



EMIT Drugs-of-Abuse Urine Assays Cross-Reactivity List

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EMIT II Plus

Cross-Reactivity Guide

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Applicability of Cross-Reactivity Data

The information contained in this Cross-Reactivity List is applicable to any Drugs-of-Abuse Urine Assays that utilize the Siemens Syva® EMIT® II Plus Drugs-of-Abuse Reagents. Siemens analyzers that use these reagents are the ADVIA® 1200/1650/1800/2400, Dimension® RxL/EXL,[™] Dimension Vista,[®] and the Vital Viva®/Viva E®/V-Twin®/Viva Jr® chemistry analyzers. The Siemens Syva EMIT II Plus Drugs-of-Abuse assays can also be run on other, non-Siemens clinical chemistry analyzers using Siemens-validated application parameters. These include, but are not limited to, the Beckman Coulter AU® series analyzers, COBAS MIRA series analyzers, and the HITACHI (Roche) 700 and 900 series analyzers.

Amphetamines

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Phenmetrazine is listed at 2,300 for the Amphetamines assay at 300 ng/mL cutoff. This means that it takes a concentration of 2,300 ng/mL Phenmetrazine in urine to produce an instrument response equal to the 300 ng/mL d-methamphetamine calibrator. This concentration of drug in urine may be achieved in patients taking Phenmetrazine.

Negative – Structurally Related

Concentration in $\mu\text{g/mL}$ of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, Bupropion is listed as 250 for the Amphetamines assay at 300 ng/mL cutoff. This means that it takes 250 $\mu\text{g/mL}$ (250,000 ng/mL) of Bupropion to produce an instrument response equal to the 300 ng/mL d-Methamphetamine calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Amphetamines

The Amphetamines Assay has three cutoffs: 300 ng/mL, 500 ng/mL, and 1,000 ng/mL d-Methamphetamine.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the d-Methamphetamine cutoff.

	300 Cutoff	500 Cutoff	1,000 Cutoff
d,l-Amphetamine	625	1,050	2,150
l-Amphetamine	3,450	3,750	11,500
Benzphetamine*	400	700	1,000
erythro-Dihydrobupropion	20,000	32,000	(see page 6)
1,3-Dimethylpentylamine	3,400	5,500	14,900
Isometheptene	16,000	29,000	56,000
d,l-Methamphetamine	450	700	2,100
l-Methamphetamine	725	1,325	3,650
MDA (Methylenedioxyamphetamine)	1,100	1,700	(see page 6)
MDEA (Methylenedioxyethamphetamine)	4,400	6,800	(see page 6)
MDMA (Methylenedioxymethamphetamine)	5,200	9,150	(see page 6)
Phenmetrazine	2,300	3,500	13,000
Selegiline	#	#	#

*Benzphetamine metabolizes to amphetamine and methamphetamine.

#Selegiline metabolizes to l-amphetamine and l-methamphetamine. Patients taking Selegiline may test positive by Amphetamine assays.

Amphetamines

Negative – Structurally Related – The drugs listed are in µg/mL at which they will cross-react equivalent to the d-Methamphetamine cutoff.

	300 Cutoff	500 Cutoff	1,000 Cutoff
Bupropion	250	500	2,220
erythro-Dihydrobupropion	(see page 5)	(see page 5)	82
Cathinone	> 100	> 100	> 100
4-Chloramphetamine	2.6	4.5	12.2
Chloroquine	2,100	2,200	4,500
l-Ephedrine	400	800	3,500
Fenfluramine	25	40	150
MDA (Methylenedioxyamphetamine)	(see page 5)	(see page 5)	6.5
MDEA (Methylenedioxyethamphetamine)	(see page 5)	(see page 5)	27.2
MDMA (Methylenedioxyamphetamine)	(see page 5)	(see page 5)	34.3
Mephentermine	8	15	60
Methcathinone	> 100	> 100	> 100
Methoxyphenamine	90	160	360
Phentermine	5.8	9	25
Phenylpropanolamine	700	1,000	2,000
PMA (p-Methoxyamphetamine)	4	7	34
PMMA (p-Methoxymethamphetamine)	8	14	81
Propranolol	100	125	500
d,l-Pseudoephedrine	1,400	2,600	8,300
nor-Pseudoephedrine	40	70	170
Quinacrine	2,500	3,800	16,500
Tranlycypromine	30	60	200
Tyramine	150	200	600

Negative – The compounds in this table were negative for the Amphetamines 300, 500, and 1,000 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Atomoxetine	1,000
Acetylsalicylic Acid	1,000	Atorvastatin	1,000
Albuterol	1,000	Azithromycin	1,000
Alendronate	1,000	AZT (Zidovudine)	2,000
Alprazolam	1,000	Benazepril	1,000
5-Aminosalicylic Acid	1,000	Benzoylcegonine	1,000
Amitriptyline	1,000	1-Benzylpiperazine @ 300	300
Amlodipine	750	1-Benzylpiperazine @ 500	460
Amoxicillin	1,000	1-Benzylpiperazine @ 1,000	460
Atenolol	1,000	Buprenorphine	1,000

Amphetamines

Butorphanol	1,000	Fluconazole	1,000
Caffeine	1,000	Fluoxetine	500
Carbamazepine	250	Fluticasone Propionate	1,000
Carvedilol	1,000	Furosemide	1,000
Carisoprodol	1,000	Gabapentin	1,000
Celecoxib	1,000	Glutethimide	500
Cephalexin	1,000	Glyburide	1,000
Cetirizine	1,000	Griseofulvin	1,000
Chlorpheniramine	1,000	Guaifenesin	1,000
Chlorpromazine	200	Haloperidol @ 300	500
Cimetidine	1,000	Haloperidol @ 500	700
Ciprofloxacin	1,000	Haloperidol @ 1,000	1,000
Citalopram	1,000	Hydrochlorothiazide	1,000
Clomipramine	2.5	Hydrocodone	1,000
Clonazepam	1,000	Hydromorphone	1,000
Clonidine	1,000	Ibuprofen	1,000
Clopidogrel Hydrogen Sulfate	1,000	Imipramine	750
Clotrimazole	1,000	Isoniazid	1,000
Codeine	500	d,l-Isoproterenol	1,000
l-Cotinine	100	Isoxsuprine @ 300	300
Cyclobenzaprine	1,000	Isoxsuprine @ 500	500
Desipramine @ 300	300	Isoxsuprine @ 1,000	500
Desipramine @ 500	500	Ketamine	100
Desipramine @ 1,000	800	Ketoprofen	1,000
Dextromethorphan	1,000	Ketorolac Tromethamine	1,000
Dextrorphan	280	LAAM (l- α -Acetylmethadol)	25
Diazepam	1,000	dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25
Diclofenac	1,000	nor-LAAM (l- α -Acetyl-N-normethadol)	25
Diethylpropion	1,000	Labetalol	750
Diltiazem	1,000	Lamotrigine	1,000
Diphenhydramine	1,000	Lansoprazole	1,000
Dobutamine	1,000	Levetiracetam	1,000
Doxepin	1,000	Lidocaine	1,000
Doxycycline	1,000	Lisinopril	1,000
Doxylamine	1,000	Lorsartan	1,000
EDDP (2-Ethylidene-1,5-dimethyl- 3,3-diphenylpyrrolidine)	1,000	LSD (Lysergic acid diethylamide)	2.5
Enalapril Maleate	1,000	MEGX (Monoethylglycinexylidide)	1,000
Ephedrine	125	Meloxicam	1,000
l-Epinephrine	1,000	Meperidine	1,000
Escitalopram	1,000	Meprobamate	1,000
Escomeprazole	1,000	Mescaline @ 300	1,000
Eszopiclone	1,000	Mescaline @ 500	1,500
Ezetimibe	1,000	Mescaline @ 1,000	1,500
Fenoprofen	150	Metaproterenol	500
Fentanyl	75	Metformin	1,000
Fexofenadine	1,000	Methadone	1,000

Amphetamines

Methaqualone	1,500	Procainamide	1,000
d,l-Methyldopa	1,000	Promethazine	1,000
l-Methyldopa	1,000	Propofol	1,000
Methylphenidate	1,000	Propoxyphene	1,000
Metoprolol Tartrate	1,000	Propylhexedrine @ 300	20
Metronidazole	1,000	Propylhexedrine @ 500	30
Mirtazapine	1,000	Propylhexedrine @ 1,000	50
Modafinil	1,000	Quetiapine Fumerate	1,000
Morphine	1,000	Quinapril	1,000
Nalmefene	20	Rabeprazole	1,000
Naloxone	500	Ramipril	1,000
NAPA (N-Acetylprocainamide)	400	Ranitidine	1,000
Naproxen	1,000	Risedronate	1,000
Nefazodone	1,000	Rifabutin	125
Nicotinic Acid	500	Rofecoxib	1,000
Norsertaline	10	Ropinirole	500
Nortryptiline	750	Scopolamine	500
Nylidrin	750	Secobarbital	1,000
Ofloxacin	100	Sertraline	1,000
Omeprazole	1,000	Sildenafil	1,000
Oxazepam	300	Simvastatin	1,000
Oxycodone	1,000	+/-Synepherine	1,000
Oxymorphone	1,000	Sulfamethoxazole	1,000
PABA (p-Aminobenzoic Acid)	1,000	Tapentadol	1,000
Paroxetine	1,000	11-nor- Δ^9 -THC-9-COOH	100
PCA (1-Phenylcyclohexylamine)	50	Thioridazine	100
PCC (1-Piperidinocyclohexane Carbonitrile)	50	Thyroxine	1,000
Phenazopyridine	300	Tizanidine	1,000
PCP (Phencyclidine)	1,000	Tolmetin Sodium	2,000
Phenelzine @ 300	50	Topiramate	1,000
Phenelzine @ 500	100	Tramadol	1,000
Phenelzine @ 1,000	100	Tranlycypromine	16
Phenethylamine @ 300	15	Trazodone	1,000
Phenethylamine @ 500	20	Trifluoperazine	1,000
Phenethylamine @ 1,000	20	Trihexylphenidyl	1,000
Phenylephrine	1,000	Trimethobenzamide	500
Phenytol (DPH)	1,000	Trimethoprim	1,000
Phthalic Acid	1,000	3-OH-Tyramine	300
Pioglitazone	1,000	Venlafaxine	1,000
Pravastatin	1,000	Verapamil	1,000
Prednisone	1,000	Warfarin	1,000
Pregabalin	100	Zaleplon	1,000
		Zolpidem	100

Barbiturate

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Butalbital is listed as 304 for the Barbiturate assay at 200 ng/mL cutoff. This means that it takes a concentration of 304 ng/mL Butalbital in urine to produce an instrument response equal to the 200 ng/mL Secobarbital calibrator. This concentration of drug in urine may be achieved in patients taking Butalbital.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Barbiturate

The Barbiturate Assay has two cutoffs: 200 ng/mL and 300 ng/mL Secobarbital.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the Secobarbital cutoff.

	200 Cutoff	300 Cutoff
Allobarbital	345	744
Alphenal	284	978
Amobarbital	348	923
Aprobarbital	275	478
Barbital	1,278	4,148
5-Ethyl-5-(4-hydroxyphenyl) barbituric acid	927	4,719
Butabarbital	274	523
Butalbital	304	475
Butobarbital	349	875
Cyclopentobarbital	304	527
Pentobarbital	252	447
Phenobarbital	509 – 971	2,386 – 4,624
Talbutal	194	262
Thiopental	16,400	80,400

Barbiturate

Negative – The compounds below were negative for the Barbiturate 200 and 300 cutoffs at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Diazepam	1,000
Acetylsalicylic Acid	1,000	Diclofenac	1,000
Albuterol	1,000	Diltiazem	1,000
Alendronate	1,000	Diphenhydramine	1,000
Alprazolam	1,000	Doxepin	1,000
5-Aminosalicylic Acid	1,000	Doxycycline	1,000
Amitriptyline	1,000	Doxylamine	1,000
Amlodipine	1,000	EDDP (2-Ethylidene-1,5-dimethyl- 3,3-diphenylpyrrolidine)	1,000
Amoxicillin	1,000	Enalapril Maleate	1,000
Atenolol	1,000	Ephedrine	1,000
Atomoxetine	1,000	Escitalopram	1,000
Atorvastatin	1,000	Esomeprazole	1,000
Azithromycin	1,000	Eszopiclone	1,000
AZT (Zidovudine)	2,000	Ezetimibe	1,000
Benazepril	1,000	Fentanyl	1,000
Benzoylcegonine	1,000	Fexofenadine	1,000
Buprenorphine	1,000	Fluconazole	1,000
Bupropion	1,000	Fluoxetine	1,000
Bupropion, <i>erythro</i> -dihydro metabolite	1,000	Fluticasone Propionate	1,000
Butorphanol	1,000	Furosemide	1,000
Caffeine	1,000	Gabapentin	1,000
Carbamazepine	1,000	Glutethimide	300
Carbamazepine 10,11-Epoxy	1,000	Glyburide	1,000
Carvedilol	1,000	Griseofulvin	1,000
Celecoxib	1,000	Guaifenesin	1,000
Cephalexin	1,000	Hydrochlorothiazide	1,000
Cetirizine	1,000	Hydrocodone	1,000
Chlorpheniramine	1,000	Hydromorphone	1,000
Chlorpromazine	1,000	Ibuprofen	1,000
Cimetidine	1,000	Isoniazid	1,000
Ciprofloxacin	1,000	d,l-Isoproterenol	1,000
Citalopram	1,000	Isoxsuprine	1,000
Clomipramine	2.5	Ketamine	100
Clonazepam	1,000	Ketoprofen	1,000
Clonidine	1,000	Ketorolac Tromethamine	1,000
Clopidogrel Hydrogen Sulfate	1,000	LAAM (l- α -Acetylmethadol)	25
Clotrimazole	1,000	dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25
Codeine	500	Lamotrigine	1,000
Cotinine	100	Lansoprazole	1,000
Cyclobenzaprine	1,000	Levetiracetam	1,000
Desipramine	800	Levofloxacin	1,000
Dextromethorphan	1,000		
Dextrorphan	280		

Barbiturate

Lidocaine	1,000	Promethazine	1,000
Lisinopril	1,000	Propofol	1,000
Lorazepam	250	Propoxyphene	1,000
Lormetazepam	1	Propranolol	1,000
Lorsartan	1,000	Pseudoephedrine	1,000
LSD (Lysergic acid diethylamide)	2.5	Quetiapine Fumerate	1,000
Meloxicam	1,000	Quinapril	1,000
Meperidine	1,000	Rabeprazole	1,000
Meprobamate	1,000	Ramipril	1,000
Metaproterenol	1,000	Ranitidine	1,000
Metformin	1,000	Rifabutin	1,000
Methadone	100	Risedronate	1,000
d-Methamphetamine	35	Risperidone	1,000
Methaqualone	1,500	Rofecoxib	1,000
MDA (Methylenedioxyamphetamine)	5	Ropinirole	1,000
MDMA (Methylenedioxy-methamphetamine)	200	Scopolamine	500
Metoprolol Tartrate	1,000	Sertraline	1,000
Metronidazole	1,000	Sibutramine HCl	1,000
Mirtazapine	1,000	Sildenafil	1,000
Modafinil	1,000	Simvastatin	1,000
Morphine	1,000	Terbutaline	1,000
Myoglobin	287	Sulfamethoxazole	1,000
Nalbuphine	1,000	Tapentadol	1,000
NAPA (N-Acetylprocainamide)	400	11-nor- Δ^9 -THC-9-COOH	100
Naproxen	1,000	Thioridazine	100
Nefazodone	1,000	Thyroxine	1,000
Norsertaline	10	Tizanidine	1,000
Nortryptiline	1,000	Tolmetin Sodium	1,000
Nylidrin	1,000	Topiramate	1,000
Omeprazole	1,000	Tramadol	1,000
Oxazepam	300	Tranylcypromine	1,000
Oxycodone	1,000	Trazadone	1,000
Oxymorphone	1,000	Trifluoperazine	1,000
Paroxetine	1,000	Trihexylphenidyl	1,000
Phenazopyridine	300	Trimethoprim	1,000
PCP (Phencyclidine)	1,000	Tyramine	100
Phenytoin (DPH)	1,000	Valproic Acid	1,000
Pioglitazone	1,000	Venlafaxine	1,000
Pravastatin	1,000	Verapamil	1,000
Prednisone	1,000	Warfarin	1,000
Pregabalin	100	Zaleplon	1,000
		Zolpidem	100

Benzodiazepine

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Alprazolam is listed as 65 for the Benzodiazepine assay at 200 ng/mL cutoff. This means that it takes a concentration of 65 ng/mL Alprazolam in urine to produce an instrument response equal to the 200 ng/mL Lormetazepam calibrator. This concentration of drug in urine may be achieved in patients taking Alprazolam.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Benzodiazepine

The Benzodiazepine Assay has two cutoffs: 200 ng/mL and 300 ng/mL Lormetazepam.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the Lormetazepam cutoff.

	200 Cutoff	300 Cutoff
Alprazolam	65	79
7-Aminoclonazepam	2,600	(see page 15)
7-Aminoflunitrazepam	590	1,400
7-Aminonitrazepam	365	1,000
Bromazepam	630	1,400
Chlordiazepoxide	3,300	7,800
Clobazam	260	800
Clonazepam	580	1,100
Clorazepate	#	#
Clotiazepam	380	670
Demoxepam	1,600	4,000
N-Desalkylflurazepam	130	160
N-Desmethyldiazepam	110	140
Diazepam	70	120
Estazolam	90	1,100
Flunitrazepam	140	190
Flurazepam	190	250
Halazepam	110	160
α-Hydroxyalprazolam	100	150
α-Hydroxyalprazolam Glucuronide	110	120
1-N-Hydroxyethylflurazepam	150	150
α-Hydroxymidazolam	150	220
α-Hydroxytriazolam	130	190
Ketazolam	100	140
Lorazepam	600	890
Medazepam	150	210
Midazolam	130	160
Nefopam	135 @	280 @
Nitrazepam	320	560
Norchlordiazepoxide	2,600	4,900
Oxaprozin	*	*
Oxazepam	250	350
Prazepam	90	130
Temazepam	140	210
Temazepam glucuronide	6,900	11,000
Tetrazepam	70	100

Clorazepate degrades rapidly in stomach acid to nordiazepam. Nordiazepam hydroxylates to oxazepam.

@ Therapeutic doses of nefopam may produce positive results with this assay.

* Therapeutic doses of oxaprozin may produce positive results with this assay.

Benzodiazepine

Negative – Structurally Related – The drugs listed are in µg/mL at which they will cross-react equivalent to the Lormetazepam cut-off.

	200 Cutoff	300 Cutoff
7-Aminoclonazepam	(see above)	8.6
Lorazepam glucuronide	> 20	> 20
Oxazepam glucuronide	> 20	> 20

Negative – The compounds below were negative for the Benzodiazepine 200 and 300 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Cotinine	100
Acetylsalicylic Acid	1,000	Cyclobenzaprine	1,000
Albuterol	1,000	Desipramine	800
Alendronate	1,000	N-Desmethylsertraline	500
5-Aminosalicylic Acid	1,000	Dextromethorphan	1,000
Amitriptyline	1,000	Diclofenac	1,000
Amlodipine	1,000	Diltiazem	1,000
Amoxicillin	1,000	Diphenhydramine	1,000
d-Amphetamine	1,000	Doxepin	1,000
Atomoxetine	1,000	Doxycycline	1,000
Atorvastatin	1,000	Doxylamine	1,000
Azathioprine	1,000	EDDP (2-Ethylidene-1,5-dimethyl- 3, 3-diphenylpyrrolidine)	1,000
Azithromycin	1,000	Enalapril Maleate	1,000
AZT (Zidovudine)	2,000	Ephedrine	1,000
Benazepril	1,000	Escitalopram	900
Benzoylcegonine	1,000	Esomeprazole	1,000
Buprenorphine	1,000	Eszopiclone	1,000
Bupropion	1,000	Ezetimibe	1,000
Bupropion, erythro-dihydro metabolite	1,000	Fentanyl	1,000
Butorphanol	1,000	Fexofenadine	1,000
Caffeine	1,000	Fluconazole	1,000
Carvedilol	1,000	Fluoxetine	1,000
Celecoxib	1,000	Fluticasone Propionate	1,000
Cephalexin	1,000	Fluvoxamine	1,000
Cetirizine	1,000	Furosemide	1,000
Chlorpheniramine	1,000	Gabapentin	1,000
Chlorpromazine	1,000	Glutethimide	500
Cimetidine	1,000	Glyburide	1,000
Ciprofloxacin	1,000	Griseofulvin	1,000
Citalopram	1,000	Guaifenesin	1,000
Clomipramine	2.5	Hydrochlorothiazide	1,000
Clonidine	1,000	Hydrocodone	1,000
Clopidogrel Hydrogen Sulfate	1,000	Hydromorphone	900
Clotrimazole	1,000	Ibuprofen	1,000
Clozapine	50	Isoniazid	1,000
Clozapine N-Oxide	50	d,l-Isoproterenol	1,000
Codeine	500		

Benzodiazepine

Isoxsuprine	1,000	Pioglitazone	1,000
Ketamine	100	Pravastatin	1,000
Ketoprofen	1,000	Prednisone	1,000
Ketorolac Tromethamine	1,000	Pregabalin	100
LAAM (l- α -Acetylmethadol)	25	Promethazine	1,000
dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25	Propofol	1,000
Lamotrigine	1,000	Propoxyphene	1,000
Lansoprazole	1,000	Propranolol	1,000
Levetiracetam	1,000	Pseudoephedrine	1,000
Levofloxacin	1,000	Quetiapine Fumerate	500
Lidocaine	1,000	Quinapril	1,000
Lisinopril	1,000	Rabeprazole	1,000
Loratadine	1,000	Raloxifene	1,000
Lorsartan	1,000	Ramipril	1,000
LSD (Lysergic acid diethylamide)	0.01	Ranitidine	1,000
MDA (Methylenedioxyamphetamine)	5	Rifabutin	1,000
MDMA (Methylenedioxy- methamphetamine)	200	Risedronate	1,000
Meloxicam	1,000	Risperidone	1,000
Meperidine	1,000	Rizatriptan Benzate	1,000
Meprobamate	1,000	Rofecoxib	1,000
Metaproterenol	1,000	Ropinirole	1,000
Metformin	1,000	Scopolamine	500
Methadone	100	Secobarbital	1,000
d-Methamphetamine	35	Sibutramine HCL	1,000
Methaqualone	1,500	Sildenafil	1,000
Metoprolol Tartrate	1,000	Simvastatin	1,000
Metronidazole	1,000	Sulfamethoxazole	1,000
Mirtazapine	1,000	Tapentadol	1,000
Modafinil	500	11-nor- Δ^9 -THC-9-COOH	100
Morphine	1,000	Thioridazine	100
Myoglobin	287	Thyroxine	1,000
Nabumetone	1,000	Tizanidine	1,000
Nalbuphine	1,000	Tolmetin Sodium	1,000
NAPA (N-Acetylprocainamide)	400	Topiramate	1,000
Naproxen	1,000	Tramadol	1,000
Nefazodone	1,000	Tranlycypromine	1,000
Norsertaline	10	Trazadone	1,000
Nortriptyline	1,000	Trifluoperazine	1,000
Nylidrin	1,000	Trihexylphenidyl	1,000
Olanzapine @ 300	1,000	Trimethoprim	1,000
Omeprazole	1,000	Tyramine	100
Oxycodone	900	Valerian Root	10,000
Oxymorphone	1,000	Venlafaxine	1,000
Paroxetine	1,000	Verapamil	1,000
Phenazopyridine	300	Warfarin	1,000
PCP (Phencyclidine)	1,000	Zaleplon	1,000
Phenytoin (DPH)	1,000	Zolpidem	100
		Zopiclone	1,000

Cannabinoid

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, 11-Hydroxy- Δ^8 -THC is listed as 67 for the Cannabinoid assay at 50 ng/mL cutoff. This means that it takes a concentration of 67 ng/mL 11-Hydroxy- Δ^8 -THC in urine to produce an instrument response equal to the 50 ng/mL 11-nor- Δ^9 -THC-9-COOH calibrator. This concentration of drug in urine may be achieved in patients taking THC.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Cannabinoid

The Cannabinoid Assay has three cutoffs: 20 ng/mL, 50 ng/mL, and 100 ng/mL 11-nor- Δ^9 -THC-9-COOH.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the 11-nor- Δ^9 -THC-9-COOH cutoff.

	20 Cutoff	50 Cutoff	100 Cutoff
(-)-9-Carboxy-11-nor- Δ^9 -THC-glucuronide	79	95	328
8- β -11-Dihydroxy- Δ^9 -THC	24	58	109
11-Hydroxy- Δ^8 -THC	43	67	129
11-Hydroxy- Δ^9 -THC	42	77	124
8- β -Hydroxy- Δ^9 -THC	26	68	146

Cannabinoid

Negative – The compounds below were negative for the Cannabinoid 20, 50, and 100 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Diazepam	1,000
Acetylsalicylic Acid	1,000	Diclofenac	1,000
Albuterol	1,000	Diltiazem	1,000
Alendronate	1,000	Diphenhydramine	1,000
Alprazolam	1,000	Doxepin	1,000
5-Aminosalicylic Acid	1,000	Doxycycline	1,000
Amitriptyline	1,000	Doxylamine	1,000
Amlodipine	1,000	EDDP (2-Ethylidene-1,5-dimethyl- 3, 3-diphenylpyrrolidine)	1,000
Amoxicillin	1,000	Efavirenz	1,000
d-Amphetamine	1,000	Enalapril Maleate	1,000
Atomoxetine	1,000	Ephedrine	1,000
Atorvastatin	1,000	Escitalopram	1,000
Azathioprine @ 50	1,000	Esomeprazole	1,000
Azathioprine @ 100	1,000	Eszopiclone	1,000
Azithromycin	1,000	Ezetimibe	1,000
AZT (Zidovudine)	2,000	Fentanyl	1,000
Benazepril	1,000	Fexofenadine	1,000
Benzoylcegonine	1,000	Fluconazole	1,000
Buprenorphine	1,000	Fluoxetine	1,000
Bupropion	1,000	Fluticasone Propionate	1,000
Bupropion, <i>erythro</i> -dihydro metabolite	1,000	Furosemide	1,000
Butorphanol	1,000	Gabapentin	1,000
Caffeine	1,000	Glutethimide	500
Celecoxib	1,000	Glyburide	1,000
Cephalexin	1,000	Griseofulvin	1,000
Cetirizine	1,000	Guaifenesin	1,000
Chlorpheniramine	1,000	Hydrochlorothiazide	1,000
Chlorpromazine	1,000	Hydrocodone	1,000
Cimetidine	1,000	Hydromorphone	1,000
Ciprofloxacin	1,000	Ibuprofen	1,000
Citalopram	1,000	Isoniazid	1,000
Clomipramine	2.5	d,l-Isoproterenol	1,000
Clonazepam	1,000	Isoxsuprine	1,000
Clonidine	1,000	Ketamine	100
Clopidogrel Hydrogen Sulfate	1,000	Ketoprofen	1,000
Clotrimazole	1,000	Ketorolac Tromethamine	1,000
Codeine	500	LAAM (l- α -Acetylmehtadol)	25
Cotinine	100	dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25
Cyclobenzaprine	1,000	Lamotrigine	1,000
Desipramine	800		
Dextromethorphan	1,000		

Cannabinoid

Lansoprazole	1,000	Potassium Nitrite @ 100	5,000
Levetiracetam	1,000	Pravastatin	1,000
Levofloxacin	1,000	Prednisone	1,000
Lidocaine	1,000	Pregabalin	1,000
Lisinopril	1,000	Promethazine	1,000
Lormetazepam	1	Propofol	1,000
Lorsartan	1,000	Propoxyphene	1,000
LSD (Lysergic acid diethylamide)	0.01	Propranolol	1,000
MDA (Methylenedioxyamphetamine)	5	Pseudoephedrine	1,000
MDMA (Methylenedioxy-methamphetamine)	200	4-Pyridoxic Acid @ 100	1,000
Meloxicam	1,000	Quetiapine Fumerate	1,000
Meperidine	1,000	Quinapril	1,000
Meprobamate	1,000	Rabeprazole	1,000
Metaproterenol	1,000	Ramipril	1,000
Metformin	1,000	Ranitidine	1,000
Methadone	100	Rifabutin	1,000
d-Methamphetamine	35	Risedronate	1,000
Methaqualone	1,500	Risperidone	1,000
Metoprolol Tartrate	1,000	Rofecoxib	1,000
Metronidazole	1,000	Ropinirole	1,000
Mirtazapine	1,000	Scopolamine	500
Modafinil	1,000	Secobarbital	1,000
Morphine	1,000	Sertraline	1,000
Myoglobin @ 50	287	Sibutramine HCL @ 100	1,000
Myoglobin @ 100	287	Sildenafil	1,000
Nalbuphine	1,000	Simvastatin	1,000
NAPA (N-Acetylprocainamide)	400	Sulfamethoxazole	1,000
Naproxen	1,000	Thioridazine	100
Nefazodone	1,000	Thyroxine	1,000
Norsertaline	10	Tizanidine	1,000
Nortriptyline	1,000	Tolmetin Sodium	1,000
Nylidrin	1,000	Topiramate	1,000
Omeprazole	1,000	Tramadol	1,000
Oxazepam	300	Tranlycypromine	1,000
Oxycodone	1,000	Trazadone	1,000
Oxymorphone	1,000	Trifluoperazine	1,000
Pantoprazole	1,000	Trihexylphenidyl	1,000
Paroxetine	1,000	Trimethoprim	1,000
Phenazopyridine	300	Tyramine	100
PCP (Phencyclidine)	1,000	Venlafaxine	1,000
Phenytoin (DPH)	1,000	Verapamil	1,000
Pioglitazone	1,000	Warfarin	1,000
Potassium Nitrite @ 50	5,000	Zaleplon	1,000
		Zolpidem	100

Cocaine Metabolite

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Cocaine is listed as 40 – 119 for the Cocaine Metabolite assay at 300 ng/mL cutoff. This means that it takes a concentration of 40 – 119 µg/mL Cocaine in urine to produce an instrument response equal to the 300 ng/mL benzoylecgonine calibrator. This concentration of drug in urine may be achieved in patients taking Cocaine.

Negative

Concentration of drug tested in µg/mL that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Cocaine Metabolite

The Cocaine Metabolite Assay has two cutoffs: 150 ng/mL and 300 ng/mL benzoylecgonine.

Positive – The drugs listed are in µg/mL at which they will cross-react equivalent to the benzoylecgonine cutoff.

	150 Cutoff	300 Cutoff
Cocaine	18 – 53	40 – 119
Ecgonine	2 – 6	7 – 20

Negative – The compounds below were negative for the Cocaine Metabolite 150 and 300 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Clotrimazole	1,000
Acetylsalicylic Acid	1,000	Codeine	500
Albuterol	1,000	Cotinine	100
Alendronate	1,000	Cyclobenzaprine	1,000
Alprazolam	1,000	Desipramine	800
5-Aminosalicylic Acid	1,000	Dextromethorphan	1,000
Amitriptyline	1,000	Diazepam	1,000
Amlodipine	1,000	Diclofenac	1,000
Amoxicillin	1,000	Diltiazem	1,000
d-Amphetamine	100	Diphenhydramine	1,000
Atomoxetine	1,000	Doxepin	1,000
Atorvastatin	1,000	Doxycycline	1,000
Azathioprine	1,000	Doxylamine	1,000
Azithromycin	1,000	EDDP (2-Ethylidene-1,5-dimethyl- 3,	
AZT (Zidovudine)	2,000	3-diphenylpyrrolidine)	1,000
Benazepril	1,000	Enalapril Maleate	1,000
Benzotropine	1,000	Ephedrine	1,000
Bupivacaine	1,000	Escitalopram	1,000
Buprenorphine	1,000	Escomeprazole	1,000
Bupropion	1,000	Eszopiclone	1,000
Bupropion, <i>erythro</i> -dihydro metabolite	1,000	Ezetimibe	1,000
Butorphanol	1,000	Fentanyl	1,000
Caffeine	1,000	Fexofenadine	1,000
Carvedilol	1,000	Fluconazole	1,000
Celecoxib	1,000	Fluoxetine	1,000
Cephalexin	1,000	Fluticasone Propionate	1,000
Cetirizine	1,000	Furosemide	1,000
Chlorpheniramine	1,000	Gabapentin	1,000
Chlorpromazine	1,000	Glutethimide	500
Cimetidine	1,000	Glyburide	1,000
Ciprofloxacin	1,000	Griseofulvin	1,000
Citalopram	1,000	Guaifenesin	1,000
Clomipramine	2.5	Hydrochlorothiazide	1,000
Clonazepam	1,000	Hydrocodone	1,000
Clonidine	1,000	Hydromorphone	1,000
Clopidogrel Hydrogen Sulfate	1,000	Ibuprofen	1,000

Cocaine Metabolite

Isoniazid	1,000	PCP (Phencyclidine)	1,000
d,l-Isoproterenol	1,000	Phenytoin (DPH)	1,000
Isoxsuprine	1,000	Pioglitazone	1,000
Ketamine	100	Pravastatin	1,000
Ketoprofen	1,000	Prednisone	1,000
Ketorolac Tromethamine	1,000	Pregabalin	1,000
LAAM (l- α -Acetylmethadol)	25	Promethazine	1,000
dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25	Propofol	1,000
Lamotrigine	1,000	Propoxyphene	1,000
Lansoprazole	1,000	Propranolol	1,000
Levetiracetam	1,000	Pseudoephedrine	1,000
Levofloxacin	1,000	Quetiapine Fumerate	1,000
Lidocaine	1,000	Quinapril	1,000
Lisinopril	1,000	Rabeprazole	1,000
Lormetazepam	1	Ramipril	1,000
Lorsartan	1,000	Ranitidine	1,000
LSD (Lysergic acid diethylamide)	0.01	Rifabutin	1,000
MDA (Methylenedioxyamphetamine)	5	Risedronate	1,000
MDMA (Methylenedioxy- methamphetamine)	200	Risperidone	1,000
Meloxicam	1,000	Rofecoxib	1,000
Meperidine	1,000	Ropinirole	1,000
Meprobamate	1,000	Scopolamine	500
Metaproterenol	1,000	Secobarbital	1,000
Metformin	1,000	Sertraline	1,000
Methadone	1,000	Sibutramine HCl	1,000
d-Methamphetamine	35	Sildenafil	1,000
Methaqualone	1,500	Simvastatin	1,000
Metoclopramide	1,000	Tetracaine	1,000
Metoprolol Tartrate	1,000	Sulfamethoxazole	1,000
Metronidazole	1,000	Tapentadol	1,000
Mirtazapine	1,000	11-nor- Δ^9 -THC-9-COOH	100
Modafinil	1,000	Thioridazine	100
Morphine	1,000	Thyroxine	1,000
Myoglobin	287	Tizanidine	1,000
Nalbuphine	1,000	Tolmetin Sodium	1,000
NAPA (N-Acetylprocainamide)	400	Topiramate	1,000
Naproxen	1,000	Tramadol	1,000
Nefazodone	1,000	Tranlycypromine	1,000
Norsertaline	10	Trazadone	1,000
Nortriptyline	1,000	Trifluoperazine	1,000
Nylidrin	1,000	Trihexylphenidyl	1,000
Omeprazole	1,000	Trimethoprim	1,000
Oxazepam	300	Tyramine	100
Oxycodone	1,000	Venlafaxine	1,000
Oxymorphone	1,000	Verapamil	1,000
Paroxetine	1,000	Warfarin	1,000
Phenazopyridine	300	Zaleplon	1,000
		Zolpidem	100

Ecstasy

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, BDB is listed as 220 for the Ecstasy assay at 300 ng/mL cutoff. This means that it takes a concentration of 220 ng/mL BDB in urine to produce an instrument response equal to the 300 ng/mL MDMA calibrator. This concentration of drug in urine may be achieved in patients taking BDB.

Negative – Structurally Related

Concentration in $\mu\text{g/mL}$ of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, Bupropion is listed as 2,000 for the Ecstasy assay at 300 ng/mL cutoff. This means that it takes 2,000 $\mu\text{g/mL}$ (2,000,000 ng/mL) of Bupropion to produce an instrument response equal to the 300 ng/mL MDMA calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Ecstasy

The Ecstasy Assay has two cutoffs: 300 ng/mL and 500 ng/mL MDMA.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the MDMA cutoff.

	300 Cutoff	500 Cutoff
BDB (3,4-(Methylenedioxyphenyl)-2-butanamine)	220	780
HMMA (4-Hydroxy-3-methoxy-methamphetamine)	50,000	50,000
MBDB (N-Methyl-1-(1,3-Dimethylpentylamine)-2-Butanamine)	200	430
MDA (Methylenedioxyamphetamine)	280	578
MDEA (Methylenedioxyethamphetamine)	290	528
PMA (p-Methoxyamphetamine)	13,000	22,000
PMMA (p-Methoxymethamphetamine)	1,900	3,600
Haloperidol	8,000	(see page 26)
Trazodone	7,000	(see page 26)
Tetrazepam	70	100

Ecstasy

Negative – Structurally Related – The drugs listed are in $\mu\text{g/mL}$ at which they will cross-react equivalent to the MDMA cutoff.

	300 Cutoff	500 Cutoff
d-Amphetamine	160	430
l-Amphetamine	220	685
d,l-Amphetamine	32	83
Benzphetamine	36	88
Bupropion	2,000	4,400
Bupropion, <i>erythro</i> dihydro-metabolite	25	–
4-Chloramphetamine	9	60
Chloroquine	2,000	2,000
Dobutamine	37	130
l-Ephedrine	230	2,200
Fenfluramine	5	22
Haloperidol	(see page 25)	85
Isoxsuprine	22	165
Labelatol	35	80
Mephentermine	180	380
d-Methamphetamine	37	130
l-Methamphetamine	30	87
d,l-Methamphetamine	200	430
Methoxyphenamine	6,900	13,400
Nylidrin	24	70
Phenmetrazine	3,400	7,400
Phentermine	700	1,700
PPA (Phenylpropanolamine)	700	2,200
Propranolol	440	1,500
d-Pseudoephedrine	450	1,600
nor-Pseudoephedrine	830	7,600
Quinacrine	4,000	4,000
+/-Synepherine	650	1,500
Tranylcypromine	420	2,800
Trazodone	(see page 25)	24
Tyramine	3,200	7,000

Ecstasy

Negative – The compounds below were negative for the Ecstasy at the 300 and 500 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Diltiazem	1,000
Acetylsalicylic Acid	1,000	Diphenhydramine	1,000
Albuterol	1,000	Doxepin	250
Alendronate	1,000	Doxycycline	1,000
Alprazolam	1,000	Doxylamine	1,000
5-Aminosalicylic Acid	1,000	EDDP (2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine)	1,000
Amitriptyline	10	Enalapril Maleate	1,000
Amlodipine	1,000	Ephedrine	62.5
Amoxicillin	1,000	l-Epinephrine	1,000
Atenolol	1,000	Escitalopram	1,000
Atomoxetine	1,000	Escomeprazole	1,000
Atorvastatin	1,000	Eszopiclone	1,000
Azithromycin	1,000	Ezetimibe	1,000
AZT (Zidovudine)	2,000	Fenoprofen	1,000
Benazepril	1,000	Fentanyl	75
Benzoylcegonine	1,000	Fexofenadine	1,000
Buprenorphine	1,000	Fluconazole	1,000
Bupropion	1,000	Fluoxetine	125
Butorphanol	1,000	Fluticasone Propionate	1,000
Caffeine	1,000	Furosemide	1,000
Carbamazepine	250	Gabapentin	1,000
Carisoprodol	1,000	Glutethimide	500
Celecoxib	1,000	Glyburide	1,000
Cephalexin	1,000	Griseofulvin	1,000
Cetirizine	1,000	Guafenesin	1,000
Chlorpheniramine	500	Hydrochlorothiazide	1,000
Chlorpromazine	500	Hydrocodone	1,000
Cimetidine	1,000	Hydromorphone	1,000
Ciprofloxacin	1,000	Ibuprofen	1,000
Citalopram	1,000	Imipramine	750
Clomipramine	2.5	Isoniazid	1,000
Clonazepam	1,000	d,l-Isoproterenol	1,000
Clonidine	1,000	Ketorolac Tromethamine	350
Clopidogrel Hydrogen Sulfate	1,000	Ketamine	100
Clotrimazole	1,000	Ketoprofen	1,000
Codeine	500	LAAM (l- α -Acetylmethadol)	25
l-Cotinine	100	dinor-LAAM (l- α -Acetyl-N,N-dinormethadol)	25
Cyclobenzaprine	125	Lamotrigine	1,000
Desipramine	800	Lansoprazole	1,000
Dextromethorphan	1,000	Levetiracetam	1,000
Dextrorphan	280	Levofloxacin	1,000
Diazepam	1,000	Lidocaine	1,000
Diclofenac	1,000		
Diethylpropion HCl	1,000		

Ecstasy

Lisinopril	1,000	Phenytoin (DPH)	1,000
Lorsartan	1,000	Phthalic Acid	1,000
LSD (Lysergic acid diethylamide)	0.15	Pioglitazone	1,000
MEGX (Monoethyl-glycinexylidide)	1,000	Pravastatin	1,000
Meloxicam	1,000	Prednisone	1,000
Meperidine HCl	1,000	Pregabalin	100
Meprobamate	1,000	Procainamide	1,000
Mescaline	1,500	Promethazine	1,000
Metaclopramide	1,000	Propofol	1,000
Metaproterenol	250	Propoxyphene	1,000
Metformin	1,000	Propranolol	250
Methadone	1,000	Propylhexedrine	125
Methaqualone	1,500	Quetiapine Fumerate	1,000
l-Methyl dopa	1,000	Quinapril	1,000
d,l-Methyl dopa	1,000	Rabeprazole	1,000
Methylphenidate	1,000	Ramipril	1,000
Metoprolol Tartrate	1,000	Ranitidine	1,000
Metronidazole	1,000	Rifabutin	1,000
Mirtazapine	1,000	Risedronate	1,000
Modafinil	1,000	Risperidone	16
Morphine	1,000	Rofecoxib	1,000
Nalmefene	20	Ropinirole	1,000
Naloxone	500	Scopolamine	500
Nalbuphine	1,000	Secobarbital	1,000
NAPA (N-Acetylprocainamide)	400	Sertraline	125
Naproxen	1,000	Sildenafil	1,000
Nefazodone	16	Simvastatin	1,000
Nicotinic Acid	500	Sulfamethoxazole	1,000
Nitroglycerin	1,000	Tapentadol	1,000
Noracetylmethadol	25	11-nor- Δ^9 -THC-9-COOH	100
Norsertaline	10	Thioridazine	100
Nortriptyline	1,000	Thyroxine	1,000
Ofloxacin	100	Tizanidine	1,000
Omeprazole	1,000	Tolmetin Sodium	2,000
Oxazepam	300	Topiramate	1,000
Oxycodone	1,000	Tramadol	1,000
Oxymorphone	1,000	Tranylcypromine	125
PABA (p-Aminobenzoic Acid)	1,000	Trifluoperazine	1,000
Paroxetine	5	Trihexylphenidyl	1,000
Phenazopyridine	300	Trimethobenzamide	500
PCA (1-Phenylcyclohexylamine)	50	Trimethoprim	1,000
PCC (1-Piperidinocyclohexane Carbonitrile)	50	3-OH-Tyramine	300
PCP (Phencyclidine)	1,000	Venlafaxine	1,000
Phendimetrazine	400	Verapamil	1,000
Phenelzine	100	Warfarin	1,000
Phenethylamine	20	Zaleplon	1,000
Phenylephrine	20	Zolpidem	100

LSD

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Fentanyl is listed as 3 for the LSD assay at 0.5 ng/mL cutoff. This means that it takes a concentration of 3 ng/mL Fentanyl in urine to produce an instrument response equal to the 0.5 ng/mL LSD calibrator. This concentration of drug in urine may be achieved in patients taking Fentanyl.

Positive, Not Clinically Significant

Concentration in µg/mL of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, d-Amphetamine is listed as 500 for the LSD assay. This means that it takes 500 µg/mL (500,000 ng/mL) of d-Amphetamine to produce an instrument response equal to the 0.5 ng/mL LSD calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in µg/mL that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

LSD

The LSD Assay has one cutoff at 0.5 ng/mL

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the LSD cutoff.

	0.5 Cutoff
Ambroxol	60
Amitriptyline	7,800
Chlorpromazine	1,410
Clomipramine	2,560
Dicyclomine	22,300
Diltiazem	390
Doxepin	7,800
Ergonovine	1,000
Fentanyl	3
Fluoxetine	3,800
Flurazepam	130
Haloperidol	240
Lysergol	10,300
Maprotiline	25,100
Methysergide	3,000
Metoclopramide	350
Nortriptyline	15,600
Norverapamil	13,300
Nylidrin	15,600
2-oxo-3-hydroxy-LSD	21
Risperidone	1,950
Sertraline	390
Thioridazine	7,100
Thiothixene	14,500
Verapamil	7,800

Positive, Not Clinically Significant – The drugs listed are in ug/mL at which they will cross-react equivalent to the LSD cutoff.

	0.5 Cutoff
d-Amphetamine	500
Cyclobenzaprine	29
Diphenhydramine	71
Dothiepin	17
d,l-Ephedrine	272
Fenfluramine	46
MDMA (Methylenedioxy-methamphetamine)	80
Mephentermine	57
Methadone	400
d-Methamphetamine	100
Nicotine	500
Norfluoxetine	50
Paroxetine	100
PCP (Phencyclidine)	30
Perphenazine	5
Prochlorperazine	11
Trazodone	24

LSD

Negative – The compounds below were negative for the LSD 0.5 cutoff at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Clorazepate	100
Acetylsalicylic Acid	1,000	Clotrimazole	1,000
Albuterol	1,000	Codeine	100
Alprazolam	100	Cotinine	100
5-Aminosalicylic Acid	1,000	Desmethyldiazepam	100
Amlodipine	1,000	Dextromethorphan	125
Amobarbital	100	5,5'-Diallylbarbituric Acid	100
Amoxetene	62.5	Diazepam	20
Amoxicillin	100	Diclofenac	1,000
d,l-Amphetamine	100	Dihydrocodeine	100
Aprobarbital	100	Dihydroergotamine	100
Atenolol	100	Doxylamine	500
Atorvastatin	1,000	Ecgonine	100
Barbituric Acid	100	Ecgonine Methyl Ester	100
Benazepril	1,000	Ephedrine	250
Benzoyllecgonine	1,000	l-Epinephrine	20
Bromazepam	100	α-Ergocryptine	20
Buprenorphine	1,000	Ergotamine	100
Bupropion	15.6	Ethylmorphine	100
Bupropion, erythro-dihydro metabolite	15.6	Ezetimibe	1,000
Butalbital	100	Fenpropfen	100
Butorphanol	1,000	Fluconazole	1,000
Caffeine	100	Glyburide	1,000
Captopril	500	Griseofulvin	1,000
Carbamazepine	250	Guaifenesin	1,000
Carbamazepine 10,11 Epoxide	500	Hexobarbital	100
Celecoxib	1,000	o-Hydroxyhippuric acid	500
Cetirizine	62.5	Ibuprofen	100
Chlordiazepoxide	100	lpratropium bromide	100
Chlorpheniramine	1,000	Isoniazid	1,000
Cimetidine	100	d,l-Isoproterenol	1,000
Ciprofloxacin	1,000	Isoxsuprine	31
Citalopram	125	Ketamine	100
Clonazepam	100	Ketoprofen	1,000

LSD

Lamotrigine	1,000	Pioglitazone	1,000
Levetiracetam	1,000	Pregabalin	100
Levofloxacin	1,000	Promethazine	6.8
Lidocaine	500	Propofol	1,000
Lysergic Acid	100	Propoxyphene	1,000
Medazepam	100	Propranolol	7.8
Mefenamic Acid	100	Pseudoephedrine	100
Mephobarbital	100	Psilocin	100
Meprobamate	1,000	Psilocybin	100
Metaproterenol	1,000	Quinapril	1,000
Methaqualone	1,000	Rabeprazole	7.8
Metoprolol	1,000	Ramipril	1,000
Metronidazole	1,000	Ranitidine	500
Mirtazapine	7.8	Risedronate	1,000
Modafinil	1,000	Rofecoxib	1,000
Morphine	1,000	Ropinirole	7
Morphine-3-Glucuronide	100	Secobarbital	1,000
Morphine-6-Glucuronide	100	Serotonin	1,000
Nalbuphine	100	Sibutramine HCL	250
Naproxen	100	Sildenafil	1,000
Nefazodone	15.6	Sulfamethoxazole	1,000
Nifedipine	500	Tapentadol	62.5
Nitrazepam	100	Temazepam	100
Nornicotine	100	11-nor- Δ^9 -THC-9-COOH	150
d-Norpropoxyphene	100	Tizanidine	7.8
Norsertaline	5	Tolmetin Sodium	1,000
Omeprazole	1,000	Tramadol	500
Oxazepam	250	Tranlycypromine	125
Oxycodone	100	Trifluoperazine	16
Penicillin	1,000	Trihexylphenidyl	62.5
Pentobarbital	100	Trimethoprim	1,000
Phenazopyridine	150	Tryptamine	100
Phenothiazine	100	l-Tryptophan	100
Phentermine	100	Tyramine	1,000
Phenylpropanolamine	1,000	Zaleplon	500
Phenytoin	1,000	Zolpidem	100
Prazepam	100		

Methadone

Definitions of Categories

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

User Notes:

Methadone

The Methadone Assay has two cutoffs: 150 ng/mL and 300 ng/mL methadone.

Positive – For Methadone only.

Negative – The compounds below were negative for the Methadone 150 and 300 cutoffs at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Dextromethorphan	1,000
Acetylsalicylic Acid	1,000	Diazepam	1,000
Albuterol	1,000	Diclofenac	1,000
Alendronate	1,000	Diltiazem	1,000
Alprazolam	1,000	Diphenhydramine @ 150	250
5-Aminosalicylic Acid	1,000	Diphenhydramine @ 300	500
Amitriptyline @ 150	25	Doxepin @ 150	10
Amitriptyline @ 300	50	Doxepin @ 300	125
Amlodipine	1,000	Doxycycline	1,000
Amoxicillin	1,000	Doxylamine @ 150	100
d-Amphetamine	1,000	Doxylamine @ 300	250
Atomoxetine	500	EDDP (2-Ethylidene-1,5-dimethyl- 3, 3-diphenylpyrrolidine)	1,000
Atorvastatin	1,000	Enalapril Maleate	1,000
Azithromycin	1,000	Ephedrine	1,000
AZT (Zidovudine)	2,000	Escitalopram	125
Benazepril	1,000	Escomeprazole	1,000
Benzoylcegonine	1,000	Eszopiclone	1,000
Brompheniramine	1,929	Ezetimibe	1,000
Buprenorphine @ 150	100	Fentanyl	1,000
Buprenorphine @ 300	1,000	Fexofenadine	1,000
Bupropion	1,000	Fluconazole	1,000
Bupropion, <i>erythro</i> -dihydro metabolite	1,000	Fluoxetine	500
Butorphanol	1,000	Fluticasone Propionate	1,000
Caffeine	1,000	Furosemide	1,000
Celecoxib	1,000	Gabapentin	1,000
Cephalexin	1,000	Glutethimide	500
Cetirizine	1,000	Glyburide	1,000
Chlorpheniramine	500	Griseofulvin	1,000
Chlorpromazine	125	Guaifenesin	1,000
Cimetidine	1,000	Hydrochlorothiazide	1,000
Ciprofloxacin	1,000	Hydrocodone	1,000
Citalopram	125	Hydromorphone	1,000
Clomipramine	2.5	Ibuprofen	1,000
Clonazepam	1,000	Isoniazid	1,000
Clonidine	1,000	d,l-Isoproterenol	1,000
Clopidogrel Hydrogen Sulfate	1,000	Isoxsuprine	1,000
Clotrimazole	1,000	Ketamine	100
Codeine	500	Ketoprofen	1,000
Cotinine	100	Ketorolac Tromethamine	1,000
Cyclobenzaprine @ 150	28	LAAM (l- α -Acetylmethadol) @ 150	2
Cyclobenzaprine @ 300	62.5	LAAM (l- α -Acetylmethadol) @ 300	5
Desipramine	800		

Methadone

dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25	Pravastatin	1,000
Lamotrigine	1,000	Prednisone	1,000
Lansoprazole	1,000	Pregabalin	100
Levetiracetam	1,000	Promethazine @ 150	37
Levofloxacin	1,000	Promethazine @ 300	75
Lidocaine	1,000	Propofol	1,000
Lisinopril	1,000	Propoxyphene	1,000
Lormetazepam	1	Propranolol	1,000
Lorsartan	1,000	Pseudoephedrine	1,000
LSD (Lysergic acid diethylamide)	0.01	Quetiapine Fumerate	1,000
L- α -Methadol	2	Quinapril	1,000
MDA (Methylenedioxyamphetamine)	5	Rabeprazole	1,000
MDMA (Methylenedioxy-methamphetamine)	200	Ramipril	1,000
Meloxicam	1,000	Ranitidine @ 150	900
Meperidine @ 150	250	Ranitidine @ 300	1,000
Meperidine @ 300	500	Rifabutin	1,000
Meprobamate	1,000	Risedronate	1,000
Metaproterenol	1,000	Risperidone	1,000
Metformin	1,000	Rofecoxib	1,000
d-Methamphetamine @ 150	2	Scopolamine	500
d-Methamphetamine @ 300	35	Secobarbital	1,000
Methaqualone	1,500	Sertraline	500
Metoprolol Tartrate	1,000	Sibutramine HCL	1,000
Metronidazole	1,000	Sildenafil	1,000
Myoglobin	287	Simvastatin	1,000
Mirtazapine	1,000	Sulfamethoxazole	1,000
Modafinil	1,000	Tapentadol	250
Morphine	1,000	11-nor- Δ^9 -THC-9-COOH	100
Nalbuphine	1,000	Thioridazine	100
NAPA (N-Acetylprocainamide)	400	Thyroxine	1,000
Naproxen	1,000	Tizanidine	1,000
Nefazodone	1,000	Tolmetin Sodium	1,000
Norsertaline	10	Topiramate	1,000
Nortriptyline	750	Tramadol @ 150	100
Nylidrin	1,000	Tramadol @ 300	1,000
Omeprazole	1,000	Tranlycypromine	1,000
Oxazepam	300	Trazadone	1,000
Oxycodone	1,000	Trifluoperazine	250
Oxymorphone	1,000	Trihexylphenidyl	1,000
Paroxetine	750	Trimethoprim	1,000
Phenazopyridine	300	Tyramine	100
PCP (Phencyclidine)	1,000	Venlafaxine	1,000
PPA (Phenylpropanolamine)	100	Verapamil	1,000
Phenytoin (DPH)	1,000	Warfarin	1,000
Pioglitazone	1,000	Zaleplon	1,000
		Zolpidem	100

Methaqualone

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, 3'-Hydroxy-methaqualone is listed as 438 for the Methaqualone assay. This means that it takes a concentration of 438 ng/mL 3'-Hydroxy-methaqualone in urine to produce an instrument response equal to the 300 ng/mL Methaqualone calibrator. This concentration of drug in urine may be achieved in patients taking Methaqualone.

Negative

Concentration of drug tested in µg/mL that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Methaqualone

The Methaqualone Assay has one cutoff: 300 ng/mL methaqualone.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the methaqualone cutoff.

	300 Cutoff
3'-Hydroxy-methaqualone	438
4'-Hydroxy-methaqualone	233
2'-Hydroxymethyl-methaqualone	1,670
Mecloqualone	290

Methaqualone

Negative – The compounds below were negative for the Methaqualone 300 cutoff at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Ephedrine	1,000
Acetylsalicylic Acid	1,000	Escitalopram	1,000
Albuterol	1,000	Escomeprazole	1,000
Alendronate	1,000	Eszopiclone	1,000
Alprazolam	1,000	Ezetimibe	1,000
Amitriptyline	1,000	Fentanyl	1,000
Amlodipine	1,000	Fexofenadine	1,000
Amoxicillin	1,000	Fluconazole	1,000
d-Amphetamine	1,000	Fluoxetine	1,000
Atomoxetine	1,000	Fluticasone Propionate	1,000
Atorvastatin	1,000	Furosemide	1,000
Azithromycin	1,000	Gabapentin	1,000
AZT (Zidovudine)	2,000	Glutethimide	500
Benazepril	1,000	Glyburide	1,000
Benzoylcegonine	1,000	Griseofulvin	1,000
Buprenorphine	1,000	Guaifenesin	1,000
Bupropion	1,000	Hydrochlorothiazide	1,000
Bupropion, erythro-dihydro metabolite	1,000	Hydrocodone	1,000
Butorphanol	1,000	Hydromorphone	1,000
Caffeine	1,000	Ibuprofen	1,000
Celecoxib	1,000	Isoniazid	1,000
Cephalexin	1,000	d,l-Isoproterenol	1,000
Cetirizine	1,000	Isoxsuprine	1,000
Chlorpromazine	1,000	Ketamine	100
Cimetidine	1,000	Ketoprofen	1,000
Ciprofloxacin	1,000	Ketorolac Tromethamine	1,000
Citalopram	1,000	LAAM (l-α-Acetylmethadol)	25
Clomipramine	2.5	dinor-LAAM (l-α-Acetyl-N, N-dinormethadol)	25
Clonazepam	1,000	Lamotrigine	1,000
Clonidine	1,000	Lansoprazole	1,000
Clopidogrel Hydrogen Sulfate	1,000	Levetiracetam	1,000
Clotrimazole	1,000	Levofloxacin	1,000
Codeine	500	Lidocaine	1,000
Cotinine	100	Lisinopril	1,000
Cyclobenzaprine	1,000	Lormetazepam	1
Desipramine	800	Lorsartan	1,000
Dextromethorphan	1,000	LSD (Lysergic acid diethylamide)	0.01
Diazepam	1,000	MDA (Methylenedioxyamphetamine)	5
Diclofenac	1,000	MDMA (Methylenedioxyamphetamine)	200
Diltiazem	1,000	Meloxicam	1,000
Diphenhydramine	1,000	Meperidine	1,000
Doxepin	1,000	Meprobamate	1,000
Doxycycline	1,000	Metaproterenol	1,000
Doxylamine	1,000		
Enalapril Maleate	1,000		

Methaqualone

Metformin	1,000	Rabeprazole	1,000
Methadone	1,000	Ramipril	1,000
d-Methamphetamine	35	Ranitidine	1,000
Metoprolol Tartrate	1,000	Rifabutin	1,000
Metronidazole	1,000	Risedronate	1,000
Mirtazapine	1,000	Risperidone	1,000
Modafinil	1,000	Rofecoxib	1,000
Morphine	1,000	Ropinirole	1,000
Nalbuphine	1,000	Scopolamine	500
NAPA (N-Acetylprocainamide)	400	Secobarbital	1,000
Naproxen	1,000	Sertraline	1,000
Nefazodone	1,000	Sibutramine HCl	1,000
Norsertaline	100	Sildenafil	1,000
Nortriptyline	1,000	Simvastatin	1,000
Nylidrin	1,000	Sulfamethoxazole	1,000
Omeprazole	1,000	Tapentadol	1,000
Oxazepam	300	11-nor- Δ^9 -THC-9-COOH	100
Oxycodone	1,000	Thioridazine	100
Oxymorphone	1,000	Thyroxine	1,000
Paroxetine	1,000	Tizanidine	1,000
Phenazopyridine	300	Tolmetin Sodium	1,000
PCP (Phencyclidine)	1,000	Topiramate	1,000
Phenytoin (DPH)	1,000	Tramadol	1,000
Pioglitazone	1,000	Tranlycypromine	1,000
Pravastatin	1,000	Trazadone	1,000
Prednisone	1,000	Trifluoperazine	1,000
Pregabalin	100	Trihexylphenidyl	1,000
Promethazine	1,000	Trimethoprim	1,000
Propofol	1,000	Tyramine	100
Propoxyphene	1,000	Venlafaxine	1,000
Propranolol	1,000	Verapamil	1,000
Pseudoephedrine	1,000	Warfarin	1,000
Quetiapine Fumerate	1,000	Zaleplon	1,000
Quinapril	1,000	Zolpidem	100

Opiate

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, 6-Acetylmorphine is listed as 435 for the Opiate assay at 300 ng/mL cutoff. This means that it takes a concentration of 435 ng/mL 6-Acetylmorphine in urine to produce an instrument response equal to the 300 ng/mL morphine calibrator. This concentration of drug in urine may be achieved in patients taking Heroin.

Negative – Structurally Related

Concentration in $\mu\text{g/mL}$ of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, Oxymorphone is listed as 9.3 for the Opiate assay at 300 ng/mL cutoff. This means that it takes 9.3 $\mu\text{g/mL}$ (9,300 ng/mL) of Oxymorphone to produce an instrument response equal to the 300 ng/mL morphine calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Opiate

The Opiate Assay has two cutoffs: 300 ng/mL and 2,000 ng/mL morphine.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the morphine cutoff.

	300 Cutoff	2,000 Cutoff
6-Acetylmorphine	435	2,100
Codeine	102 – 306	660 – 1,980
Dihydrocodeine	291	1,872
Hydrocodone	247	1,545
Hydromorphone	498	5,349
Levofloxacin	360,000	(see below)
Levorphanol	1,048	7,680
Morphine-3-Glucuronide	626	6,167
Nalorphine	5,540	(see below)
Naloxone	11,000	(see below)
Normorphine	1,200	–
Ofloxacin	400,000	(see below)
Oxycodone	1,500	(see below)
Pholcodine	320	1,400

Positive – Structurally Related – The drugs listed are in µg/mL at which they will cross-react equivalent to the morphine cutoff.

	300 Cutoff	2,000 Cutoff
Levallorphan	> 5	> 120
Levofloxacin	(see above)	5,200
Meperidine	> 15	> 400
Nalorphine	(see above)	> 100
Naloxone	360	> 350
Ofloxacin	(see above)	4,600
Oxycodone	(see above)	23
Oxymorphone	9.3	> 100
Tapentadol	250	> 250

Opiate

Negative – The compounds below were negative for the Opiate 300 and 2,000 cutoffs at the concentrations shown except where noted. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Diphenhydramine	1,000
Acetylsalicylic Acid	1,000	Dothiepin	100
Albuterol	1,000	Doxepin	10
Alendronate	1,000	Doxycycline	1,000
Alprazolam	1,000	Doxylamine	500
5-Aminosalicylic Acid	1,000	Droperidol	1,000
Amitriptyline @ 300	500	EDDP 2-Ethylidene-1, 5-dimethyl-3, 3-diphenylpyrrolidine	1,000
Amitriptyline @ 2,000	1,000	EMDP	100
Amlodipine	1,000	Enalapril Maleate	1,000
Amoxicillin	1,000	Ephedrine	1,000
d-Amphetamine	1,000	Escitalopram	1,000
Atomoxetine	1,000	Escomeprazole	1,000
Atorvastatin	1,000	Eszopiclone	1,000
Azithromycin	1,000	Ezetimibe	1,000
AZT (Zidovudine)	2,000	Fentanyl	1,000
Benazepril	1,000	Fexofenadine	1,000
Benzoylcegonine	1,000	Fluconazole	1,000
Buprenorphine	1,000	Fluoxetine	900
Bupropion	1,000	Fluticasone Propionate	1,000
Bupropion, erythro-dihydro metabolite	1,000	Furosemide	1,000
Butorphanol	1,000	Gabapentin	1,000
Caffeine	1,000	Glutethimide	500
Carisoprodol	1,000	Glyburide	1,000
Celecoxib	1,000	Goldenseal	Tea solution
Cephalexin	1,000	Griseofulvin	1,000
Cetirizine	1,000	Guaifenesin	1,000
Chlorpheniramine	1,000	Hydrochlorothiazide	1,000
Chlorpromazine	125	Ibuprofen	1,000
Cimetidine	1,000	Isoniazid	1,000
Ciprofloxacin	1,000	d,l-Isoproterenol	1,000
Citalopram	1,000	Isoxsuprine	1,000
Clomipramine	2.5	Ketamine	100
Clonazepam	1,000	Ketoprofen	1,000
Clonidine	1,000	Ketorolac Tromethamine	1,000
Clopidogrel Hydrogen Sulfate	1,000	LAAM (l-α-Acetylmehtadol)	25
Clotrimazole	1,000	dinor-LAAM (l-α-Acetyl-N, N-dinormethadol)	25
Cotinine	100	Lamotrigine	1,000
Cyclobenzaprine	63	Lansoprazole	1,000
Desipramine	800	Lidocaine	1,000
Dextromethorphan	63	Lisinopril	1,000
Dezocine	1,000	Loperamide	1,000
Diazepam	1,000	Lormetazepam	1
Diclofenac	1,000	Lorsartan	1,000
Dihydroergotamine	1,000		
Diltiazem	1,000		

Opiate

LSD (Lysergic acid diethylamide)	0.01	Propranolol	1,000
MDA (Methylenedioxyamphetamine)	5	Pseudoephedrine	1,000
MDMA (Methylenedioxymethamphetamine)	200	Quetiapine Fumerate	1,000
Meloxicam	1,000	Quinapril	1,000
Meprobamate	1,000	Rabeprazole	1,000
Metaproterenol	1,000	Ramipril	1,000
Metformin	1,000	Ranitidine	900
Methadone	100	Rifabutin	1,000
d-Methamphetamine	35	Risedronate	1,000
Methaqualone	1,500	Risperidone	1,000
Metoprolol Tartrate	1,000	Rofecoxib	1,000
Metronidazole	1,000	Ropinirole	1,000
Mirtazapine	1,000	Scopolamine	500
Modafinil	1,000	Secobarbital	1,000
Myoglobin	287	Sertraline	250
Naltrexone	1,000	Sibutramine HCL	1,000
Nalbuphine	1,000	Sildenafil	1,000
NAPA (N-Acetylprocainamide)	400	Simvastatin	1,000
Naproxen	1,000	Sulfamethoxazole	1,000
Nefazodone	1,000	11-nor- Δ^9 -THC-9-COOH	100
Norsertaline	10	Thioridazine	100
Nortriptyline	250	Thyroxine	1,000
Nylidrin	1,000	Tizanidine	1,000
Omeprazole	1,000	Tolmetin Sodium	1,000
Oxazepam	300	Topiramate	1,000
Paroxetine	1,000	Tramadol	1,000
Phenazopyridine	300	Tranylcypromine	1,000
PCP (Phencyclidine)	1,000	Trazadone	1,000
Phenytoin (DPH)	1,000	Trifluoperazine	500
Pioglitazone	1,000	Trihexylphenidyl	1,000
Pravastatin	1,000	Trimethoprim	1,000
Prednisone	1,000	Tyramine	100
Pregabalin	100	Venlafaxine	1,000
Promethazine @ 300	143	Verapamil	1,000
Promethazine @ 2,000	1,000	Warfarin	1,000
Propofol	1,000	Zaleplon	1,000
Propoxyphene	1,000	Zolpidem	100

Phencyclidine

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, PCM is listed as 41 for the Phencyclidine assay. This means that it takes a concentration of 41 ng/mL PCM in urine to produce an instrument response equal to the 25 ng/mL Phencyclidine calibrator. This concentration of drug in urine may be achieved in patients taking PCM.

Negative – Structurally Related

Concentration in $\mu\text{g/mL}$ of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, Dextromethorphan is listed as 120 for the Phencyclidine assay. This means that it takes 120 $\mu\text{g/mL}$ (120,000 ng/mL) of Dextromethorphan to produce an instrument response equal to the 25 ng/mL Phencyclidine calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Phencyclidine

The Phencyclidine Assay has one cutoff: 25 ng/mL phencyclidine.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the phencyclidine cutoff.

	25 Cutoff
1-(1-Phenylcyclohexyl)morpholine (PCM)	41
1-(1-Phenylcyclohexyl)pyrrolidine (PCPy)	54
1-(4-Hydroxypiperidino)phenylcyclohexane	420
1-[1-(2-Thienyl)-cyclohexyl]morpholine (TCM)	80
1-[1-(2-Thienyl)-cyclohexyl]piperidine (TCP)	37
1-[1-(2-Thienyl)-cyclohexyl]pyrrolidine (TCPy)	83
4-Phenyl-4-piperidinocyclohexanol	32
N,N-Diethyl-1-phenylcyclohexylamine (PCDE)	234
Chlorpromazine	#

While chlorpromazine does not cross-react, patients taking chlorpromazine may produce positive results with this assay.

The Phencyclidine Assay has one cutoff: 25 ng/mL phencyclidine.

Negative – Structurally Related – The drugs listed are in µg/mL at which they will cross-react equivalent to the phencyclidine cutoff.

	25 Cutoff
Dextromethorphan	120
Dextrorphan	97
Meperidine	67
Mesoridazine	50

Phencyclidine

Negative – The compounds below were negative for the Phencyclidine 25 cutoff at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Doxylamine	1,000
Acetylsalicylic Acid	1,000	EDDP (2-Ethylidene-1, 5-dimethyl-3, 3-diphenylpyrrolidine)	1,000
Albuterol	1,000	Enalapril Maleate	1,000
Alendronate	1,000	Ephedrine	1,000
Alprazolam	1,000	Escitalopram	750
5-Aminosalicylic Acid	1,000	Esomeprazole	1,000
Amitriptyline	125	Eszopiclone	1,000
Amlodipine	1,000	Ezetimibe	1,000
Amoxicillin	1,000	Fentanyl	1,000
d-Amphetamine	1,000	Fexofenadine	1,000
Atomoxetine	1,000	Fluconazole	1,000
Atorvastatin	1,000	Fluoxetine	1,000
Azithromycin	1,000	Fluticasone Propionate	1,000
AZT (Zidovudine)	2,000	Furosemide	1000
Benazepril	1,000	Gabapentin	1,000
Benzoylcegonine	1,000	Glutethimide	500
Buprenorphine	1,000	Glyburide	1,000
Bupropion	1,000	Griseofulvin	1,000
Bupropion, <i>erythro</i> -dihydro metabolite	1,000	Guaifenesin	1,000
Butorphanol	63	Hydrochlorothiazide	1,000
Caffeine	1,000	Hydrocodone	250
Celecoxib	1,000	Hydromorphone	500
Cephalexin	1,000	Ibuprofen	1,000
Cetirizine	1,000	Isoniazid	1,000
Chlorpheniramine	125	d,l-Isoproterenol	1,000
Cimetidine	1,000	Isoxsuprine	1,000
Ciprofloxacin	1,000	Ketamine	100
Citalopram	750	Ketoprofen	1,000
Clomipramine	2.5	Ketorolac Tromethamine	1,000
Clonazepam	1,000	LAMM (l- α -Acetylmethadol)	25
Clonidine	1,000	dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	15
Clopidogrel Hydrogen Sulfate	1,000	Lamotrigine	1,000
Clotrimazole	1,000	Lansoprazole	1,000
Codeine	500	Levetiracetam	1,000
Cotinine	100	Levofloxacin	1,000
Cyclobenzaprine	62	Lidocaine	1,000
Desipramine	800	Lisinopril	1,000
Diazepam	1,000	Lormetazepam	1
Diclofenac	1,000	Lorsartan	1,000
Diltiazem	1,000	LSD (Lysergic acid diethylamide)	0.01
Diphenhydramine	1,000	MDA (Methylenedioxyamphetamine)	5
Doxepin	250		
Doxycycline	1,000		

Phencyclidine

MDMA		Quetiapine Fumerate	1,000
(Methylenedioxymethamphetamine)	200	Quinapril	1,000
Meloxicam	1,000	Rabeprazole	1,000
Meprobamate	1,000	Ramipril	1,000
Metaproterenol	1,000	Ranitidine	900
Metformin	1,000	Risedronate	1,000
Methadone	1,000	Rifabutin	1,000
d-Methamphetamine	35	Risperidone	1,000
Methaqualone	1,500	Rofecoxib	1,000
Metoprolol Tartrate	1,000	Ropinirole	250
Metronidazole	1,000	Scopolamine	500
Mirtazapine	1,000	Secobarbital	1,000
Modafinil	1,000	Sertraline	1,000
Morphine	58	Sibutramine HCL	1,000
Nalbuphine	1,000	Sildenafil	1,000
NAPA (N-Acetylprocainamide)	400	Simvastatin	1,000
Naproxen	1,000	Sulfamethoxazole	1,000
Nefazodone	1,000	Tapentadol	250
Norsertaline	10	11-nor- Δ^9 -THC-9-COOH	50
Nortriptyline	1,000	Thioridazine	48
Nylidrin	1,000	Thyroxine	1,000
Omeprazole	1,000	Tizanidine	1,000
Oxazepam	300	Tolmetin Sodium	1,000
Oxycodone	1,000	Topiramate	1,000
Oxymorphone	1,000	Tramadol	1,000
Paroxetine	1,000	Tranlycypromine	1,000
Phenethylamine	1,000	Trazadone	1,000
Phenytoin (DPH)	1,000	Trifluoperazine	1,000
Pioglitazone	1,000	Trihexylphenidyl	125
Pravastatin	1,000	Trimethoprim	1,000
Prednisone	1,000	Tyramine	100
Pregabalin	100	Venlafaxine	1,000
Promethazine	170	Verapamil	1,000
Propofol	1,000	Warfarin	1,000
Propoxyphene	1,000	Zaleplon	1,000
Propranolol	1,000	Zolpidem	100
Pseudoephedrine	1,000		

Propoxyphene

Definitions of Categories

Positive

The concentration in ng/mL of the listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is clinically significant, and may be encountered in individuals taking the listed drug.

For example, Norpropoxyphene is listed as 800 for the Propoxyphene assay. This means that it takes a concentration of 800 ng/mL Norpropoxyphene in urine to produce an instrument response equal to the 300 ng/mL Propoxyphene calibrator. This concentration of drug in urine may be achieved in patients taking Propoxyphene.

Negative – Equivalent Concentration

Concentration in $\mu\text{g/mL}$ of listed drug that gives an assay response equal to the cutoff calibrator. The concentration of the listed compound is NOT clinically significant, and is not generally encountered in individuals taking the listed drug.

For example, Imipramine is listed as 30 for the Propoxyphene assay. This means that it takes 30 $\mu\text{g/mL}$ (30,000 ng/mL) of Imipramine to produce an instrument response equal to the 300 ng/mL Propoxyphene calibrator. This concentration of drug in urine is higher than normally seen in patients taking this drug.

Negative

Concentration of drug tested in $\mu\text{g/mL}$ that gave an assay response less than the cutoff calibrator. The concentration of the listed compound is higher than normally seen in patients taking this drug.

User Notes:

Propoxyphene

The Propoxyphene Assay has one cutoff: 300 ng/mL propoxyphene.

Positive – The drugs listed are in ng/mL at which they will cross-react equivalent to the propoxyphene cutoff.

	300 Cutoff
Chlorpromazine	7,800
Norpropoxyphene	800

Negative – Equivalent Concentration – The drugs listed are in µg/mL at which they will cross-react equivalent to the propoxyphene cutoff.

	300 Cutoff
EDDP (2-Ethylidene-1,5-dimethyl-3, 3-diphenylpyrrolidine)	5,000
Imipramine	30

Negative – The compounds below were negative for the Propoxyphene 25 cutoff at the concentrations shown. Concentrations listed are in µg/mL.

Acetaminophen	1,000	Clonidine	1,000
Acetaminophen	1,000	Clopidogrel Hydrogen Sulfate	1,000
Acetylsalicylic Acid	1,000	Clotrimazole	1,000
Albuterol	1,000	Codeine	500
Alendronate	1,000	Cotinine	100
Alprazolam	1,000	Cyclobenzaprine	7.8
5-Aminosalicylic Acid	1,000	Desipramine	5
Amitriptyline	125	Dextromethorphan	1,000
Amlodipine	1,000	Diazepam	1,000
Amoxetina	31	Diclofenac	1,000
Amoxicillin	1,000	Diltiazem	1,000
d-Amphetamine	1,000	Diphenhydramine	1,000
Atomoxetine	1,000	Doxepin	31
Atorvastatin	1,000	Doxycycline	1,000
Azathioprine	1,000	Doxylamine	500
Azithromycin	1,000	Enalapril Maleate	1,000
AZT (Zidovudine)	2,000	Ephedrine	1,000
Benazepril	1,000	Escitalopram	1,000
Benzoylcegonine	1,000	Esomeprazole	1,000
Buprenorphine	1,000	Eszopiclone	1,000
Bupropion	1,000	Ezetimibe	1,000
Bupropion, erythro-dihydro metabolite	1,000	Fentanyl	1,000
Butorphanol	1,000	Fexofenadine	1,000
Caffeine	1,000	Fluconazole	1,000
Celecoxib	1,000	Fluoxetine	125
Cephalexin	1,000	Fluticasone Propionate	1,000
Cetirizine	1,000	Furosemide	1,000
Chlorpheniramine	500	Gabapentin	1,000
Cimetidine	1,000	Glutethimide	500
Ciprofloxacin	1,000	Glyburide	1,000
Citalopram	1,000	Griseofulvin	1,000
Clomipramine	2.5	Guaifenesin	1,000
Clonazepam	1,000	Hydrochlorothiazide	1,000

Propoxyphene

Hydrocodone	900	Oxymorphone	1,000
Hydromorphone	1,000	Paroxetine	1,000
Ibuprofen	1,000	Phenazopyridine	300
Isoniazid	1,000	PCP (Phencyclidine)	250
d,l-Isoproterenol	1,000	Phenytoin (DPH)	1,000
Isoxsuprine	1,000	Pioglitazone	1,000
Ketamine	100	Pravastatin	1,000
Ketoprofen	1,000	Prednisone	1,000
Ketorolac Tromethamine	1,000	Pregabalin	100
LAMM (l- α -Acetylmethadol)	25	Promethazine	125
dinor-LAAM (l- α -Acetyl-N, N-dinormethadol)	25	Propofol	1,000
Lamotrigine	1,000	Propranolol	1,000
Lansoprazole	1,000	Pseudoephedrine	1,000
Levetiracetam	1,000	Quetiapine Fumerate	1,000
Levofloxacin	1,000	Quinapril	1,000
Lidocaine	1,000	Rabeprazole	1,000
Lisinopril	1,000	Ramipril	1,000
Lormetazepam	1	Ranitidine	1,000
Lorsartan	1,000	Rifabutin	1,000
LSD (Lysergic acid diethylamide)	0.01	Risedronate	1,000
MDA (Methylenedioxyamphetamine)	5	Risperidone	1,000
MDMA (Methylenedioxyamphetamine)	200	Rofecoxib	1,000
Meloxicam	1,000	Ropinirole	1,000
Meperidine	1,000	Scopolamine	500
Meprobamate	1,000	Secobarbital	1,000
Metaproterenol	1,000	Sertraline	31
Metformin	1,000	Sibutramine HCL	1,000
Methadone	100	Sildenafil	1,000
d-Methamphetamine	35	Simvastatin	1,000
Methaqualone	1,500	Sulfamethoxazole	1,000
Metoprolol Tartrate	1,000	Tapentadol	1,000
Metronidazole	1,000	11-nor- Δ^9 -THC-9-COOH	100
Mirtazapine	1,000	Thioridazine	100
Modafinil	1,000	Thyroxine	1,000
Morphine	1,000	Tizanidine	1,000
Myoglobin	287	Tolmetin Sodium	1,000
Nalbuphine	1,000	Topiramate	1,000
NAPA		Tramadol	1,000
(N-Acetylprocainamide)	400	Tranylcypromine	1,000
Naproxen	1,000	Trazadone	1,000
Nefazodone	1,000	Trifluoperazine	125
Norsertaline	10	Trihexylphenidyl	1,000
Nortriptyline	31	Trimethoprim	1,000
Nylidrin	1,000	Tyramine	100
Omeprazole	1,000	Venlafaxine	1,000
Oxazepam	300	Verapamil	1,000
Oxycodone	1,000	Warfarin	1,000
		Zaleplon	1,000
		Zolpidem	100

Absorbance Flags

The compounds listed below may cause absorbance flags with any of the Emit II Plus Drug of Abuse assays, if present in high concentrations.

Call your local Technical Solutions Center at 800-227-8994 if instrument errors or flags are encountered in the presence of these compounds.

Amiodarone
Ciprofloxacin
Diflunisal
Griseofluvin
Mefenamic Acid
Metronidazole
Ofloxacin
Phenazopyridine
Sulindac
Sulfasalazine
Tolmetin Sodium
Zomepirac

The information contained in this document was compiled from the Package Inserts for each EMIT Drugs-of-Abuse Assay, as well as additional crossreactivity testing performed internally. The Package Inserts (IFU's) should always be consulted for the most recent information on specificity and crossreactivity.

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