

## Overview

### Useful For

Detecting drug abuse involving, amphetamines, barbiturates, benzodiazepines, cocaine, ethanol, methadone, opiates, phencyclidine, and tetrahydrocannabinol

This test is intended to be used in a setting where the test results can be used definitively to make a diagnosis.

### Reflex Tests

Test ID	Reporting Name	Available Separately	Always Performed
OPATU	Opiate Confirmation, U	Yes	No
AMPHU	Amphetamines Confirmation, U	Yes	No
BARBU	Barbiturates Confirmation, U	Yes	No
COKEU	Cocaine and metabolite Conf, U	Yes	No
ETOH	Ethanol, U	No	No
MTDNU	Methadone Confirmation, U	Yes	No
PCPU	Phencyclidine Confirmation, U	Yes	No
THCU	Carboxy-THC Confirmation, U	Yes	No
BNZU	Benzodiazepines Confirmation, U	Yes	No

### Testing Algorithm

Testing begins with screening tests for alcohol and drugs of abuse. Positives are confirmed and quantitated by definitive methods (gas chromatography-flame ionization detector for ethanol; gas chromatography-mass spectrometry for barbiturates, benzodiazepines, cocaine and metabolites, methadone, phencyclidine, and tetrahydrocannabinol metabolite) at an additional charge. Amphetamines and opiates that screen positive will be quantified with liquid chromatography-tandem mass spectrometry at an additional charge.

### Method Name

CDAU7: Alcohol Screened by an Enzymatic Assay/All Others Screened by Immunoassay

ETOH: Gas Chromatography-Flame Ionization Detector (GC-FID)

### NY State Available

Yes

### Specimen

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**Specimen Type**

Urine

**Ordering Guidance**

For situations where chain-of-custody is required, a Chain-of-Custody Kit (T282) is available. For chain-of-custody testing, order CDA7X / Drug Abuse Survey with Confirmation, Panel 9, Chain of Custody, Urine.

**Additional Testing Requirements**

If urine creatinine is required or adulteration of the sample is suspected, the following test should be requested, ADULT / Adulterants Survey, Urine. For additional information, please refer to ADULT / Adulterants Survey, Urine.

**Specimen Required**

**Supplies:** Urine Container, 60 mL (T313)

**Collection Container/Tube:** Plastic urine container

**Submission Container/Tube:** Plastic, 60-mL urine bottle

**Specimen Volume:** 30 mL

**Collection Instructions:**

1. Collect a random urine specimen.
2. Submit 30 mL in 1 plastic bottle.
3. No preservative.

**Additional Information:**

1. No specimen substitutions.
2. Additional drug panels and specific requests are available. Call 800-533-1710 or 507-266-5700.
3. Submitting less than 30 mL will compromise our ability to perform all necessary testing.

**Forms**

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

**Specimen Minimum Volume**

15 mL

**Reject Due To**

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

**Specimen Stability Information**

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	7 days	

Specimen Type	Temperature	Time	Special Container
	Frozen	14 days	

## Clinical and Interpretive

### Clinical Information

This assay was designed to screen by immunoassay and confirm by gas chromatography-mass spectrometry (GC-MS), gas chromatography-flame ionization detection (GC-FID), or liquid chromatography-tandem mass spectrometry (LC-MS/MS) for the following drugs:

- Amphetamines
- Barbiturates
- Benzodiazepines
- Cocaine
- Ethanol
- Opiates
- Methadone
- Phencyclidine
- Tetrahydrocannabinol

This test represents the coupling of an immunoassay screen with an automatic confirmation of all positive results by the definitive assay available and described in each individual reflex test (eg, AMPHU / Amphetamines Confirmation, Urine). All positive screening results are confirmed by GC-MS, GC-FID, or LC-MS/MS and quantitated before a positive result is reported.

### Reference Values

Negative

Screening cutoff concentrations

Amphetamines: 500 ng/mL

Barbiturates: 200 ng/mL

Benzodiazepines: 100 ng/mL

Cocaine (benzoylecgonine-cocaine metabolite): 150 ng/mL

Ethanol: 10 mg/dL

Methadone metabolite: 300 ng/mL

Opiates: 300 ng/mL

Phencyclidine: 25 ng/mL

Tetrahydrocannabinol carboxylic acid: 50 ng/mL

This report is intended for use in clinical monitoring or management of patients. It is not intended for use in employment-related testing.

### Interpretation

A positive result indicates that the patient has used the drugs detected in the recent past. See individual tests (eg, AMPHU / Amphetamines Confirmation, Urine) for more information.

For information about drug testing, including estimated detection times, see Drugs of Abuse Testing at <https://www.mayocliniclabs.com/test-info/drug-book/index.html>

### Cautions

**Not intended for use in employment-related testing.**

The test does not screen for drug classes other than those listed above. More comprehensive screening is available using the serum or urine drug screens (DSS / Drug Screen, Prescription/OTC, Serum or PDSU / Drug Screen, Prescription/OTC, Urine).

### Clinical Reference

1. Physician's Desk Reference (PDR). 60th edition. Montvale, NJ, Medical Economics Company, 2006
2. Goodman and Gilman's The Pharmacological Basis of Therapeutics. 11th edition. Edited by LL Bruntman. New York, McGraw-Hill Book Company, 2006
3. Langman LJ, Bechtel L, Holstege CP. In Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Edited by CA Burtis, ER Ashwood, DE Bruns. Chapter 35. WB Saunders Co, 2011, pp 1109-1188

### Performance

#### Method Description

The amphetamines, barbiturates, benzodiazepines, cocaine, methadone metabolite, opiates, phencyclidine, and tetrahydrocannabinol metabolite assays are based on the kinetic interaction of microparticles in a solution (KIMS) as measured by changes in light transmission. In the absence of sample drug, soluble drug conjugates bind to antibody-bound microparticles, causing the formation of particle aggregates. As the aggregation reaction proceeds in the absence of sample drug, the absorbance increases. When a urine sample contains the drug in question, this drug competes with the drug derivative conjugate for microparticle-bound antibody. Antibody bound to sample drug is no longer available to promote particle aggregation, and subsequent particle lattice formation is inhibited. The presence of sample drug diminishes the increasing absorbance in proportion to the concentration of drug in the sample. Sample drug content is determined relative to the value obtained for a known cutoff concentration of drug.

ADH

Ethyl alcohol + NAD<sup>+</sup> -----> acetaldehyde + NADH + H<sup>+</sup>

#### PDF Report

No

**Day(s) Performed**

Monday through Saturday

**Report Available**

Same day/1 to 2 days

**Specimen Retention Time**

2 weeks

**Performing Laboratory Location**

Rochester

**Fees and Codes**
**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test has been modified from the manufacturer's instructions. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

**CPT Code Information**

80307

**LOINC® Information**

Test ID	Test Order Name	Order LOINC Value
CDAU7	Confirmed Drug Abuse Panel 9, U	87428-9

Result ID	Test Result Name	Result LOINC Value
30909	Alcohol	34180-0
2573	Amphetamines	43983-6
2574	Barbiturates	70155-7
2575	Benzodiazepines	16195-0
21652	Cocaine	19359-9
4435	Methadone metabolite	16246-1
2577	Opiates	18390-5
2578	Phencyclidine	18392-1
2664	Tetrahydrocannabinol	19415-9
20672	Chain of Custody	77202-0