

Kansas Bureau of Investigation Forensic Science Laboratory
Toxicology Section Scope of Testing and Reporting Information

Volatiles Analysis			
Compound	Screen Method	Confirmation Method	Reporting
1,1-difluoroethane	HSGC/FID/MS	HSGC/FID/MS	Positive ≥ ~10 µg/mL (blood & urine)
acetone	HSGC/FID/MS	HSGC/FID/MS	Positive (blood)
ethanol	HSGC/FID/MS	HSGC/FID/MS	≥ 0.01 g/100 mL (blood)
isopropanol	HSGC/FID/MS	HSGC/FID/MS	Positive (blood)
methanol	HSGC/FID/MS	HSGC/FID/MS	Positive (blood)
toluene ¹	HSGC/FID/MS	HSGC/FID/MS	Positive (blood)
Immunoassay Analysis (Screen)			
Drug/Drug Class	Method	Cutoff (blood / urine)	Reporting
barbiturates	ELISA	100 ng/mL / 100 ng/mL	Positive
benzodiazepines ²	ELISA	10 ng/mL / 50 ng/mL	Positive
cannabinoids	ELISA	10 ng/mL / 20 ng/mL	Positive
cocaine metabolites ²	ELISA	50 ng/mL / 150 ng/mL	Positive
methamphetamine/MDMA ²	ELISA	20 ng/mL / 200 ng/mL	Positive
opiates ²	ELISA	10 ng/mL / 200 ng/mL	Positive
oxycodone ²	ELISA	10 ng/mL / 100 ng/mL	Positive
phencyclidine (PCP) ²	ELISA	10 ng/mL / 25 ng/mL	Positive
Drug Analysis ³			
Benzodiazepines ⁴	Screen Method	Confirmation Method	Reporting
alprazolam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
bromazolam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 1 ng/mL (blood & urine)
chlordiazepoxide	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
clonazepam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
clonazepam, 7-amino	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
clonazolam, 8-amino	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 1 ng/mL (blood & urine)
diazepam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
diazepam, nor	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
etizolam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
flualprazolam	LC/QTOF-MS, LC/MS-MS or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
flubromazolam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
flunitrazepam, 7-amino	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
lorazepam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
midazolam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
oxazepam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
temazepam	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)

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Cannabinoids	Screen Method	Confirmation Method	Reporting
delta-9 THC	ELISA screen for Delta-9 Carboxy THC	LC/MS-MS	Positive ≥ 1 ng/mL, blood
delta-9 THC, 11-hydroxy	ELISA screen for Delta-9 Carboxy THC	LC/MS-MS	Positive ≥ 1 ng/mL, blood
delta-9 THC, carboxy THC	ELISA	LC/MS-MS (blood), GC/MS (urine)	Positive ≥ 5 ng/mL (blood), Positive (urine)
delta-8 THC	ELISA screen for Delta-9 Carboxy THC	LC/MS-MS	Positive ≥ 1 ng/mL, blood
Opioids⁴	Screen Method	Confirmation Method	Reporting
6-monoacetylmorphine (6-MAM)	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS	Positive ≥ ~ 5 ng/mL (blood & urine)
buprenorphine	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 1 ng/mL (blood & urine)
buprenorphine, nor	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 1 ng/mL (blood & urine)
codeine	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
fentanyl	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 1 ng/mL (blood & urine)
fentanyl, nor	LC/QTOF-MS or LC/MS-MS	LC/MS-MS	Positive ≥ ~ 5 ng/mL (blood & urine)
hydrocodone	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
hydromorphone	LC/QTOF-MS, LC/MS-MS, GC/MS or ELISA*	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
methadone	LC/QTOF-MS, LC/MS-MS, or GC/MS	LC/MS-MS	Positive ≥ ~ 20 ng/mL (blood & urine)
morphine	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
oxycodone	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
oxymorphone	LC/QTOF-MS, LC/MS-MS, or ELISA	LC/MS-MS	Positive ≥ ~ 5 ng/mL (blood & urine)
tramadol	LC/QTOF-MS, LC/MS-MS, or GC/MS	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
tramadol, o-desmethyl	LC/QTOF-MS, LC/MS-MS, or GC/MS	LC/MS-MS	Positive ≥ ~ 10 ng/mL (blood & urine)
Stimulants	Screen Method	Confirmation Method	Reporting
amphetamine	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA*	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
cocaethylene	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA*	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
cocaine	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
MDA	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
MDMA	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
methamphetamine	LC/QTOF-MS, LC/MS-MS, GC/MS, or ELISA	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
phentermine	LC/QTOF-MS, LC/MS-MS, or GC/MS	LC/MS-MS or GC/MS	Positive ≥ ~ 10 ng/mL (blood), Positive (urine)
General Drug Analysis	Screen Method	Confirmation Method	Reporting
amitriptyline	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
benzoylecgonine	LC/QTOF-MS, GC/MS, or ELISA	GC/MS	Positive (blood & urine)
bupropion	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
butalbital	GC/MS or ELISA	GC/MS	Positive (blood & urine)
carbamazepine	LC/QTOF-MS or GC/MS	unable to confirm	N/A
carisoprodol	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
cetirizine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
chlorpheniramine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)

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citalopram/escitalopram	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
cyclobenzaprine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
desipramine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
diphenhydramine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
doxylamine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
fluoxetine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
gabapentin	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
GHB ⁵	GC/MS	unable to confirm	Positive \geq ~ 2 μ g/mL (blood), Positive \geq ~10 μ g/mL (urine)
hydroxyzine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
imipramine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
ketamine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
ketamine, nor	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
lamotrigine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
levetiracetam	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
meprobamate	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
methorphan	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
methylphenidate	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
mirtazapine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
mitragynine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
nortriptyline	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
olanzapine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
oxcarbazepine	LC/QTOF-MS or GC/MS	unable to confirm	N/A
paroxetine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
phencyclidine (PCP)	LC/QTOF-MS, GC/MS, or ELISA	GC/MS	Positive (blood & urine)
phenobarbital	GC/MS or ELISA	GC/MS	Positive (blood & urine)
promethazine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
quetiapine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
quetiapine, nor	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
sertraline	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
tianeptine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
topiramate	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
trazodone	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
valproic acid	GC/MS	GC/MS	Positive (blood & urine)
venlafaxine	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
zolpidem	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)
zopiclone	LC/QTOF-MS or GC/MS	GC/MS	Positive (blood & urine)

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Routinely Requested Drugs Outside of Scope – Do Not Offer Testing
aripiprazole
lithium
LSD
nitrous oxide
stimulant, hallucinogen, and opioid novel psychoactive substances (NPS)
synthetic cannabinoids (“K2”, “spice”)

¹Only when requested.

²Only when LC/QTOF-MS screening is not performed.

³Drugs outside of this scope may be reported as positive if they meet the analytical criteria for positive reporting as defined by the KBI Forensic Science Laboratory Toxicology Section.

⁴Drug-facilitated crimes will be screened via LC/MS-MS for these two panels. Other cases may be screened via LC/MS-MS based on case information.

⁵Only for drug-facilitated crimes, upon request, or based on case information.

*Due to poor cross-reactivity with the ELISA kit, these drugs may be reported as positive if their respective parent compounds or other metabolites that cross-react with the ELISA kit are reported as positive.

Key

ELISA: Enzyme-Linked ImmunoSorbent Assay

GC/MS: Gas Chromatography/Mass Spectrometry

HSGC/FID/MS: Headspace Gas Chromatography/Flame Ionization Detection/Mass Spectrometry

LC/MS-MS: Liquid Chromatography/Tandem Mass Spectrometry

LC/QTOF-MS: Liquid Chromatography/Quadrupole Time-of Flight-Mass Spectrometry