564	<i>ABCB1</i>	G	A	0.02895	0.97105	Toxicity/ADR	3	morphine	
7	rs17143212	<i>ABCB5</i>	T	C	0.01316	0.98684	Toxicity/ADR	3	haloperidol	Psychotic Disorders
7	rs4410790	<i>AHR</i>	C	T	0.3211	0.6789	Metabolism/PK	3	olanzapine	Psychotic Disorders
7	rs1800111	<i>CFTR</i>	C	G	0.02105	0.97895	Efficacy	4	ivacaftor	Cystic Fibrosis
7	rs255100	<i>CRHR2</i>	T	A	0.4842	0.5158	Efficacy	3	salbutamol, selective beta-2-adrenoreceptor agonists	Asthma
7	rs342293	<i>CTB-30L5.1</i>	G	C	0.4184	0.5816	Efficacy	4	clopidogrel	Coronary Artery Disease
7	rs3735451	<i>CYP3A4</i>	G	A	0.2237	0.7763	Toxicity/ADR	3	methadone	Heroin Dependence
7	rs472660	<i>CYP3A43</i>	T	C	0.1263	0.8737	Metabolism/PK	3	olanzapine	Schizophrenia
7	rs6977820	<i>DPP6</i>	T	C	0.2474	0.7526	Toxicity/ADR	2B	antipsychotics	Schizophrenia, tardive dyskinesia
7	rs712829	<i>EGFR</i>	T	G	0.2064	0.7936	Toxicity/ADR	3	erlotinib	Neoplasms
7	rs712830	<i>EGFR</i>	A	C	0.2312	0.7688	Toxicity/ADR	3	cetuximab, irinotecan, leucovorin, tegafur	Colorectal Neoplasms
7	rs478437	<i>LOC105375551</i>	C	T	0.3711	0.6289	Efficacy	4	tamoxifen	
7	rs4720833	<i>MAFK</i>	A	G	0.35	0.65	Toxicity/ADR	3	isoniazid	drug-induced liver injury, Toxic liver disease
7	rs17655652	<i>NPC1L1</i>	C	T	0.2868	0.7132	Efficacy	3	pravastatin	Diabetes Mellitus, Hypertension, Vascular Diseases
7	rs854555	<i>PON1</i>	A	C	0.4263	0.5737	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	
7	rs2227631	<i>SERPINE1</i>	A	G	0.3895	0.6105	Efficacy	3	antidepressants, citalopram, fluoxetine	Depressive Disorder, Major
7	rs6092	<i>SERPINE1</i>	A	G	0.07632	0.92368	Toxicity/ADR	3	dexamethasone	Precursor Cell Lymphoblastic Leukemia-Lymphoma
7	rs4379368	<i>SUGCT</i>	T	C	0.08947	0.91053	Toxicity/ADR	3	hormonal contraceptives for	

									systemic use	
7	rs846664	<i>TAS2R16</i>	G	T	0.01852	0.98148	Toxicity/ADR	3	ethanol	Alcoholism
7	rs2960436	-	A	G	0.4108	0.5892	Efficacy	3	fluorouracil	Stomach Neoplasms
7	rs34548976	-	T	C	0.3632	0.6368	Efficacy	3	adrenergics, inhalants	Asthma
7	rs6966038	-	G	A	0.1395	0.8605	Efficacy	4	citalopram	Depressive Disorder, Major
8	rs1517114	<i>C8orf34</i>	C	G	0.3842	0.6158	Toxicity/ADR	2B	irinotecan	Carcinoma, Non-Small-Cell Lung
8	rs6983267	<i>CCAT2, CASC8</i>	T	G	0.4132	0.5868	Efficacy	3	Platinum compounds	Lung Neoplasms
8	rs6988229	<i>COL22A1</i>	T	C	0.1553	0.8447	Efficacy	2B	salbutamol	Asthma
8	rs7387065	<i>CSMD1</i>	G	A	0.2921	0.7079	Efficacy	3	hydrochlorothiazide	Essential hypertension
8	rs1799998	<i>CYP11B2</i>	C	T	0.4471	0.5529	Efficacy	3	benazepril,imidapril	Essential hypertension
8	rs2669429	<i>DPYS</i>	C	T	0.4579	0.5421	Toxicity/ADR	3	atenolol	Hyperglycemia,Hypertension
8	rs352428	<i>EXTL3</i>	A	G	0.1026	0.8974	Efficacy	3	citalopram,escitalopram	Depressive Disorder, Major
8	rs13253389	<i>NATI</i>	A	G	0.45	0.55	Metabolism/PK	3	cotinine	
8	rs1041983	<i>NAT2</i>	T	C	0.3132	0.6868	Toxicity/ADR	2A	ethambutol,isoniazid,pyrazinamide,rifampin	Tuberculosis
8	rs1208	<i>NAT2</i>	G	A	0.3421	0.6579	Toxicity/ADR	3	isoniazid,phenytoin	Drug interaction with drug,Drug Toxicity
8	rs1799929	<i>NAT2</i>	T	C	0.3395	0.6605	Toxicity/ADR	3	Drugs For Treatment Of Tuberculosis	Tuberculosis
8	rs1799930	<i>NAT2</i>	A	G	0.1553	0.8447	Toxicity/ADR, Metabolism/PK	2A	ethambutol,isoniazid,pyrazinamide,rifampin	Tuberculosis
8	rs1799931	<i>NAT2</i>	A	G	0.15	0.85	Toxicity/ADR	3	docetaxel,thalidomide	Prostatic Neoplasms
8	rs1801280	<i>NAT2</i>	C	T	0.3396	0.6604	Toxicity/ADR	3	cisplatin,cyclophosphamide	Ovarian Neoplasms
8	rs17060812	<i>SLC39A14</i>	T	C	0.07105	0.92895	Efficacy	3	nortriptyline	Depression
8	rs1495741	-	G	A	0.3316	0.6684	Toxicity/ADR	3	Drugs For Treatment Of Tuberculosis,isoniazid	Tuberculosis
9	rs2230808	<i>ABCA1</i>	A	G	0.2237	0.7763	Efficacy	3	fenofibrate	Hypertriglyceridemia
9	rs495828	<i>ABO</i>	T	G	0.2026	0.7974	Toxicity/ADR	3	Ace Inhibitors, Plain	

Supplementary Material

9	rs8176719	<i>ABO</i>	I	D	0.3105	0.6895	Toxicity/ADR	3	hormonal contraceptives for systemic use	
9	rs3849942	<i>C9orf72</i>	A	G	0.1421	0.8579	Efficacy	4	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
9	rs774359	<i>C9orf72</i>	C	T	0.1579	0.8421	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
9	rs10757274	<i>CDKN2B-AS1</i>	A	G	0.4974	0.5026	Toxicity/ADR	3	Antiinflammatory agents, non-steroids	Acute coronary syndrome
9	rs11141915	<i>DAPK1</i>	C	A	0.1941	0.8059	Toxicity/ADR	4	gemcitabine	Neoplasms
9	rs1611131	<i>DBH</i>	G	A	0.3632	0.6368	Toxicity/ADR	3	opioids	Opioid-Related Disorders
9	rs430397	<i>HSPA5</i>	A	G	0.05	0.95	Efficacy	3	Platinum compounds	Carcinoma, Non-Small-Cell Lung
9	rs2814707	<i>MOB3B</i>	A	G	0.1402	0.8598	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
9	rs7046653	<i>MOB3B</i>	A	G	0.3474	0.6526	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
9	rs2289658	<i>NTRK2</i>	G	A	0.1632	0.8368	Dosage	3	methadone	Heroin Dependence,Opioid-Related Disorders
9	rs2378676	<i>NTRK2</i>	T	G	0.4605	0.5395	Dosage	3	methadone	Heroin Dependence,Opioid-Related Disorders
9	rs10306114	<i>PTGS1</i>	G	A	0.04737	0.95263	Efficacy	2B	aspirin	Coronary Artery Disease,Myocardial Infarction
9	rs301435	<i>SLC1A1</i>	A	G	0.2711	0.7289	Efficacy	4	Selective serotonin reuptake inhibitors	Obsessive-Compulsive Disorder
9	rs4986790	<i>TLR4</i>	G	A	0.02895	0.97105	Efficacy	3	pravastatin	Coronary Artery Disease
9	rs3761847	<i>TRAF1</i>	G	A	0.2921	0.7079	Efficacy	3	adalimumab,etanercept,infliximab,Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
9	rs7862221	<i>TSC1</i>	C	T	0.1211	0.8789	Toxicity/ADR	3	aspirin	aspirin-induced asthma,Asthma
9	rs1800975	<i>XPA</i>	A	G	0.2763	0.7237	Efficacy	3	Platinum compounds	Carcinoma, Non-Small-Cell Lung
9	rs10811661	-	C	T	0.1402	0.8598	Efficacy	3	troglitazone	Diabetes Mellitus, Type 2

10	rs3740065	ABCC2	C	T	0.1053	0.8947	Toxicity/ADR, Metabolism/PK	3	methotrexate	Leukemia, B-Cell, Acute
10	rs717620	ABCC2	A	G	0.1289	0.8711	Other	3	erythromycin	
10	rs1800545	ADRA2A	A	G	0.04474	0.95526	Efficacy	3	atenolol	Hypertrophy, Left Ventricular
10	rs10994982	ARID5B	G	A	0.4368	0.5632	Metabolism/PK	3	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
10	rs4948496	ARID5B	T	C	0.3447	0.6553	Metabolism/PK	3	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
10	rs10490924	ARMS2	T	G	0.2658	0.7342	Efficacy	3	bevacizumab	Macular Degeneration
10	rs12415607	CASP7	A	C	0.3395	0.6605	Efficacy	3	docetaxel, gemcitabine, paclitaxel, Platinum compounds, vinorelbine	Carcinoma, Non-Small-Cell Lung
10	rs7921977	CASP7	C	T	0.3211	0.6789	Efficacy	3	docetaxel, gemcitabine, paclitaxel, Platinum compounds, vinorelbine	Carcinoma, Non-Small-Cell Lung
10	rs3810950	CHAT	A	G	0.1605	0.8395	Efficacy	4	olanzapine	Schizophrenia
10	rs10997242	CTNNA3	C	T	0.1684	0.8316	Efficacy	3	antidepressants	Depressive Disorder, Major
10	rs11188072	CYP2C19	T	C	0.1587	0.8413	Dosage	3	mephenytoin	
10	rs10509681	CYP2C8	C	T	0.06053	0.93947	Metabolism/PK	2A	rosiglitazone	
10	rs11572080	CYP2C8	A	G	0.05615	0.94385	Dosage	3	repaglinide	
10	rs10509680	CYP2C9	T	G	0.03947	0.96053	Dosage	3	warfarin	
10	rs4086116	CYP2C9	T	C	0.09474	0.90526	Dosage	3	acenocoumarol	
10	rs2031920	CYP2E1	T	C	0.1277	0.8723	Toxicity/ADR	3	Drugs For Treatment Of Tuberculosis	Tuberculosis
10	rs2289310	DLG5	A	C	0.05526	0.94474	Efficacy	4	capecitabine, fluorouracil	Neoplasm Metastasis
10	rs3824662	GATA3	T	G	0.3553	0.6447	Efficacy	3	asparaginase, cyclophosphamide, cytarabine, daunorubicin, dexamethasone, doxorubicin, leucovorin, mercaptopurine, methotrexate, pegaspargase, prednisone, thioguanine, vincristine	

Supplementary Material

10	rs10509373	<i>LRMDA</i>	C	T	0.4153	0.5847	Efficacy	3	tamoxifen	Breast Neoplasms
10	rs4933824	<i>NRG3</i>	T	G	0.03158	0.96842	Toxicity/ADR	3	iloperidone	Acquired Long QT Syndrome (aLQTS)
10	rs11189381	<i>SFRP5</i>	C	T	0.1526	0.8474	Toxicity/ADR	3	Bisphosphonates	Osteonecrosis
10	rs7903146	<i>TCF7L2</i>	T	C	0.2395	0.7605	Efficacy	2B	sulfonamides, urea derivatives	
10	rs11252394	-	A	G	0.03684	0.96316	Efficacy	3	salbutamol	Asthma
10	rs12777823	-	A	G	0.1053	0.8947	Dosage	1A	warfarin	
10	rs7912580	-	A	G	0.1105	0.8895	Efficacy	4	olanzapine,quetiapine,risperidone,ziprasidone	Schizophrenia
11	rs7118900	<i>ANKK1</i>	A	G	0.2763	0.7237	Dosage	3	methadone	Heroin Dependence,Opioid-Related Disorders
11	rs662799	<i>APOA5</i>	G	A	0.1868	0.8132	Efficacy	2B	atorvastatin,lovastatin,simvastatin	Hyperlipidemias
11	rs1801516	<i>ATM</i>	A	G	0.09211	0.90789	Toxicity/ADR	3	cyclophosphamide,doxorubicin,fluorouracil	Breast Neoplasms
11	rs11030104	<i>BDNF</i>	G	A	0.1711	0.8289	Efficacy	3	antipsychotics	Schizophrenia
11	rs6265	<i>BDNF</i>	A	G	0.1632	0.8368	Efficacy	3	paroxetine	Depressive Disorder, Major
11	rs7103411	<i>BDNF</i>	C	T	0.1737	0.8263	Efficacy	3	citalopram	Depressive Disorder, Major
11	rs11212617	<i>C11orf65</i>	C	A	0.3737	0.6263	Efficacy	2B	metformin	Diabetes Mellitus, Type 2
11	rs9344	<i>CCND1</i>	A	G	0.3684	0.6316	Efficacy	3	cetuximab	Colorectal Neoplasms
11	rs10741657	<i>CYP2R1</i>	A	G	0.3737	0.6263	Efficacy	3	peginterferon alfa-2b,ribavirin	Hepatitis C, Chronic
11	rs716274	<i>DYNC2H1</i>	G	A	0.4289	0.5711	Toxicity/ADR	2B	etoposide,Platinum compounds	
11	rs1799963	<i>F2</i>	A	G	0.01579	0.98421	Toxicity/ADR	3	hormonal contraceptives for systemic use	Stroke,Venous Thrombosis
11	rs61734430	<i>FOLR3</i>	T	C	0.01579	0.98421	Efficacy	3	pemetrexed	Carcinoma, Non-Small-Cell Lung,Mesothelioma
11	rs3758785	<i>GPR83</i>	G	A	0.2842	0.7158	Efficacy	3	hydrochlorothiazide	Essential hypertension
11	rs1138272	<i>GSTP1</i>	T	C	0.01842	0.98158		3	thiotepa	Neoplasms

11	rs1695	<i>GSTP1</i>	G	A	0.3868	0.6132	Toxicity/ADR	2A	Platinum compounds	Neoplasms
11	rs1062613	<i>HTR3A</i>	T	C	0.2026	0.7974	Efficacy	3	clozapine	Schizophrenia
11	rs11600347	<i>KCNJ1</i>	A	C	0.08684	0.91316	Toxicity/ADR	3	hydrochlorothiazide	Hypertension
11	rs5219	<i>KCNJ11</i>	T	C	0.4237	0.5763	Efficacy	2A	glibenclamide,gliclazide,glimepiride,glipizide,gliquidone,sulfonamides, urea derivatives	Diabetes Mellitus
11	rs2237892	<i>KCNQ1</i>	T	C	0.3079	0.6921	Efficacy	3	repaglinide	Diabetes Mellitus, Type 2
11	rs2237895	<i>KCNQ1</i>	C	A	0.4079	0.5921	Efficacy	3	repaglinide	Diabetes Mellitus, Type 2
11	rs619586	<i>MALAT1</i>	G	A	0.05789	0.94211	Efficacy	3	Platinum compounds	Lung Neoplasms
11	rs9937	<i>RRM1</i>	G	A	0.457	0.543	Efficacy,Toxicity/ADR	3	gemcitabine	Neoplasms
11	rs2306168	<i>SLCO2B1</i>	T	C	0.06316	0.93684	Metabolism/PK	3	fexofenadine	
12	rs7968606	<i>ANKS1B</i>	T	C	0.07368	0.92632	Efficacy	3	amisulpride	Schizophrenia
12	rs1006737	<i>CACNA1C</i>	A	G	0.25	0.75	Toxicity/ADR	4	citalopram	Depressive Disorder, Major
12	rs2270777	<i>CDK4</i>	A	G	0.2684	0.7316	Other	3	somatropin recombinant	
12	rs310786	<i>E2F7</i>	C	T	0.2395	0.7605	Toxicity/ADR	3	tamoxifen	Breast Neoplasms
12	rs10846744	<i>SCARB1</i>	C	G	0.2237	0.7763	Efficacy	3	peginterferon alfa-2a,ribavirin	Hepatitis C, Chronic
12	rs10841753	<i>SLCO1B1</i>	C	T	0.2816	0.7184	Metabolism/PK	3	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
12	rs11045819	<i>SLCO1B1</i>	A	C	0.09474	0.90526	Efficacy	3	fluvastatin	Hypercholesterolemia
12	rs11045879	<i>SLCO1B1</i>	C	T	0.1526	0.8474	Toxicity/ADR	2A	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
12	rs4149032	<i>SLCO1B1</i>	T	C	0.4	0.6	Metabolism/PK	3	rifampin	Tuberculosis
12	rs4149081	<i>SLCO1B1</i>	A	G	0.1566	0.8434	Toxicity/ADR	3	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
12	rs4363657	<i>SLCO1B1</i>	C	T	0.1474	0.8526	Toxicity/ADR	3	simvastatin	Muscular Diseases
12	rs4149117	<i>SLCO1B3</i>	T	G	0.1763	0.8237	Toxicity/ADR	3	carboplatin,paclitaxel	Lung Neoplasms
12	rs7311358	<i>SLCO1B3</i>	G	A	0.1729	0.8271	Other	3	mycophenolate mofetil	Kidney Transplantation

Supplementary Material

12	rs3794271	<i>SLCO1C1</i>	C	T	0.4947	0.5053	Efficacy	3	etanercept,infliximab,Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Psoriatic,Arthritis, Rheumatoid
12	rs4149570	<i>TNFRSF1A</i>	T	G	0.336	0.664	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Crohn Disease,Inflammatory Bowel Diseases
12	rs4516035	<i>VDR</i>	C	T	0.3342	0.6658	Metabolism/PK	4	midazolam	
12	rs7297610	<i>YEATS4</i>	T	C	0.05263	0.94737	Efficacy	2B	hydrochlorothiazide	Essential hypertension,Hypertension
12	rs2965667	-	A	T	0.01977	0.98023	Other	3	Antiinflammatory agents, non-steroids,aspirin	Colorectal Neoplasms
13	rs16950650	<i>ABCC4</i>	T	C	0.01316	0.98684	Efficacy	3	cisplatin,irinotecan	Carcinoma, Small Cell
13	rs1751034	<i>ABCC4</i>	C	T	0.2526	0.7474	Metabolism/PK	2B	tenofovir	HIV,HIV Infections
13	rs77876672	<i>DIAPH3</i>	T	C	0.01316	0.98684	Efficacy	3	hydrochlorothiazide	Essential hypertension
14	rs1130214	<i>AKT1</i>	T	G	0.2318	0.7682	Efficacy	3	carboplatin,cisplatin	Lung Neoplasms
14	rs12050217	<i>BDKRB1</i>	G	A	0.2947	0.7053	Efficacy	3	perindopril	Coronary Artery Disease
14	rs8012552	<i>BDKRB2</i>	T	C	0.4921	0.5079	Toxicity/ADR	3	Ace Inhibitors, Plain	Cough,Hypertension
14	rs4982133	<i>EGLN3-AS1, LOC102724945</i>	A	C	0.15	0.85	Efficacy	4	methotrexate	Arthritis, Rheumatoid
14	rs2498804	<i>LOC102723342, LOC107987209</i>	T	G	0.4206	0.5794	Efficacy	3	carboplatin,cisplatin	Carcinoma, Non-Small-Cell Lung
14	rs1160351	<i>MDGA2</i>	G	T	0.2421	0.7579	Toxicity/ADR	3	fluvoxamine,milnacipran,paroxetine	Depressive Disorder, Major
14	rs7142881	<i>NUBPL</i>	G	A	0.4711	0.5289	Toxicity/ADR	3	iloperidone	Acquired Long QT Syndrome (aLQTS)
14	rs17091162	<i>SERPINA3</i>	A	C	0.2447	0.7553	Efficacy	3	antineoplastic agents	Pancreatic Neoplasms
15	rs4646	<i>CYP19A1</i>	A	C	0.4237	0.5763	Efficacy	2B	anastrozole,cyclophosphamide,docetaxel,doxorubicin,epirubicin, exemestane,fluorouracil,paclitaxel,radiotherapy,tamoxifen	Breast Neoplasms,Menopause
15	rs700518	<i>CYP19A1</i>	G	A	0.3605	0.6395	Other	3	letrozole	Breast Neoplasms,Menopause

15	rs2472304	<i>CYP1A2</i>	A	G	0.3447	0.6553	Efficacy	3	paroxetine	Depressive Disorder, Major
15	rs762551	<i>CYP1A2</i>	C	A	0.2342	0.7658	Toxicity/ADR	3	leflunomide	Arthritis, Rheumatoid
15	rs2412459	<i>EIF2AK4</i>	C	T	0.1289	0.8711	Efficacy	4	olanzapine,quetiapine,risperidon e,ziprasidone	Schizophrenia
15	rs1800588	<i>LIPC</i>	T	C	0.3868	0.6132	Efficacy	3	fluvastatin,simvastatin	
15	rs16973225	<i>LOC102724001</i>	C	A	0.06579	0.93421	Other	3	Antiinflammatory agents, non- steroids,aspirin	Colorectal Neoplasms
15	rs2290271	<i>SLC28A1</i>	G	T	0.4553	0.5447	Toxicity/ADR	3	anthracyclines and related substances	
15	rs1719247		C	T	0.4395	0.5605	Toxicity/ADR	2B	hmg coa reductase inhibitors,simvastatin	
16	rs119774	<i>ABCC1</i>	A	G	0.05263	0.94737	Efficacy	3	montelukast	Asthma
16	rs45511401	<i>ABCC1</i>	T	G	0.03158	0.96842	Toxicity/ADR	3	doxorubicin	Arrhythmias, Cardiac,Drug Toxicity,Lymphoma, Non- Hodgkin
16	rs2238472	<i>ABCC6</i>	A	G	0.3658	0.6342	Toxicity/ADR	3	docetaxel,thalidomide	Prostatic Neoplasms
16	rs1967309	<i>ADCY9</i>	C	T	0.4605	0.5395	Efficacy,Toxicity/A DR	3	dalcetrapib	Acute coronary syndrome
16	rs8192935	<i>CES1</i>	T	C	0.5	0.5	Metabolism/PK	3	Dabigatran	Atrial Fibrillation
16	rs3785161	<i>CES1P1</i>	C	A	0.2566	0.7434	Efficacy	3	clopidogrel	Coronary Disease
16	rs1532624	<i>CETP</i>	T	G	0.3237	0.6763	Efficacy	2B	hmg coa reductase inhibitors	Hyperlipidemias
16	rs3213422	<i>DHODH</i>	A	C	0.3605	0.6395	Efficacy	4	leflunomide	Arthritis, Rheumatoid
16	rs10782001	<i>FBXL19</i>	G	A	0.3711	0.6289	Toxicity/ADR	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Psoriasis
16	rs9939609	<i>FTO</i>	A	T	0.2526	0.7474	Efficacy	3	interferon alfa-2a, recombinant,interferon alfa-2b, recombinant,ribavirin	Hepatitis C, Chronic,HIV
16	rs2232228	<i>HAS3</i>	G	A	0.45	0.55	Toxicity/ADR	2B	anthracyclines and related substances	Cardiomyopathies
16	rs2066844	<i>NOD2</i>	T	C	0.03743	0.96257	Efficacy	3	tacrolimus	Kidney Transplantation

Supplementary Material

16	rs1800566	<i>NQO1</i>	T	C	0.3842	0.6158	Efficacy	2A	Alkylating Agents,anthracyclines and related substances,fluorouracil,Platinum compounds	Breast Neoplasms,Carcinoma, Non-Small-Cell Lung,Neoplasms,Ovarian Neoplasms,Stomach Neoplasms
16	rs3888190	<i>SH2B1</i>	G	T	0.4674	0.5326	Toxicity/ADR	3	amisulpride,aripiprazole,clozapine,lithium,mirtazapine,olanzapine,paliperidone,quetiapine,risperidone,valproic acid	Bipolar Disorder,Depressive Disorder,Psychotic Disorders,schizoaffective disorder
16	rs10871454	<i>STX4</i>	T	C	0.4921	0.5079	Dosage	3	warfarin	
16	rs11150606	<i>VKORC1</i>	C	T	0.2684	0.7316		3	warfarin	
16	rs17708472	<i>VKORC1</i>	A	G	0.1605	0.8395	Dosage	2A	warfarin	
16	rs2359612	<i>VKORC1</i>	A	G	0.4974	0.5026	Dosage	2A	warfarin	
16	rs2884737	<i>VKORC1</i>	C	A	0.1658	0.8342	Dosage	2A	warfarin	
16	rs7294	<i>VKORC1</i>	A	G	0.3182	0.6818	Dosage	1B	warfarin	
16	rs8050894	<i>VKORC1</i>	C	G	0.4974	0.5026	Dosage	2A	warfarin	
16	rs247616	-	T	C	0.2632	0.7368	Efficacy	3	hmg coa reductase inhibitors	
16	rs7186128	-	G	A	0.3421	0.6579	Efficacy	3	cisplatin,irinotecan	
16	rs7405404	-	T	C	0.1905	0.8095	Efficacy	3	lithium	Bipolar Disorder
16	rs9936750	-	C	T	0.09737	0.90263	Toxicity/ADR	3	capecitabine	Neoplasms
17	rs4343	<i>ACE</i>	G	A	0.4418	0.5582	Efficacy	3	sildenafil	Erectile Dysfunction
17	rs4790694	<i>ARRB2</i>	A	C	0.1553	0.8447	Toxicity/ADR	3	methamphetamine	Substance-Related Disorders
17	rs4541111	<i>AXIN2</i>	G	T	0.4947	0.5053	Efficacy	3	Platinum compounds	Carcinoma, Non-Small-Cell Lung
17	rs9901675	<i>CD68</i>	A	G	0.01579	0.98421	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
17	rs4562	<i>CLDN7, ELP5</i>	A	G	0.4465	0.5535	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
17	rs6065	<i>GP1BA</i>	T	C	0.1316	0.8684	Efficacy	2B	aspirin	
17	rs5918	<i>ITGB3</i>	C	T	0.08158	0.91842	Efficacy	3	aspirin	Acute coronary syndrome,Coronary Artery

										Disease
17	rs1052536	<i>LIG3</i>	T	C	0.3789	0.6211	Toxicity/ADR	3	cisplatin,cyclophosphamide	Ovarian Neoplasms
17	rs1000940	<i>RABEP1</i>	C	T	0.4079	0.5921	Other	3	amisulpride,aripiprazole,clozapine,lithium,mirtazapine,olanzapine,paliperidone,quetiapine,risperidone,valproic acid	Bipolar Disorder,Depressive Disorder,Psychotic Disorders,schizoaffective disorder
17	rs11552708	<i>SENP3</i>	A	G	0.1164	0.8836	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
17	rs1979277	<i>SHMT1</i>	A	G	0.2593	0.7407	Toxicity/ADR	3	methotrexate	Precursor Cell Lymphoblastic Leukemia-Lymphoma
17	rs12943590	<i>SLC47A2</i>	A	G	0.4497	0.5503	Metabolism/PK	3	metformin	
17	rs11868035	<i>SREBF1</i>	A	G	0.4737	0.5263	Toxicity/ADR	3	hmg coa reductase inhibitors	Schizophrenia
17	rs4796793	<i>STAT3</i>	G	C	0.1658	0.8342	Efficacy	3	interferons	Carcinoma, Renal Cell
17	rs1042522	<i>TP53</i>	C	G	0.2132	0.7868	Efficacy,Toxicity/ADR	2B	antineoplastic agents	Neoplasms
17	rs4267385	-	T	C	0.45	0.55	Toxicity/ADR	3	Ace Inhibitors, Plain	Cough
17	rs879207	-	G	A	0.2895	0.7105	Toxicity/ADR	3	carboplatin,docetaxel,paclitaxel	Ovarian Neoplasms
18	rs4799915	<i>CELF4</i>	C	T	0.3053	0.6947	Toxicity/ADR	3	iloperidone	Acquired Long QT Syndrome (aLQTS)
18	rs2612091	<i>ENOSF1</i>	G	A	0.4368	0.5632	Toxicity/ADR	3	capecitabine	Neoplasms
18	rs17782313	<i>MC4R</i>	C	T	0.1184	0.8816	Toxicity/ADR	2B	antipsychotics	Schizophrenia
18	rs489693	<i>MC4R</i>	A	C	0.2579	0.7421	Toxicity/ADR	2B	amisulpride,aripiprazole,clozapine,haloperidol,olanzapine,paliperidone,quetiapine,risperidone,ziprasidone	Autism Spectrum Disorder,schizoaffective disorder,Schizophrenia
18	rs4149601	<i>NEDD4L</i>	A	G	0.1789	0.8211	Efficacy	2B	diuretics,hydrochlorothiazide	Hypertension
18	rs6506569	<i>PTPRM</i>	T	C	0.4316	0.5684	Efficacy	4	methotrexate	Arthritis, Rheumatoid
18	rs1805034	<i>TNFRSF11A</i>	C	T	0.4078	0.5922	Toxicity/ADR	3	acetaminophen,aspirin,diclofenac,propionic acid derivatives,Pyrazolones	
18	rs2853741	<i>TYMS</i>	T	C	0.2579	0.7421	Toxicity/ADR	3	capecitabine	Diarrhea,Neoplasms

Supplementary Material

19	rs445925	<i>APOC1</i>	T	C	0.06053	0.93947	Efficacy	3	hmg coa reductase inhibitors	
19	rs3213239	<i>APLF</i>	D	I	0.2447	0.7553	Efficacy	3	Platinum compounds	Carcinoma, Non-Small-Cell Lung
19	rs7412	<i>APOC1, APOE</i>	T	C	0.04497	0.95503	Toxicity/ADR	3	ritonavir	HIV,HIV Infections,Hyperlipidemias,Hypertriglyceridemia
19	rs56113850	<i>CYP2A6</i>	T	C	0.3641	0.6359	Metabolism/PK	3	nicotine	Tobacco Use Disorder
19	rs3786547	<i>CYP2B6</i>	C	T	0.3369	0.6631	Toxicity/ADR	3	nevirapine	HIV
19	rs13181	<i>ERCC2</i>	G	T	0.2237	0.7763	Efficacy,Toxicity/ADR	3	fluorouracil,leucovorin,oxaliplatin	Colorectal Neoplasms
19	rs1613662	<i>GP6</i>	G	A	0.07895	0.92105	Efficacy	3	aspirin	Coronary Artery Disease
19	rs12980275	<i>IFNL3</i>	G	A	0.3684	0.6316	Efficacy	3	peginterferon alfa-2a,peginterferon alfa-2b,ribavirin	Hepatitis C, Chronic
19	rs2562456	<i>LINC00664</i>	G	A	0.4026	0.5974	Efficacy	3	ketorolac	
19	rs3814995	<i>NPHS1</i>	T	C	0.3816	0.6184	Efficacy	3	losartan	Hypertension
19	rs1126510	<i>PTGIR</i>	C	T	0.1763	0.8237	Toxicity/ADR	3	aspirin	Asthma
19	rs1800469	<i>TGFB1</i>	T	C	0.4342	0.5658	Toxicity/ADR	3	aspirin	
19	rs1800471	<i>TGFB1</i>	C	G	0.03684	0.96316	Efficacy	3	rituximab	Arthritis, Rheumatoid
19	rs10420097	<i>ZNF211</i>	G	A	0.04233	0.95767	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
20	rs6138150	<i>CST5</i>	C	T	0.2842	0.7158	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
20	rs2248359	<i>CYP24A1</i>	T	C	0.3132	0.6868	Metabolism/PK	3	deferasirox	beta-Thalassemia
20	rs7270101	<i>ITPA</i>	C	A	0.09211	0.90789	Toxicity/ADR	2B	azathioprine	Inflammatory Bowel Diseases,Precursor Cell Lymphoblastic Leukemia-Lymphoma
20	rs6028945	<i>MAFB</i>	T	G	0.08947	0.91053	Efficacy	3	Tumor necrosis factor alpha (TNF-alpha) inhibitors	Arthritis, Rheumatoid
20	rs2273359	<i>NELFCD</i>	G	C	0.03684	0.96316	Efficacy	4	diuretics,hydrochlorothiazide,Th	Hypertension

									iazides, plain	
20	rs6021191	<i>NFATC2</i>	T	A	0.07105	0.92895	Toxicity/ADR	3	asparaginase	Precursor Cell Lymphoblastic Leukemia-Lymphoma
20	rs6127921	-	C	A	0.2	0.8	Efficacy	4	citalopram	Depressive Disorder, Major
21	rs9981861	<i>DSCAM</i>	C	T	0.35	0.65	Efficacy	3	carboplatin,paclitaxel	Carcinoma, Non-Small-Cell Lung,Neoplasms
21	rs2832407	<i>GRIK1</i>	C	A	0.4868	0.5132	Efficacy,Metabolism/PK	3	topiramate	Alcohol-Related Disorders
22	rs2071421	<i>ARSA</i>	G	A	0.3	0.7	Efficacy	4	methylphenidate	Attention Deficit Disorder with Hyperactivity
22	rs4680	<i>COMT</i>	A	G	0.3862	0.6138	Efficacy	2A	nicotine	Tobacco Use Disorder
22	rs5993883	<i>COMT</i>	G	T	0.4105	0.5895	Efficacy	3	quetiapine	Schizophrenia
22	rs738409	<i>PNPLA3</i>	G	C	0.4211	0.5789	Toxicity/ADR	2B	asparaginase,cyclophosphamide, daunorubicin,prednisolone,vincristine	Precursor Cell Lymphoblastic Leukemia-Lymphoma
22	rs4823613	<i>PPARA</i>	G	A	0.3368	0.6632	Efficacy	3	simvastatin	
22	rs11479	<i>TYMP</i>	T	C	0.1553	0.8447	Toxicity/ADR	3	capecitabine,fluorouracil	Neoplasms
22	rs518350	-	A	G	0.07937	0.92063	Efficacy	3	salbutamol	Asthma

Abbreviations: A1, minor allele nucleotide; A2, major allele nucleotide; AF, allele frequency; CHR, chromosome; SNP, single nucleotide polymorphism.

Table S2. The frequencies of Class I and II HLA-associated drug hypersensitivity and related drug adverse reactions in the Chilean population.

HLA pharmacogenetic marker	AF Chilean	Drug/Molecule	Phenotype Categories
<i>HLA-A*01:01</i>	10.00	Phenobarbital	Toxicity
<i>HLA-A*02:01</i>	23.95	Allopurinol	Toxicity
<i>HLA-A*11:01</i>	5.00	Levetiracetam	Toxicity
		Carbamazepine	Toxicity
<i>HLA-A*24:02</i>	9.21	Carbamazepine	Toxicity
		Phenytoin	Toxicity
		Lamotrigine	Toxicity
		Dapsone	Toxicity
<i>HLA-A*30:02</i>	1.84	Amoxicillin-Clavulanate	Toxicity
<i>HLA-A*31:01</i>	5.53	Carbamazepine	Toxicity
		Lamotrigine	Toxicity
		Oxcarbazepine	Toxicity
<i>HLA-A*32:01</i>	2.89	Carbamazepine	Toxicity
		Vancomycin	Toxicity
<i>HLA-A*33:03</i>	0.26	Allopurinol	Toxicity
		Lamotrigine	Toxicity
		Ticlopidine	Toxicity
<i>HLA-A*68:01</i>	11.84	Lamotrigine	Toxicity
<i>HLA-B*07:02</i>	6.05	Sulfamethoxazole-Trimethoprim	Toxicity
<i>HLA-B*08:01</i>	6.32	Infliximab	Toxicity
		Antithyroid Preparations	Toxicity
<i>HLA-B*13:02</i>	1.58	Nevirapine	Toxicity
		Oxcarbazepine	Toxicity
<i>HLA-B*15:01</i>	1.58	Nevirapine	Toxicity
		Oxcarbazepine	Toxicity
		Interferon beta-1a	Efficacy
<i>HLA-B*18:01</i>	5.53	Amoxicillin-Clavulanate	Toxicity
<i>HLA-B*35:05</i>	0.26	Nevirapine	Toxicity
		Minocycline	Toxicity

<i>HLA-B*38:01</i>	2.63	Co-trimoxazole	Toxicity
<i>HLA-B*39:05</i>	4.74	Nevirapine	Toxicity
<i>HLA-B*39:06</i>	0.26	Nevirapine	Toxicity
<i>HLA-B*39:09</i>	9.74	Nevirapine	Toxicity
<i>HLA-B*40:01</i>	1.58	Carbamazepine	Toxicity
		Oxcarbazepine	Toxicity
<i>HLA-B*40:02</i>	2.11	Oxcarbazepine	Toxicity
<i>HLA-B*44:02</i>	3.68	Interferon alfa-2a, recombinant, ribavirin	Efficacy
<i>HLA-B*44:03</i>	5.53	Ticlopidine	Toxicity
		Lamotrigine	Toxicity
<i>HLA-B*48:01</i>	2.11	Allopurinol	Toxicity
<i>HLA-B*51:01</i>	7.89	Nevirapine	Toxicity
		Carbamazepine	Toxicity
		Clindamycin	Toxicity
		Phenobarbital	Toxicity
<i>HLA-B*52:01</i>	0.53	Nevirapine	Toxicity
<i>HLA-B*55:01</i>	1.32	Nevirapine	Toxicity
		Penicillin g, Penicillin v	Toxicity
<i>HLA-B*56:01</i>	0.26	Nevirapine	Toxicity
<i>HLA-B*57:01</i>	1.58	Abacavir	Toxicity
		Flucloxacillin	Toxicity
		Nevirapine	Toxicity
<i>HLA-B*58:01</i>	0.53	Allopurinol	Toxicity
		Lamotrigine	Toxicity
		Antiepileptics	Toxicity
		Carbamazepine	Toxicity
<i>HLA-C*01:02</i>	5.00	Methazolamide	Toxicity
		Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*02:02</i>	3.68	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*04:01</i>	12.63	Nevirapine	Toxicity
		Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*05:01</i>	5.79	Nevirapine	Toxicity

Supplementary Material

		Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*06:02</i>	7.89	Co-trimoxazole	Toxicity
		Sulfamethoxazole-Trimethoprim	Toxicity
		Ustekinumab	Efficacy
		Methotrexate	Efficacy
		Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*07:01</i>	22.37	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*07:02</i>	1.05	Sulfamethoxazole-Trimethoprim	Toxicity
<i>HLA-C*08:01</i>	1.05	Carbamazepine	Toxicity
		Phenytoin	Toxicity
		Allopurinol	Toxicity
		Sulfamethoxazole-Trimethoprim	Toxicity
		Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*12:02</i>	0.26	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*12:03</i>	4.21	Infliximab	Toxicity
<i>HLA-C*14:02</i>	0.79	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*15:02</i>	6.84	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*16:01</i>	4.21	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-C*17:01</i>	1.32	Peginterferon alfa-2b, Ribavirin	Efficacy
<i>HLA-DRB1*01:01</i>	3.16	Nevirapine	Toxicity
		Atorvastatin, Fluvastatin, HMG-CoA Reductase Inhibitors, Pravastatin, Rosuvastatin, Simvastatin	Toxicity
<i>HLA-DRB1*01:02</i>	2.89	Nevirapine	Toxicity
<i>HLA-DRB1*01:03</i>	0.79	Nevirapine	Toxicity
<i>HLA-DRB1*03:01</i>	10.26	Infliximab	Toxicity
		Allopurinol	Toxicity
<i>HLA-DRB1*04:01</i>	1.05	Interferon beta-1a	Efficacy
<i>HLA-DRB1*04:04</i>	1.58	Infliximab	Toxicity
		Nevirapine	Toxicity
<i>HLA-DRB1*07:01</i>	11.05	Pegaspargase	Toxicity
		Lapatinib	Toxicity

		Azathioprine-Mercaptopurine	Toxicity
<i>HLA-DRB1*08:01</i>	1.05	Nevirapine	Toxicity
<i>HLA-DRB1*09:01</i>	2.63	Allopurinol	Toxicity
<i>HLA-DRB1*10:01</i>	1.05	Nevirapine	Toxicity
<i>HLA-DRB1*11:01</i>	5.53	Antiinflammatory agents, Non-steroids	Toxicity
<i>HLA-DRB1*13:02</i>	2.89	Allopurinol	Toxicity
<i>HLA-DRB1*14:01</i>	2.37	Allopurinol	Toxicity
<i>HLA-DRB1*15:01</i>	9.21	Amoxicillin-Clavulanate	Toxicity
		Dapsone	Toxicity
<i>HLA-DRB1*15:02</i>	0.26	Allopurinol	Toxicity
<i>HLA-DRB1*16:01</i>	0.79	Flupirtine	Toxicity
<i>HLA-DRB1*16:02</i>	5.00	Phenytoin	Toxicity
		Dapsone	Toxicity
<i>HLA-DQB1*02:01</i>	10.26	Infliximab	Toxicity
<i>HLA-DQB1*02:02</i>	9.47	Acetaminophen	Toxicity
		Pegaspargase	Toxicity
<i>HLA-DQB1*05:01</i>	7.89	Nevirapine	Toxicity
<i>HLA-DQB1*05:02</i>	0.79	Flupirtine	Toxicity
		Allopurinol	Toxicity
<i>HLA-DQB1*06:01</i>	0.26	Antithyroid Preparations	Toxicity
<i>HLA-DQB1*06:02</i>	9.21	Amoxicillin-Clavulanate	Toxicity
		Influenza vaccines	Toxicity
<i>HLA-DQA1*01:03</i>	4.74	Antithyroid Preparations	Toxicity
<i>HLA-DQA1*02:01</i>	11.05	Lapatinib	Toxicity
		Azathioprine-Mercaptopurine	Toxicity