# Immunoassay Urine Drug Screen Reference

**Last Update August 19, 2021**

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<th>Drug Screen (Positive Cutoff)</th>
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<th>Urine Drug Screen Comment</th>
<th>CR = Cross reactivity, Eq = Equivalent</th>
<th>Recommendations for quantitative urine confirmation testing performed by LC-MSMS or GC-MSMS</th>
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</thead>
</table>
| **Opiates (300 ng/mL)**      | Morphine (MS-Contin and various other preparations), Codeine (various other preparations), Hydrocodone (Vicodin and various other preparations), Hydromorphone (Dilaudid and various other preparations), Heroin | 1-3 days | Detects Morphine, Codeine, 6-Acetyl Morphine well | Morphine: 100% CR, 300 ng/mL  
Codeine: 134% CR, 224 ng/mL Eq  
6-Acetyl Morphine: 78% CR, 386 ng/mL Eq – this is a metabolite specific to heroin.  
Lower sensitivity for Hydrocodone and Hydromorphone | Identifies and quantitates Morphine, Codeine, Oxycodone, Hydrocode, Hydrodromorphine, Norhydrocode, Noroxycodone, and Noroxymorphine using a 20 ng/mL positive cutoff; 6-AM (6-acetyl-morphine) uses a 10 ng/mL positive cutoff. Buprenorphine Confirmation --- Use Test Code BUPR UR |
| **Oxycodone / Oxymorphone (100 ng/mL)** | Oxycodone (Oxycontin, Percocet, Percodan)  
Oxymorphone (Numorphan, Opana) | 1-3 days | Detects Oxycodone and Oxymorphone | Oxycodone: 100% CR, 100 ng/mL  
Oxymorphone: 103% CR, 97 ng/mL | Identifies and quantitates Oxycodone, Methadone, Meperidine, Buprenorphine, Tramadol, Tapentadol or Fentanyl |
| **Buprenorphine (10 ng/mL)** | Cizdol, Subutex, Suboxone, Temgesic, Buprenex, Norspan, Butrans | 1-7 days | Detects Buprenorphine and Buprenorphine-3-β-D Glucuronide | Buprenorphine: 100 CR, 10 ng/mL  
Buprenorphine-3-β-D Glucuronide: 98% CR, ~11 ng/mL | Identifies and quantitates Noroxycodone, and Noroxymorphone using a 20 ng/mL positive cutoff. |
| **Fentanyl (2 ng/mL)** | Sublimaze (IV admin.)  
Duragesic (transdermal patch)  
Actiq (transmucosal lozenge) | 1-3 days | Detects Fentanyl, with some sensitivity to Fentanyl analogs | Fentanyl: 100% CR, 2 ng/mL  
Carfentanil: 33.3% CR, 6 ng/mL | Identifies and quantitates Fentanyl and Norfentanyl using a 1 ng/mL positive cutoff.  
Meperidine Confirmation --- Use ARUP code 3000248 |
| **Amphetamines (500 ng/mL)** | Amphetamine (Adderall, Benzedrine, Dexedrine, Vyvanse)  
Methamphetamine (Desoxyn, Methedrine, Vicks inhaler) MDA, MDMA (Ecstasy), Selegeline, Speed) | 1-4 days | Detects Amphetamines and Methamphetamines | d-Methamphetamine: 102% CR, 488 ng/mL  
d-Amphetamine: 101% CR, 494 ng/mL Eq  
MDA: 127% CR, 394 ng/mL Eq  
MDMA: 255% CR, 196 ng/mL Eq  
MDEA: 75% CR, 668 ng/mL Eq | Identifies and quantitates Meperidine and Normeperidine using a 40 ng/mL positive cutoff.  
Tramadol Confirmation --- Use Test Code TRAMAD UR |
| **Barbiturates (200 ng/mL)** | Amobarbital (Amytal)  
Butalbarbital (Butisol)  
Pentobarbital (Nembutal)  
Phenobarbital (Luminal)  
Secobarbital (Seconal)  
| 1-6 days | Sensitivity depends on the type of Barbiturate | Secobarbital: 100% CR, 200 ng/mL  
Butalbarbital: 71% CR, 281 ng/mL Eq  
Pentobarbital: 36% CR, 561 ng/mL Eq  
Amobarbital: 29% CR, 702 ng/mL Eq  
Phenobarbital: 22% CR, 925 ng/mL Eq | Identifies and quantitates Butalbarbital, Amobarbital, Phenobarbital, and Phenoobarbital using a 50 ng/mL positive cutoff.  
Barbiturates Confirmation --- Use Test Code BARB UR |

**Drug Detection Window**

- **Urine**
  - **Drug Detection Window**
  - **CR = Cross reactivity, Eq = Equivalent**

**Recommendations for quantitative urine confirmation testing performed by LC-MSMS or GC-MSMS**

- **Opiates/Opioids Confirmation --- Use Test Code CDCO OPI**
  - Identifies and quantitates Morphine, Codeine, Oxycodone, Hydrocode, Hydrodromorphine, Norhydrocode, Noroxycodone, and Noroxymorphine using a 20 ng/mL positive cutoff; 6-AM (6-acetyl-morphine) uses a 10 ng/mL positive cutoff. Buprenorphine Confirmation --- Use Test Code BUPR UR

- **Fentanyl Confirmation --- Use Test Code CDCO FENU**
  - Identifies and quantitates Fentanyl and Norfentanyl using a 1 ng/mL positive cutoff.

- **Meperidine Confirmation --- Use ARUP code 3000248**
  - Identifies and quantitates Meperidine and Normeperidine using a 40 ng/mL positive cutoff.

- **Tramadol Confirmation --- Use Test Code TRAMAD UR**
  - Identifies and quantitates Tramadol and O-desmethyltramadol using a 25 ng/mL positive cutoff.

**Additional Confirmation Tests are available upon request, please consult with the laboratory.**
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<td><strong>Benzodiazepines (300 ng/mL)</strong></td>
<td>Alprazolam (Xanax)</td>
<td>1-2 days (short acting)</td>
<td>Detects a variety of Benzodiazepines (not a complete list): Nordiazepam: 100% CR at 300 ng/mL. Diazepam: 88% CR at 340 ng/mL Eq. Alprazolam: 89% CR at 338 ng/mL Eq. Oxazepam: 75% CR at 398 ng/mL Eq. Rohypnol (Flunitrazepam): 71% CR at 424 ng/mL Eq. Clonazepam: 67% CR at 445 ng/mL Eq. Midazolam: 64% CR at 467 ng/mL Eq. Lorazepam: 62% CR at 487 ng/mL Eq. Does not detect Gamma-hydroxybutyrate (GHB).</td>
<td>Identifies and quantitates Alprazolam, Alpha-hydroxyalprazolam, Clonazepam, and 7-aminoclonazepam using a 5 ng/mL positive cutoff. Chlor Diazepoxide, Diazepam, Lorazepam, Midazolam, Alpha-hydroxymidazolam, Nordiazepam, Oxazepam, and Temazepam use a 20 ng/mL positive cutoff.</td>
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<tr>
<td><strong>Cocaine Metabolite (300 ng/mL)</strong></td>
<td>Cocaine</td>
<td>1-2 days</td>
<td>Detects Benzoylecgonine, a metabolite of cocaine: 100% CR at 300 ng/mL. Cocaine is rapidly metabolized and excreted by the kidneys; therefore, assays rely on detection of its metabolite.</td>
<td>Cocaine Metabolite Confirmation --- Use Test Code CDCO COCA. Identifies and quantitates Benzoylecgonine using a 50 ng/mL positive cutoff.</td>
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<tr>
<td><strong>Methadone metabolite (EDDP) (300 ng/mL)</strong></td>
<td>Methadone (Dolophine, Methadose)</td>
<td>1-3 days</td>
<td>Detects EDDP, a metabolite of Methadone: 100% CR at 300 ng/mL.</td>
<td>Methadone Confirmation --- Use Test Code CDCO METH. Identifies and quantitates Methadone and EDDP (metabolite) using a 10 ng/mL positive cutoff.</td>
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<td><strong>THC (Cannabinoids) (50 ng/mL)</strong></td>
<td>9-carboxy-THC, Cannabis, Cannabinoids, Dronabinol, Marijuana, Marinol, THC</td>
<td>&lt;1-30+ days, depending upon usage</td>
<td>Detects the major THC metabolite A9 COOH-THC: 100% CR at 50 ng/mL. Other metabolites may be detected with lesser sensitivity.</td>
<td>THC metabolite confirmation --- Use Test Code CDCO THC. Identifies and quantitates 11-Nor-9-carboxy-THC using a 15 ng/mL positive cutoff.</td>
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<tr>
<td><strong>Ethanol (10 mg/dL)</strong></td>
<td>Ethanol, ethyl alcohol, alcohol, spirits</td>
<td>10-12 hours, depending upon amount ingested</td>
<td>Detects ethanol by Enzymatic methodology. The presence of ethanol indicates exposure which may result in intoxication, CNS depression, and metabolic acidosis.</td>
<td>Confirmation of a positive urine ethanol result is not typically necessary if the result is expected. Verification with Blood Level is recommended if acute poisoning or intoxication is suspected; use Test Code ETOH. Isopropanol and methanol requests are forwarded to NorDx Laboratory, Scarborough. Ethyl Glucuronide Screen with Reflex to Confirmation, Urine --- Use Test Code ETG SCR. Useful for general screening in the assessment of ethanol exposure in the contexts of compliance and/or abuse. Ethyl glucuronide is a direct metabolite of ethanol and can be detected up to 80 hours in urine after ethanol ingestion. The cutoff for positive by immunoassay is set at 500 ng/mL. A positive result will be confirmed by liquid chromatography tandem mass spectrometry (LC-MS/MS). Results do not accurately correlate with amount or frequency of ethanol use.</td>
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