

URINE ECSTACY (MDMA)

Specificity

Non Interfering Substances

The EXTC method was evaluated for interference according to CLSI/NCCLS EP7-A2.⁷ The following substances do not interfere with the EXTC method when present in urine at the concentrations indicated. Inaccuracies (biases) due to these substances are less than 10% at ecstasy cutoffs of 300 and 500 ng/mL.

Compound	Concentration
Acetone	1.0 g/dL
Ascorbic Acid	1.5 g/dL
Bilirubin	2.0 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	0.1 g/dL
Riboflavin	7.5 mg/dL
Sodium Azide	1 % (w/v)
Sodium Chloride	6.0 g/dL
Urea	6.0 g/dL

Each of the following compounds was added to drug free urine and gave negative EXTC results at the concentration listed for either the 300 or 500 ng/mL cutoff: ‡

Compound	Concentration (µg/mL)
Acetaminophen	1000
α-Acetyl- N, N-dinormethadol	25
L-α-Acetylmethadol (LAAM)	25
N-Acetylprocainamide (NAPA)	400
Acetylsalicylic Acid	1000
Albuterol	1000
p-Aminobenzoic Acid (PABA)	1000
Amitriptyline	10
Amoxicillin	1000
Atenolol	1000
Benzoylcegonine	1000
Buprenorphine	1000
Caffeine	1000
Carbamazepine	250
Carisoprodol	1000
Chlorpheniramine	500

Compound	Concentration (µg/mL)
Chlorpromazine	500
Cimetidine	1000
Clomipramine	2.5
Clonidine	1000
Codeine	500
Cyclobenzaprine	125
Desipramine	800
Dextromethorphan	1000
Dextrorphan	280
Diphenhydramine	1000
Donepezil	59
Doxepin	250
Doxylamine	1000
L-Epinephrine	1000
2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP)	1000
Fenoprofen	1000
Fluoxetine	125
Furosemide	1000
Glutethimide	500
Ibuprofen	1000
Imipramine	750
Ketamine	100
Ketoprofen	1000
Ketorolac Tromethamine	350
Lidocaine	1000
LSD	0.15
Meperidine HCl	1000
Mescaline	1500
Metaclopramide	1000
Methadone	1000
Methaqualone	1500
D,L-Methyldopa	1000
L-Methyldopa	1000
Monoethylglycinexylidide (MEGX)	1000
Morphine	1000
Nalmefene	20
Naloxone	500
Naproxen	1000
Nicotinic Acid	500
Nitroglycerin	1000
Noracetylmethadol	25
11-nor- ⁹ -THC-9-COOH	100
Nortriptyline	1000
Ofloxacin	100
Oxazepam	300
Paroxetine	5

Compound	Concentration (µg/mL)
Phencyclidine	1000
Phenelzine	100
L-Phenylcyclohexylamine (PCA)	50
Phenytoin	1000
Phthalic Acid	1000
L-Piperidinocyclohexane Carbonitrile	50
Procainamide	1000
Promethazine	1000
Propoxyphene	1000
Ranitidine	1000
Sertraline	125
Scopolamine	500
Secobarbital	1000
Thioridazine	100
Tolmetin Sodium	2000
Tramadol	1000
Trifluoperazine	1000
Trimethobenzamide	500
Trimethoprim	1000
Verapamil	1000
Zidovudine (AZT)	2000
Zolpidem	100

Sympathomimetic Amines

Diethylpropion	1000
D,L-Isoproterenol	1000
Mephedrone	400
Metaproterenol	10
3,4 Methylendioxypropylvalerone (MDPV)	440
Methylphenidate (Ritalin®)	1000
Phendimetrazine	400
Phenethylamine	20
Phenylephrine	20
Propylhexedrine	125
3-OH-Tyramine (dopamine)	300

Ritalin® is a registered trademark of Novartis Pharmaceuticals Corporation.

Cross-reactivity ‡

The tables below give the compounds this assay is designed to detect and the levels at which the compounds have been found to give a response approximately equivalent to that of the selected cutoff (300 or 500 ng/mL methylenedioxymethamphetamine). Each concentration represents the reactivity level for the stated compound when it is added to a negative urine specimen. If a sample contains more

than one compound detected by the assay, lower concentrations than those listed below may combine to produce a rate approximately equivalent to or greater than that of the cutoff calibrator.

Concentrations of Ecstasy Related Metabolites that Produce a Positive Result Equivalent to the selected cutoff (300 or 500 ng/mL MDMA)

Compound	Concentration (ng/mL) at the 300 ng/mL cutoff	Concentration (ng/mL) at the 500 ng/mL cutoff
MDA	330	610
Methylenedioxyamphetamine		
MDEA	290	500
Methylenedioxyethylamphetamine		
MBDB	200	430
N-methyl-1-(1,3-benzodioxol-5-yl)-2-aminobutane		
BDB	220	780
3,4-(methylenedioxyphenyl)-2-butanamine		
PMA	13000	22000
Para-methoxyamphetamine		
PMMA	3100	9000
Para-methoxymethamphetamine		
HMMA	>1400000	>2100000
4-hydroxy-3-methoxymethamphetamine		

Concentrations of Structurally Related Compounds that Produce a Positive Result Equivalent to the 300 ng/mL and 500 ng/mL MDMA Cutoffs

Compound	Concentration (µg/mL) at the 300 ng/mL Cutoff	Concentration (µg/mL) at the 500 ng/mL Cutoff
D-Amphetamine	160	430
D-Methamphetamine	37	130
D,L-Methamphetamine	18	53
D,L-Amphetamine	93	230
L-Amphetamine	220	310
L-Methamphetamine	30	87
4-Chloramphetamine	9	12
D,L 4-Methylamphetamine	13	—
Benzphetamine	36	88
Bupropion	2000	4400
Chloroquine	6000	6000
L-Ephedrine	230	2200
Fenfluramine	5	10

Compound	Concentration (µg/mL) at the 300 ng/mL Cutoff	Concentration (µg/mL) at the 500 ng/mL Cutoff
Mephentermine	180	380
Methoxyphenamine	6900	>7000
Nor-pseudoephedrine	330	780
Phenmetrazine	3400	7400
Phentermine	700	1700
Phenylpropanolamine (PPA)	700	2200
Propranolol	1000	3200
Pseudoephedrine	220	530
Quinacrine	5000	5000
Tranlycypromine	420	630
Tyramine	1000	1600

Concentrations of Structurally Unrelated Compounds that Produce a Positive Result Approximately Equivalent to the 300 ng/mL and 500 ng/mL MDMA Cutoff

Compound	Concentration (µg/mL) at the 300 ng/mL cutoff	Concentration (µg/mL) at the 500 ng/mL cutoff
m-Chlorophenylpiperazine (m-CPP) (Trazodone and Nefazodone metabolite)	41	150
Dobutamine	49	240
Haloperidol	16	85
Isoxsuprine	47	165
Labelatol	35	80
Mebeverine	0.13	0.19
Methylone	24	74
Nylidrin	24	70
Trazodone	7	24

Analytical Sensitivity: 75 ng/mL for the 500 ng/mL cutoff

The analytical sensitivity of the EXTC method is 75 ng/mL for the 500 ng/mL cutoff. The analytical sensitivity represents the lowest concentration of EXTC that can be distinguished from zero and is defined as the concentration at two standard deviations above 0 ng/mL using Ecstasy Calibrator Level A (n=20).

‡ The Dimension Vista® EXTC method (REF K5109) and the Dimension® EXTC (REF DF109) method utilize the same reagents under equivalent reaction conditions. Interfering substances and Cross-reactivity were tested using Dimension® EXTC (REF DF109) and the results are representative of both methods.

