

Washington State Patrol - Toxicology Laboratory Division

<p>This list provides a general overview of analytes that may be tested for by the Toxicology Laboratory, with corresponding method information and estimated expanded uncertainty, where applicable. Note that general screening includes one or a combination of the following: enzyme multiplied immunoassay (EMIT), basic drug screening by gas chromatography - mass spectrometry/nitrogen phosphorus detection (GC-MS/NPD) and drug screening by liquid chromatography - time of flight mass spectrometry (LC-TOF-MS). Case circumstances may dictate additional screening or targeted analyses, either in-house or by an external laboratory. The Toxicology Laboratory reserves the right to decide which method(s) to use. Please contact the laboratory at 206-262-6100 with any questions.</p>			<p>POS: reported as positive only Day of test: uncertainty calculated on a case-by-case basis</p>	
<p>NOTE: Confirmation testing for presumptive positive EMIT results may not be performed, based on case type (e.g., death investigation). Where confirmation testing is not performed, or where confirmation testing is performed and no reportable results are obtained (e.g., < LOQ or ND), the drug/drug class is removed from the EMIT panel description on the Toxicology Test Report.</p>				
Analyte Name	Confirmation Method Name	Typical Reporting Limit	Expanded Uncertainty	Coverage factor
Volatiles				
acetone	Headspace GC	10 mg/dL	day of test	
butane	Headspace GC/MS	POS	n/a	
desflurane	Headspace GC/MS	POS	n/a	
diffuoroethane	Headspace GC/MS	POS	n/a	
ethanol	Headspace GC	0.01-0.02 g/100 mL	8.20%	k=3, 99.73%
ethyl chloride	Headspace GC/MS	POS	n/a	
isopropanol	Headspace GC	10 mg/dL	day of test	
methanol	Headspace GC	10 mg/dL	day of test	
sevoflurane	Headspace GC/MS	POS	n/a	
toluene	Headspace GC/MS	POS	n/a	
Immunoassay - Death Investigation				
amphetamines	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
barbiturates	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
benzodiazepines	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
cannabinoids	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
cocaine metabolite	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
opiates	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
Immunoassay - DUI/DRE				
amphetamines	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
barbiturates	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
benzodiazepines	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
cocaine metabolite	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
opiates	Enzyme-multiplied immunoassay technique (EMIT)	presumptive positive		
<i>NOTE: Urine specimens are analyzed using DUI/DRE panel, excluding amphetamines.</i>				
Cannabinoids Screen - Targeted LC-MSMS				
carboxy-THC (delta-9)	LC/MS/MS for cannabinoids	POS		
THC (delta-9)	LC/MS/MS for cannabinoids	POS		

LC-TOF-MS Screen			
<i>Compounds listed below are included in the current TLD LC-TOF-MS database (compounds seen in negative acquisition mode only are specified). This list is not all-inclusive; new compounds are continuously added to the database as reference materials become available. Results are reported as "positive."</i>			
11-OH-delta9-THC	desipramine	nimetazepam	zolpidem
2-hydroxyethylflurazepam	desmethyldiethylpropylamine	nitrazepam	zonisamide
2-oxo-3-hydroxy-LSD	desmethyldoxepin	nitrazolam	zopiclone
3-hydroxybromazepam	desmethylsertraline	norbuprenorphine	
3-hydroxyflubromazepam	dextromethorphan	nordiazepam	
3-hydroxyflunitrazepam	diazepam	norcodeine	
3-hydroxyphenazepam	diclozepam	norfentanyl	
3-methyl fentanyl	dihydrocodeine	norflouxetine	
4-ANPP	diltiazem	norhydrocodone	
4-chlorodiazepam	diphenhydramine	norhydromorphone	
4-methoxy-butanyl fentanyl	doxepin	norketamine	
6-acetylmorphine	doxylamine	normeperidine	
7-aminoclonazepam	duloxetine	noroxycodone	
7-aminoflunitrazepam	estazolam	noroxymorphone	
7-aminonitrazepam	etizolam	nortriptylene	
7-hydroxymitragynine	fentanyl	n-propylamphetamine	
acetaminophen	flualprazolam	o-desmethyl-cis-tramadol	
acetyl fentanyl	flubromazepam	o-desmethylvenlafaxine	
acryl fentanyl	flubromazolam	olanzapine	
adiazepam	flunitrazepam	oxazepam	
alpha-OH-alprazolam	flurazepam	oxcarbazepine	
alpha-OH-midazolam	fluoxetine	oxycodone	
alpha-OH-triazolam	flurazepam	oxymorphone	
alprazolam	flutazolam	para-fluorobutanyl fentanyl	
amantadine	fonazepam	para-fluorofentanyl	
amitriptyline	furanyl fentanyl	paroxetine	
amobarbital/pentobarbital (neg)	gabapentin	pentobarbital/amobarbital (neg)	
amphetamine	qualifenesin	phenazepam	
aripiprazole	halazepam	phenacyclidine	
atenolol	haloperidol	phenobarbital (neg)	
baclofen	hexobarbital	phenetermine	
benzocaine	hydrocodone/codeine	phenytoin	
benzoflecgonine	hydromorphone/morphine	piroxicam	
beta-hydroxythiofentanyl	hydroxybupropion	primidone	
bromazepam	hydroxyzine	promethazine	
bromazolam	ibuprofen (neg)	propranolol	
bupivacaine	imipramine	propoxyphene	
buprenorphine	isobutanyl fentanyl	protriptyline	
bupropion	ketamine	pseudoephedrine/ephedrine	
buprione	lacosamide	psilocin	
butalbital (neg)	lamotrigine	pyrazolam	
butanyl fentanyl	levetiracetam	quetiapine	
caffeine	lidocaine	remifentanyl	
camazepam	loperamide	remifentanyl acid	
carbamazepine	lorazepam	risperidone	
carfentanyl	lormetazepam	salicylic acid	
carisoprodol	LSD	sacobarbital	
cathinone	MDA	sertraline	
cetirizine	MDMA	sumatriptan	
chlorthalozide	MDPV	tapentadol	
chlorpheniramine	meclonazepam	temazepam	
chlorpromazine	menitrazepam	thioridazine	
citalopram	meperidine	tizanidine	
clobazam	meprobamate	topiramate	
clonipramine	metaxalone	tramadol	
clonazepam	methadone	trazodone	
clonazepam	methamphetamine	triazolam	
clonidine	methocarbamol	trimethoprim	
cloniprazepam	methylclobazepam	trimipramine	
clotazepam	methylone	U-46619 (neg)	
clozapine	methylphenidate	U-47700	
cocacethylene	metizolam	U-47931E	
cocaine	metoprolol	U-48753E	
codeine/hydrocodone	midazolam	U-49900	
cyclobenzaprine	mirtazapine	U-50488	
cyproheptadine	mitragynine	U-51754	
delorazepam	morphine/hydromorphone	valeryl fentanyl	
delta-9-THC-COOH	naloxone	valproic acid (neg)	
demoxepam	naloxone	venlafaxine	
desallyflurazepam	naproxen	verapamil	
deschloroetizolam	n-desmethyldiethylpropylamine	vilazodone	
deschloroketamine	nifoxipam	zaleplon	

Basic Drugs				
bupropion	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
citalopram	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
cyclobenzaprine	GC/MS-NPD for basic drugs and metabolites	POS		
dextromethorphan	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
diphenhydramine	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
ketamine	GC/MS-NPD for basic drugs and metabolites	POS		
meperidine	GC/MS-NPD for basic drugs and metabolites	POS		
methadone	LC/MS for methadone	0.01 mg/L	17.97%	k=2, 95.45%
norketamine	GC/MS-NPD for basic drugs and metabolites	POS		
normeperidine	GC/MS-NPD for basic drugs and metabolites	POS		
phenacyclidine (PCP)	GC/MS for phenacyclidine	0.01 mg/L	15.66%	k=2, 95.45%
tramadol	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
trazodone	LC/MS for trazodone	0.05 mg/L	12.45%	k=2, 95.45%
venlafaxine	GC/MS-NPD for basic drugs and metabolites	0.05-0.10 mg/L	18.93%	k=2, 95.45%
zolpidem	LC/MS for zolpidem	0.01 mg/L	19.18%	k=2, 95.45%
Basic Drugs - LC-MSMS				
bupropion	LC/MS/MS for basic drugs	0.10 mg/L	14.77%	k=2.11, 95.45%
citalopram	LC/MS/MS for basic drugs	0.10 mg/L	18.17%	k=2.11, 95.45%
cyclobenzaprine	LC/MS/MS for basic drugs	0.10 mg/L	13.05%	k=2.11, 95.45%
dextromethorphan	LC/MS/MS for basic drugs	POS		
diphenhydramine	LC/MS/MS for basic drugs	POS		
o-desmethylvenlafaxine	LC/MS/MS for basic drugs	0.10 mg/L	14.84%	k=2.11, 95.45%
venlafaxine	LC/MS/MS for basic drugs	0.10 mg/L	15.95%	k=2.11, 95.45%
Acidic/Neutral Drugs				
acetaminophen	HPLC for acetaminophen	5.0 mg/L	27.54%	k=2, 95.45%
carbamazepine	GC for acidic and neutral drugs or GC/MS-NPD for basic drugs and metabolites	POS		
carisoprodol	GC/MS for carisoprodol and meprobamate	1.0 mg/L	27.74%	k=2, 95.45%
ibuprofen	GC for acidic and neutral drugs	POS		
lamotrigine	GC for acidic and neutral drugs or GC/MS-NPD for basic drugs and metabolites	POS		
meprobamate	GC/MS for carisoprodol and meprobamate	1.0 mg/L	27.74%	k=2, 95.45%
phenytoin	GC for acidic and neutral drugs or GC/MS-NPD for basic drugs and metabolites	POS		
topiramate	GC for acidic and neutral drugs	POS		
valproic acid	GC for valproic acid	10 mg/L	57.77%	k=2, 95.45%
CNS stimulants				
amphetamine	LC/MS/MS for amphetamines	0.01 mg/L	12.95%	k=2.06, 95.45%
ephedrine	GC/MS for amphetamines	POS		
MDA	LC/MS/MS for amphetamines	0.01 mg/L	14.11%	k=2.06, 95.45%
MDMA	LC/MS/MS for amphetamines	0.01 mg/L	13.21%	k=2.06, 95.45%
methamphetamine	LC/MS/MS for amphetamines	0.01 mg/L	13.04%	k=2.06, 95.45%
pseudoephedrine	LC/MS/MS for amphetamines	0.01 mg/L	15.31%	k=2.06, 95.45%
Barbiturates				
amobarbital	GC/MS for barbiturates	0.50 mg/L	17.54%	k=2, 95.45%
butalbital	GC/MS for barbiturates	0.50 mg/L	17.54%	k=2, 95.45%
pentobarbital	GC/MS for barbiturates	0.50 mg/L	17.54%	k=2, 95.45%
phenobarbital	GC/MS for barbiturates	0.50 mg/L	17.54%	k=2, 95.45%
secobarbital	GC/MS for barbiturates	0.50 mg/L	17.54%	k=2, 95.45%
Cocaine and metabolites				
benzovlecgonine	GC/MS for cocaine and metabolites	0.01 mg/L	12.13%	k=2, 95.45%
cocaethylene	GC/MS for cocaine and metabolites	0.01 mg/L	12.13%	k=2, 95.45%
cocaine	GC/MS for cocaine and metabolites	0.01 mg/L	12.13%	k=2, 95.45%
Antidepressants				
amitriptyline	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
clomipramine	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
desipramine	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
desmethylclomipramine	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
desmethyldoxepin	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
desmethylsertraline	GC/MS for antidepressants (SSRI's) or GC/MS-NPD for basic drugs and metabolites	POS		
doxepin	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
fluoxetine	GC/MS for antidepressants (SSRI's)	0.025 mg/L	13.54%	k=2, 95.45%
imipramine	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
norfluoxetine	GC/MS for antidepressants (SSRI's)	0.025 mg/L	13.54%	k=2, 95.45%
nortriptyline	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%
paroxetine	HPLC for antidepressants or GC/MS-NPD for basic drugs and metabolites	POS		
sertraline	GC/MS for antidepressants (SSRI's) or GC/MS-NPD for basic drugs and metabolites	POS		
trimipramine	LC/MS/MS for antidepressants	0.025 mg/L	12.90%	k=2, 95.45%

Benzodiazepines				
7-aminoclonazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	POS (above 0.01 mg/L)		
7-aminoflunitrazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	POS (above 0.01 mg/L)		
alpha hydroxy alprazolam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
alprazolam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
chlordiazepoxide	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
clonazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
desalkylflurazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
cliazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
flunitrazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
flurazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
lorazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
midazolam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
nordiazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
oxazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
quetiapine	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.02 mg/L	15.41%	k=2, 95.45%
temazepam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
triazolam	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	0.01 mg/L	15.41%	k=2, 95.45%
zopiclone	LC/MS/MS for benzodiazepines, quetiapine, and zopiclone	POS (above 0.01 mg/L)		
Cannabinoids Confirmation				
carboxy-THC (delta-9)	LC/MS/MS for cannabinoids	5.0 ng/mL	14.45%	k=2, 95.45%
THC (delta-9)	LC/MS/MS for cannabinoids	1.0 ng/mL	25.96%*	k=3, 99.73%
			*26% used for calculation on report	
Opiates				
6-acetylmorphine	LC/MS/MS for opiates	2 ng/mL	16.53%	k=2, 95.45%
codeine	LC/MS/MS for opiates	0.01 mg/L	16.53%	k=2, 95.45%
hydrocodone	LC/MS/MS for opiates	0.01 mg/L	16.53%	k=2, 95.45%
hydromorphone	LC/MS/MS for opiates	2 ng/mL	16.53%	k=2, 95.45%
morphine	LC/MS/MS for opiates	0.01 mg/L	16.53%	k=2, 95.45%
oxycodone	LC/MS/MS for opiates	0.01 mg/L	16.53%	k=2, 95.45%
oxymorphone	LC/MS/MS for opiates	0.01 mg/L	16.53%	k=2, 95.45%
Fentanyl Confirmation				
fentanyl	By request: LC/MS/MS	0.5 ng/mL	17.16%	k=2, 09, 95.45%
norfentanyl	By request: LC/MS/MS	0.5 ng/mL	19.12%	k=2, 09, 95.45%
Buprenorphine Confirmation				
buprenorphine	By request: LC/MS/MS	POS		
naloxone	By request: LC/MS/MS	POS		
norbuprenorphine	By request: LC/MS/MS	POS		
Gabapentin Confirmation				
gabapentin	By request: LC/MS	1.0 mg/L	18.49%	k=2, 95.45%
Miscellaneous Compounds - not routinely screened for unless requested				
brompheniramine	By request: GC/MS	POS		
carbon monoxide	By request: Co-oximetry	5% saturation		day of test
cyanide	By request: Screen by Cvantesmo Test Strips	POS (above 0.25 mg/L)		
ethylene glycol	By request: GC/MS	POS		
GHB	By request: GC/MS			
lithium	External Lab			
mesoridazine	By request: GC/MS	POS		
metoprololamide	By request: GC/MS	POS		
metazone	By request: GC/MS	POS		
pentazocine	By request: GC/MS	POS		
pheniramine	By request: GC/MS	POS		
phenylpropranolamine	By request: GC/MS	POS		
procaine	By request: GC/MS	POS		
propofol	External Lab			
strychnine	By request: GC/MS	POS		
Synthetic cannabinoids ("Spice")	External Lab			
Synthetic cathinones ("Bath salts")	External Lab			
Miscellaneous Compounds - not routinely confirmed unless requested				
amantadine	By request: GC/MS	POS		
aripiprazole	External Lab			
baclofen	External Lab			
bupivacaine	By request: GC/MS	POS		
cetirizine	External Lab			
chlorpheniramine	By request: GC/MS	POS		
diltiazem	By request: GC/MS	POS		
duloxetine	External Lab			
quafenesin	By request: GC/MS	POS		
hydroxyzine	External Lab			
levetiracetam	By request: GC/MS	POS		
lidocaine	By request: GC/MS (screen)	POS		
	By request: GC/MS (quantitation)	0.1 mg/L		day of test
loperamide	By request: LC/MS	POS		
LSD	External Lab			
metaxalone	By request: GC/MS	POS		
methocarbamol	By request: GC/MS	POS		
methylphenidate	By request: GC/MS	POS		
mirtazapine	By request: GC/MS	POS		
oxcarbazepine	By request: GC/MS	POS		
phenentermine	By request: GC/MS	POS		
pregabalin	External Lab			
primidone	By request: GC/MS	POS		
promethazine	By request: GC/MS	POS		
propoxyphene	By request: GC/MS	POS		
psilocin	External Lab			
risperidone	External Lab			
salicylates	External Lab			
thioridazine	By request: GC/MS	POS		
verapamil	By request: GC/MS	POS		
zonisamide	By request: GC/MS	POS		