

URINE COCAINE METABOLITE

The EMIT II Plus Cocaine Metabolite Assay detects benzoylecgonine, the major metabolite of cocaine, in human urine.

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 either 150 or 300 ng/mL cutoff:

Compound	Concentration
Acetone	0.5 g/dL
Ascorbic Acid	1.5 g/dL
Bilirubin	0.25 mg/dL
Creatinine	0.5 g/dL
Ethanol	0.5 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	0.1 g/dL
Riboflavin	7.5 mg/dL
Sodium Chloride	6.0 g/dL
Urea	6.0 g/dL

Drug free urine pools with specific gravity values ranging from 1.000 - 1.030 and pH values ranging from 3.0 - 11.0 were split and spiked to final concentrations of 113 ng/mL, 188 ng/mL, 225 ng/mL and 375 ng/mL benzoylecgonine. These samples were then evaluated in qualitative and semi-quantitative modes. No interference was observed.

Specificity

The table below list cross-reactivity for structurally related compounds. Data presented are representative of typical performance of this assay:

Compound at 150 ng/mL cutoff	Conc. Tested (ng/mL)	% Cross Reactivity
Ecgonine*	5000	3%
Cocaine*	29000	0.5%
Norcocaine	100000	<0.01%
Cocaethylene	100000	<0.01%
Ecgonine Methyl Ester	100000	<0.01%

Compound at 300 ng/mL cutoff	Conc. Tested (ng/mL)	% Cross Reactivity
Ecgonine*	15000	2%
Cocaine*	61000	0.5%
Norcocaine	100000	<0.01%
Cocaethylene	100000	<0.01%

Ecgonine Methyl Ester	100000	<0.01%
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*Ecgonine and cocaine tested at the concentrations above produced a result approximately equivalent to the cutoff.

The table below lists the compounds that produce a negative result by the EMIT II Plus Cocaine Metabolite Assay. Specificity testing was performed on a reference analyzer at the 150 ng/mL cutoff which represents the greatest potential for cross-reactivity. Positive results for compounds structurally unrelated to cocaine metabolite have not been observed:

Compound	Conc. Tested (µg/mL) at the 150 ng/mL cutoff
Acetaminophen	1000
α-Acetyl <i>N,N</i> dinomethadol (dinor LAAM)	25
L-α-Acetylmethadol (LAAM)	25
<i>N</i> -Acetylprocainamide (NAPA)	400
Acetylsalicylic Acid	1000
Buprenorphene	1000
Caffeine	1000
Cimetidine	1000
Clomipramine	1000
Clonidine	2.5
Cotinine	1000
Cyclobenzaprine	500
Desipramine	100
Dextromethorphan	1000
Diphenhydramine	800
Doxepin	1000
2-ethylidene-1.5-dimethyl-3.3-diphenylpyrrolidine (EDDP)	1000
Fluoxetine	1000
Glutethimide	1000
Ibuprofen	1000
Ketamine	100
Ketorolac Tromethamine	1000
Lormetazepam	1
LSD	0.1
Mependine	1000
Methadone	1000
Methaqualone	1500
Morphine	1000
Naproxen	1000
Nortriptyline	1000
Oxazepam	300
Phencyclidine	1000
Phenytoin	1000
Promethazine	1000
Propoxyphene	1000
Ranitidine	1000

Compound	Conc. Tested (µg/mL) at the 150 ng/mL cutoff
Scopolamine	500
Secobarbital	1000
11-nor-1-THC-9-COOH	100
Thioridazine	100
Tramadol	1000
Tyramine	100
Zidovudine (AZT)	2000
Zolpidem	100

Limitations

The Emit II Plus Cocaine Metabolite Assay cross reacts with Benzoyllecgonine-glucuronide. If the confirmatory method used does not quantify this metabolite (or employ glucuronidase during sample preparation), then you may not be able to accurately confirm results from the Emit II Plus Cocaine Metabolite Assay.

Sensitivity

The sensitivity level (minimum detectable limit) of the Emit II Plus Cocaine Metabolite Assay is less than 20 ng/mL. This level represents the lowest concentration of benzoyllecgonine that can be distinguished from 0 ng/mL with a confidence level of 95%.

CAMC laboratories use the 300 ng/mL cutoff for the cocaine metabolite assay.

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