# URINE THC

The EMIT II Plus Cannabinoid Assay detects the major metabolite of $\Delta^9$-THC,11-nor- $\Delta^9$-THC-9-carboxylic acid. It also detects other $\Delta^9$-THC metabolites.

## Non Interfering Substances

Each of the following compounds when added to urine at +/- 25% concentration of the cutoff do not yield a false response relative to the 50 ng/mL cutoff:

| **Compound** | Concentration |
|---|---|
| Acetone | 1.0 g/dL |
| Ascorbic acid | 1.5 g/dL |
| Bilirubin | 0.25 mg/dL |
| Creatinine | 0.5 g/dL |
| Ethanol | 1.0 g/dL |
| Gamma Globulin | 0.5 g/dL |
| Glucose | 2.0 g/dL |
| Hemoglobin | 115 mg/dL |
| Human serum albumin | 0.5 g/dL |
| Oxalic Acid | 0.05 g/dL |
| Riboflavin | 7.5 mg/dL |
| Sodium Chloride | 1.5 g/dL |
| Urea | 6.0 g/dL |

## Specificity

The table below lists the concentration of compounds that produce results approximately equivalent to the 50 ng/mL cutoff. Each concentration represents the reactivity level for the stated compound when the compound is added to a negative urine specimen. These concentrations are within the range of the levels found in urine following use of the drug or, in the case of metabolites, the parent compound. If a specimen contains more than one compound detected by the assay, lower concentrations than those listed may combine to produce a rate approximately equivalent to or greater than the cutoff calibrator of 50 ng/mL.

| **Compound** | **20 ng/mL cutoff** | **50 ng/mL cutoff** | **100 ng/mL cutoff** |
|---|---|---|---|
| 8-β-11-Dihydroxy- $\Delta^9$-THC | 24 | 58 | 109 |
| 8-β-11-Hydroxy- $\Delta^9$-THC | 26 | 68 | 146 |
| 11- Hydroxy- $\Delta^8$-THC | 43 | 67 | 129 |
| 11- Hydroxy- $\Delta^9$-THC | 42 | 77 | 124 |
| 9-Carboxy-11-nor- $\Delta^9$-THC-glucuronide | 79 | 95 | 328 |
| $\Delta^8$-THC | 79 | 220 | 660 |
| $\Delta^9$-THC | 78 | 220 | 620 |

The table below lists the concentrations of compounds that show a negative response to the Emit II Plus THC Assay at all cutoff levels. Positive results for specimens containing other compounds structurally unrelated to cannabinoids have not been observed.

| **Compound** | Concentration |
|---|---|
| Acetaminophen | 1000 µg/mL |
| α-Acetyl-N,N-dinormethadol (dinor LAAM) | 25 µg/mL |
| L-α-Acetylmethadol (LAAM) | 25 µg/mL |
| N-Acetylprocainamide (NAPA) | 400 µg/mL |
| Acetylsalicylic Acid | 1000 µg/mL |
| Amitriptyline | 1000 µg/mL |
| D-Amphetamine | 1000 µg/mL |
| Benzoylecgonine | 1000 µg/mL |
| Buprenorphine | 100 µg/mL |
| Caffeine | 1000 µg/mL |
| Cimetidine | 1000 µg/mL |
| Clomipramine | 2.5 µg/mL |
| Clonidine | 1000 µg/mL |
| Codeine | 500 µg/mL |
| Cotinine | 100 µg/mL |
| Cyclobenzaprine | 1000 µg/mL |
| Desipramine | 800 µg/mL |
| Diphenhydramine | 1000 µg/mL |
| Doxepin | 1000 µg/mL |
| 2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP) | 1000 µg/mL |
| Fluoxetine | 1000 µg/mL |
| Glutethimide | 500 µg/mL |
| Ibuprofen | 1000 |
| Ketamine | 100 µg/mL |
| Ketorolac Tromethamine | 1000 µg/mL |
| Lormetazepam | 1 µg/mL |
| LSD | 10 ng/mL |
| Meperidine | 1000 µg/mL |
| D-Methamphetamine | 35 µg/mL |
| Methaqualone | 1500 µg/mL |
| Morphine | 1000 µg/mL |
| Naproxen | 1000 µg/mL |
| Nortriptyline | 1000 µg/mL |
| Oxazepam | 300 µg/mL |
| Phencyclidine | 1000 µg/mL |
| Phenytoin | 1000 µg/mL |
| Promethazine | 1000 µg/mL |
| Propoxyphene | 1000 µg/mL |
| Ranitidine | 1000 µg/mL |
| Scopolamine | 500 µg/mL |
| Secobarbital | 1000 µg/mL |
| Thioridazine | 100 µg/mL |
| Tramadol | 1000 µg/mL |

| | |
|---|---|
| Tyramine | 100 µg/mL |
| Zidovudine (AZT) | 2 mg/mL |
| Zolpidem | 100 µg/mL |

## Sensitivity

The sensitivity level (minimum detection limit) of the Emit II Plus Cannabinoid Assay using the 50 ng/mL cutoff is 35 ng/mL. This level represents the lowest level of $\Delta^9$-THC,11-nor- $\Delta^9$-THC-9-carboxylic acid that can be distinguished from 0 ng/mL with a confidence level of 95%.

**CAMC laboratories use the 50 ng/mL cutoff for the cannabinoid assay.**

(Syva/EMIT are trademarks of **Siemens Healthcare** Diagnostics Inc.)