

PharmGKB Levels of Evidence^a for Selected^b Medication/Gene Associations

Psychotropic Drugs	CYP2B6	CYP2C9	CYP2C19	CYP2D6	CYP3A4	CYP3A5	UGT2B15	ANNK1	COMT	DRD2	GRIK4	HTR2A	HTR2C	MTHFR	OPRM1
Psychostimulants (ADHD)				*					*	*					
Amphetamine										3					
Atomoxetine				1A											
MDMA	3		3												
Methylphenidate				3					3						
Methamphetamine															
Modafinil									3						
Antidepressants	*	*	*	*					*	*	*	*		*	*
Agomelatine															
Amitriptyline			1A	1A											
Bupropion	2A		3					3	3	3		3			
Citalopram			1A	3							3	3			
Clomipramine			1A	1A											
Desipramine				1A											
Doxepin		3	1A	1A											
Duloxetine															
Escitalopram			1A	3							2B	3			
Fluoxetine				3							2B				
Fluvoxamine				1A					3			3			
Imipramine			1A	1A											
Maprotiline				3											
Mianserin				3											
Milnacipran															
Mirtazapine	3			2A											
Nefazodone															
Nortriptyline				1A											
Opipramol				3											
Paroxetine				1A					3		2B	3			
Sertraline			1A	3							2B	3			
SSRIs				3											
Trimipramine		3	1A	1A											
Venlafaxine			3	1A					3		2B	3			

Psychotropic Drugs	CYP2B6	CYP2C9	CYP2C19	CYP2D6	CYP3A4	CYP3A5	UGT2B15	ANNK1	COMT	DRD2	GRIK4	HTR2A	HTR2C	MTHFR	OPRM1
Antipsychotics		*		*	*	*		*	*	*		*	*	*	*
Amisulpride										3					
Aripiprazole				1A				3		3					
Bromperidol										3					
Chlorpromazine										3					
Clozapine									3	3			3	3	
Fluphenazine															
Haloperidol				1A					3						
Nemonapride								3		3					
Olanzapine		3		3		3		3		3		3	3	3	
Prochlorperazine										3					
Quetiapine					3	3			3						
Risperidone				1A	3			3	3	3		3	3		
Thioridazine				3											
Trifluoperazine															
Zuclopenthixol				1A											
Anxiolytics			*	*	*	*	*	*							*
Alprazolam					3										
Clobazam			3												
Dexmedetomidine															
Diazepam			3												
Lorazepam							3								
Midazolam					3	3									
Oxazepam							3								
Others															
Carbamazepine					3	3									
Ketamine	3														
Levodopa										3					
Lithium															
I-Methylfolate														3	
Mephenytoin			3												
Methylphenobarbital			3												
Oxcarbazepine															
Phenobarbital														3	
Phenytoin		1A	3											3	
Valproic acid		3													

^aPharmGKB levels of evidence range from level 1A (highest) to level 4 (lowest). Only select (typically 1A) evidence levels are associated with gene-based dosing guidelines. More details about these levels can be found at pharmgkb.org/page/clinAnnLevels.

^bTable does not include all genes relevant to each drug or all drugs relevant to each gene. Table also does not consider drug-drug interactions or other nongenetic factors that influence pharmacokinetics (PK) and pharmacodynamics (PD).

^cGene variant(s) with PharmGKB levels of evidence for an entire drug class.

Abbreviations: ADHD, attention-deficit/hyperactivity disorder; MDMA, 3,4-methylenedioxymethamphetamine; SSRI, selective serotonin reuptake inhibitors