

# Confirmatory drug analysis

Labcorp's ToxAssure Flex portfolio includes confirmation tests for unequivocal determination of drug identification and quantitation.<sup>1</sup> Mass spectrometry is considered the gold standard in identification of drugs in biological specimens and provides the highest level of certainty in drug test results.<sup>1</sup> Confirmation tests may be ordered individually to confirm target drugs, such as specific drug results from in-office screening.

Test numbers are listed below for specific confirmatory drug analysis. The laboratory report will identify typical prescription sources for drug-positive results when applicable.

Drug classes	Test code	Detection thresholds	Drug metabolites included
<b>Amphetamines</b>	910784	50 ng/mL	methamphetamine, amphetamine, methylenedioxyamphetamine (MDMA), methylenedioxyamphetamine (MDA)
<b>Barbiturates</b>	910512	200 ng/mL	amobarbital, barbital, butabarbital, butalbital, mephobarbital, pentobarbital, phenobarbital, secobarbital, thiopental
<b>Benzodiazepines</b>	910569	20 ng/mL	alprazolam, alpha-hydroxyalprazolam, clordiazepoxide (as metabolites desmethyldiazepam and oxazepam), clonazepam, 7-aminoclonazepam, clorazepate (as metabolites desmethyldiazepam and oxazepam), desalkylflurazepam, diazepam, desmethyldiazepam, flunitrazepam, desmethylflunitrazepam, lorazepam, midazolam, alpha-hydroxymidazolam, oxazepam, temazepam, alpha-hydroxytriazolam
<b>Buprenorphine</b>	910518	1 ng/mL 5 ng/mL	buprenorphine norbuprenorphine
<b>Cannabinoids (THC)</b>	912051	20 ng/mL 2 ng/mL	total metabolites carboxy-tetrahydrocannabinol (carboxy-THC)
<b>Cocaine &amp; metabolite</b>	910525	50 ng/mL	cocaine, benzoylecgonine, cocaethylene
<b>Dextromethorphan</b>	912852	100 ng/mL	dextromethorphan, dextrorphan/levorphanol
<b>Fentanyl &amp; analogues</b>	911127	1 ng/mL 5 ng/mL	fentanyl norfentanyl
<b>Heroin metabolite (6-AM)</b>	912843	10 ng/mL	6-acetylmorphine
<b>Ketamine</b>	912060	300 ng/mL	ketamine, norketamine
<b>Meperidine</b>	910631	50 ng/mL	meperidine, normeperidine
<b>Methadone</b>	910527	50 ng/mL	methadone, EDDP (methadone metabolite)
<b>Opiate class</b>	912844	50 ng/mL	codeine, norcodeine, dihydrocodeine, hydrocodone, norhydrocodone, hydromorphone, morphine, normorphine
<b>Oxycodone class</b>	912845	50 ng/mL	oxycodone, oxymorphone, noroxycodone, noroxymorphone
<b>Phencyclidine (PCP)</b>	910792	25 ng/mL	Phencyclidine (PCP)
<b>Propoxyphene</b>	910608	150 ng/mL	propoxyphene, norpropoxyphene
<b>Tramadol</b>	910801	50 ng/mL	tramadol, o-desmethyiltramadol, n-desmethyiltramadol
<b>Anticonvulsants</b>	912847	50 ng/mL 300 ng/mL 1.0 µg/mL	clobazam, tiagabine carbamazepine ezogabine (retigabine), gabapentin, lamotrigine, levetiracetam, oxcarbazepine MHD (10-monohydroxy metabolite), phenytoin, pregabalin, primidone, rufinamide, topiramate, zonisamide
<b>Antidepressants</b>	912849	50 ng/mL 100 ng/mL	amitriptyline, amoxapine, clomipramine, desmethylclomipramine, desipramine, duloxetine, imipramine, nefazodone, nortriptyline, trazodone, 1,3-chlorophenylpiperazine (trazodone/nefazodone metabolite), vilazodone 8-hydroxyamoxapine, bupropion, hydroxybupropion, citalopram/escitalopram, desmethylcitalopram, desmethylvenlafaxine/desvenlafaxine, doxepin, desmethyldoxepin, fluoxetine, norfluoxetine, fluvoxamine, maprotiline, mirtazapine, paroxetine, protriptyline, sertraline, desmethylsertraline, trimipramine, venlafaxine
<b>Antihistamines</b>	912850	50 ng/mL 100 ng/mL	brompheniramine, hydroxyzine, promethazine, pyrilamine chlorpheniramine, diphenhydramine, doxylamine, triprolidine
<b>Antipsychotics</b>	912851	10 ng/mL 50 ng/mL 100 ng/mL	aripiprazole, chlorpromazine, fluphenazine, perphenazine, prochlorperazine, trifluoperazine, ziprasidone, haloperidol, loxapine, 8-hydroxyloxapine, risperidone asenapine, clozapine, desmethylclozapine, iloperidone, lurasidone, mesoridazine, molindone, olanzapine, pimozide, quetiapine, thioridazine, thiothixene
<b>Muscle relaxants</b>	912854	50 ng/mL 300 ng/mL	cyclobenzaprine, desmethylcyclobenzaprine, metaxalone, orphenadrine, tizanidine baclofen, carisoprodol, meprobamate, methocarbamol
<b>Sedative/hypnotics</b>	912855	5 ng/mL 50 ng/mL 100 ng/mL	zaleplon, zolpidem, zolpidem acid zopiclone/eszopiclone amino chloropyridine (zopiclone/eszopiclone breakdown product)
<b>Sympathomimetics</b>	912856	100 ng/mL 300 ng/mL	atomoxetine, diethylpropion, methylphenidate, phenylpropanolamine methylenedioxyethylamphetamine (MDEA), ephedrine/pseudoephedrine, methcathinone, phenmetrazine, phentermine, ritalinic acid (methylphenidate metabolite)

## Reference

1. NCCLS. Gas Chromatography/Mass Spectrometry (GC/MS) Confirmation of Drugs; Approved Guideline. NCCLS document C43-A (ISBN 1-56238-475-9). 2002;(22)22.

Specimen	Urine (random)
Volume	30mL (min 3mL)
Container	Urine container
Storage Instructions	Maintain at room temperature. If arrival at the lab will extend beyond seven days then refrigerate.
Methodology	Liquid chromatography/tandem mass spectrometry (LC/MS-MS)

## Labcorp ToxAssure Flex: Confirmatory Drug Analysis Sample Report

When prescribed medication(s) are identified by the ordering physician, confirmatory drug analysis results can be reported with the Labcorp ToxAssure Flex: Confirmatory Drug Analysis report format. The report layout is designed for ease of review in evaluating drug test results relative to a patient's prescribed medication(s).

910475 ToxAssure report test code needs to be added to the order for the report below to generate.

<b>PATIENT</b> <b>TEST, EXAMPLE</b> PATIENT ID: 123456	<b>DATE OF BIRTH</b> <b>11/11/1999</b> Age: 23	<b>GENDER</b> <b>M</b>	<b>DATE OF SERVICE</b> <b>1/4/2023</b>	<b>PHYSICIAN</b> Account #: 22900120
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**SAMPLE REPORTS**  
 1234 STREET,CITY,ST. SCHENECTADY, NY 12345

ACCESSION NUMBER: S1208874    REQUISITION NUMBER: 00501690000    RECEIVED: 1/5/2023 7:07 AM    Report Status: **FINAL**

Prescribed Drugs/Enhanced Rpt	Benzodiazepines Confirm, Ur Oxycodone Class Confirm, UR
Drug	Result
Unit of measure where result is quantitative is ng/mg creatinine	
<b>EXPECTED</b> DRUG <b>PRESENT AND DECLARED</b> FOR PRESCRIPTION VERIFICATION	
<ul style="list-style-type: none"> <li><span style="color: green;">+</span> Oxycodone 4118</li> <li><span style="color: green;">+</span> Oxymorphone 1412</li> <li><span style="color: green;">+</span> Noroxycodone 3529</li> <li><span style="color: green;">+</span> Noroxymorphone 941</li> </ul>	Sources of oxycodone are scheduled prescription medications. Oxymorphone, noroxycodone, and noroxymorphone are expected metabolites of oxycodone. Oxymorphone is also available as a scheduled prescription medication.
<b>UNEXPECTED</b> DRUG <b>PRESENT NOT DECLARED</b> FOR PRESCRIPTION VERIFICATION	
<ul style="list-style-type: none"> <li><span style="color: blue;">■</span> Carboxy-THC 212</li> </ul>	Carboxy-THC is a metabolite of tetrahydrocannabinol (THC). Source of THC is most commonly herbal marijuana or marijuana-based products, but THC is also present in a scheduled prescription medication. Trace amounts of THC can be present in hemp and cannabidiol (CBD) products. This test is not intended to distinguish between delta-9-tetrahydrocannabinol, the predominant form of THC in most herbal or marijuana-based products, and delta-8-tetrahydrocannabinol.
<b>UNEXPECTED</b> DRUG <b>ABSENT BUT DECLARED</b> FOR PRESCRIPTION VERIFICATION	
<ul style="list-style-type: none"> <li><span style="color: orange;">▲</span> Alprazolam Not Detected</li> </ul>	Not detected result may be consistent with the time of last use noted for this medication.

Test	Result	Flag	Reference Range	Unit of Measure
Creatinine	85		>=20	mg/dL

**Declared Medications** Drug brands, if listed herein, are trademarks of their respective owners.

The flagging and interpretation on this report are based on the following declared medications. Unexpected results may arise from inaccuracies in the declared medications.

The testing scope of this panel includes these medications:	Alprazolam (Xanax) 01/01/2023 Oxycodone (Percocet) 01/03/2023
The testing scope of this panel does not include following reported medications:	Acetaminophen (Percocet) 01/03/2023 Duloxetine (Cymbalta) Pregabalin (Lyrica)

Drug-test results should be interpreted in the context of clinical information. Patient pharmacokinetic variables, specific drug chemistry, and specimen characteristics can affect test outcomes. Technical consultation is available to the health care provider if a test result is inconsistent with an expected outcome. Call toll free 1-866-593-0157.

- 1 **Drugs Present and Declared for Prescription Verification**  
+ **Present and Declared**  
 These findings are expected; any positive drug screen results listed in this section correspond with the declared medications.
- 2 **Drugs Present but Not Declared for Prescription Verification**  
■ **Present and Not Declared**  
 These findings are unexpected; none of the positive drug screen results listed in this section would be produced by the declared medications.
- 3 **Drugs Absent but Declared for Prescription Verification**  
▲ **Absent but Declared**  
 These findings are unexpected; the results for a declared medication are "Not Detected" although regularly scheduled use of the declared medication is expected to produce a positive result.
- 4 **Declared Medications**  
 Listed after the specimen test results.
- 5 **Technical Support Hotline**  
 Toll-free telephone number that provides direct access to technical staff.
- 6 **Toxicology Cumulative Report**  
 Provides a summary of previous results for the same patient and is listed on the last page of the ToxAssure report.

TOXICOLOGY CUMULATIVE REPORT						
Drug	3/2/2021	3/15/2021	4/15/2021	7/15/2021	4/15/2022	8/15/2022
Cocaine	114	88		77	114	88
Methamphetamine	Not Detected	Not Detected	Not Detected	1278	1782	Not Detected
Amphetamine	Not Detected	Not Detected	Not Detected	241	2094	Not Detected
Alprazolam	Not Detected	11667	Not Detected	Not Detected	458	Not Detected
Alprazolam/oxycodone	Not Detected	Not Detected	Not Detected	Not Detected	867	Not Detected
Noroxycodone	400	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Carboxy-THC	2938	Not Detected	380	Not Detected	31	
Hydrocodone	Not Detected	Not Detected	Not Detected	2048	2180	4043
Hydroxycodone	Not Detected	Not Detected	Not Detected	584	2279	1427
Ethylone	Not Detected	Not Detected	Not Detected	780	1238	1189
Propoxyphene	Not Detected	Not Detected	Not Detected	1886	4077	4541
Oxycodone	5785	3711	PREVIOUS	Not Detected	Not Detected	Not Detected
Oxymorphone	4063	14027	Not Detected	Not Detected	Not Detected	Not Detected
Noroxycodone	5058	30183	Not Detected	Not Detected	Not Detected	Not Detected
Noroxymorphone	2414	8178	Not Detected	Not Detected	Not Detected	Not Detected
Pregabalin	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS
Duloxetine	Not Detected	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS
Acetaminophen	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS	PREVIOUS

For more information about our medical drug monitoring services or to set up a testing program, please contact us at [clinicaldrugtesting@labcorp.com](mailto:clinicaldrugtesting@labcorp.com) or call 877-474-5767.

