

What's In this Urine?

DRUG CLASS OR DRUG	CUTOFF Concentration (ng/mL)		DURATION OF POSITIVE RESULT	COMMENTS
	Screen	Confirmation		
AMPHETAMINES d-amphetamine d-methamphetamine MDA (methylenedioxy-amphetamine), MDMA (methylenedioxy-methamphetamine, Ecstasy)	500	25-200	Urine may test positive within 3 hours after use; For 1 to 2 days after use	<ul style="list-style-type: none"> Target analyte: d-amphetamine Compounds metabolized to amp or metham: Amphetaminil, benzphetamine, clobenzorex, dimethylamphetamine, ethylamphetamine, famprofazone, fencamine, fenethylamine, fenproporex, furfenorex, mefenorex, prenylamine, selegiline Window of detection dependent upon urinary pH Methylphenidate (Ritalin) may be detected by IA
BARBITURATES Barbitol Butobarbital(butisol) Butalbital (fiorinal) Pentobarbital (nembutal) Phenobarbital Secobarbital (seconal) Thiopental (pentothal)	200	100	1 to 21 days after use depending on specific agent	<ul style="list-style-type: none"> Target analyte: secobarbital
BENZODIAZEPINES Alprazolam (Xanax) Chlordiazepoxide (Librium) Clonazepam (Klonopin) Diazepam (Valium) Flurazepam (Dalmane) Lorazepam (Ativan) Midazolam (Versed) Nitrazepam (Mogadon) Oxazepam (Serax) Prazepam (Centrax) Temazepam (Restoril) Triazolam (Halcion)	200	50	1 to 14 days after use depending on specific agent	<ul style="list-style-type: none"> Target analyte: nordiazepam IAs may detect some benzodiazepines only at toxic, not therapeutic, levels Consider confirmation of screens < cutoff Refer to Figure 1 for benzo metabolic profiles

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BUPRENORPHINE Buprenex Subutex Suboxone (buprenorphine with naloxone)		5	2 to 4 days after use	<ul style="list-style-type: none"> In cases of maintenance treatment for opioid dependence, buprenorphine is monitored for compliance. It is recommended that patients taking buprenorphine should NOT be taking other opioids or methadone. Metabolized to norbuprenorphine (pharmacologically active)
CANNABINOIDS 11-Nor Δ^9 -THC-carboxylic Acid. 11-OH- Δ^9 -THC Cannabinol Marinol	20	3	0 to 21 days after use	<ul style="list-style-type: none"> Target analyte: Δ^9COOH-THC, the primary psychoactive component of marijuana. Peak plasma concentrations reached within 10 minutes of inhalation. Passive inhalation is unlikely to be detected by this assay. Hemp seed ingestion may produce a positive result. Marinol is detected. Ibuprofen does NOT cross-react.
COCAINE METABOLITE Benzoyllecgonine Cocaine Ecgonine	150	50-100	Peak urine: 4 h after exposure; usually remains positive up to 48-72 h after use May be positive up to 14 d with chronic high-dose use	<ul style="list-style-type: none"> Target analyte: benzoyllecgonine Highly specific assay. Cocaine has a half-life of 30-60 minutes. Blood cocaine levels do not guide management. In the presence of ethanol, cocaine is transesterified to form cocaethylene, a more cardiotoxic agent than cocaine.
FENTANYL Duragesic, Sublimaze		0.5	0-4 days after use	<ul style="list-style-type: none"> Target analyte: fentanyl Serum testing available
METHADONE	300	100	3-16 days	<ul style="list-style-type: none"> Target analyte: methadone Methadone is NOT detected by opiate assays EDDP metabolite must be present in confirmation

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OPIATES (Opioids) Codeine Morphine Morphine-3-glucuronide Dihydrocodeine Heroin Hydrocodone* Hydromorphone* Oxycodone*	300	50	For 2 to 5 days after use 6-MAM present only 2-8 hours post heroin use	<ul style="list-style-type: none"> • Target analyte: morphine • *See Figure 2 for opiate/opoid metabolic pathways • Methadone, fentanyl, propoxyphene, naloxone, naltrexone, and tramadol are not detected by opiate IA or confirmation. • *Oxycodone, hydrocodone, hydromorphone oxymorphone do not cross-react 100%. Consider confirmation testing if screen is <cutoff. • Poppy seed ingestion may cause a positive result. The urine concentration of morphine and codeine from poppy seeds peaks within 2-4 hours, and may be positive up to 72 hrs. • Heroin use: 6-MAM if collected within 2-8 h of use, morphine is also present. Codeine may also be present if heroin is contaminated with acetylcodeine.
OXYCODONE Oxycontin (Oxycodone Hcl) Oxyfast Oxyir Roxicodone Percodan (Oxycodone + Aspirin) Percocet, Roxicet, Tylox (Oxycodone + Acetaminophen)	100	50	For 1 to 4 days after use	<ul style="list-style-type: none"> • Oxycodone may not be readily detected by the opiate screen.
PHENCYCLIDINE Sernylan (vet) and metabolites	25	25	For 5 to 7 days after use	<ul style="list-style-type: none"> • Target analyte: PCP • Dextromethorphan, dextrorphan, diphenhydramine, chlorpromazine, meperidine and mesoridazine may produce false positive results with some assays.
PROPOXYPHENE	300	300	For 2-7 days after use	<ul style="list-style-type: none"> • Target analyte: propoxyphene

BENZODIAZEPINES

PARENT COMPOUND	METABOLITES
Alprazolam	α -OH alprazolam + 4-OH alprazolam
Chlordiazepoxide	nordiazepam + oxazepam
Clonazepam	7-aminoclonazepam
Diazepam	temazepam + nordiazepam + oxazepam
Flurazepam	N-OH ethylglucuronide
Flunitrazepam	7-aminoflunitrazepam
Lorazepam	lorazepam glucuronide
Oxazepam	oxazepam glucuronide
Temazepam	oxazepam

OPIATES and OPIOIDS

PARENT	METABOLITES	NOTES
Heroin	6-acetylmorphine + morphine	Cases not producing morphine reported
Morphine	normorphine + glucuronides and sulfates	Hydromorphone <4-6% may be found reflecting a minor metabolic pathway <0.03% codeine reported as pharmaceutical contaminant
Codeine	morphine + norcodeine	
Hydrocodone	hydromorphone (\rightarrow hydromorphol) + norhydrocodone + hydrocodol (\rightarrow hydromorphol)	
Hydromorphone	hydromorphol	
Oxycodone	oxymorphone (\rightarrow oxymorphol) + oxycodol + noroxycodone	<0.1% hydrocodone reported as pharmaceutical contaminant

Pharmaceutical Sources of Amphetamine or Methamphetamine

DRUG	
Adderall Dexedrine DextroStat	Contains d-amphetamine or d,l-amphetamine
Dexosyn	Contains d-methamphetamine
Vicks inhaler	Contains l-methamphetamine
Amphetaminil Clobenzorex Ethylamphetamine Fenethylamine Fenproporex Mefenorex	Metabolized to amphetamine
Benzphetamine (Didrex) Dimethylamphetamine Famprofazone Fencamine Furfenorex Selegiline (Eldepryl)	Metabolized to methamphetamine (and amphetamine)

ADULTURATION TESTING

URINE SPECIMEN IS REPORTED AS:	WHEN:
Dilute	Creatinine concentration ≥ 2 mg/dL, but < 20 mg/dL AND Specific gravity > 1.001 , but < 1.003
Substituted	Creatinine concentration < 2 mg/dL AND Specific gravity ≤ 1.001 or > 1.020
Adulterated	pH < 3 or ≥ 11 ; nitrite concentration ≥ 500 ng/mL ; chromium (VI) concentration ≥ 50 ng/mL; halogen (from bleach, iodine, fluoride) present; glutaraldehyde present; pyridine present; surfactant present