

Know Drug Know Drug Test Cup™

For Employment, Insurance, or Forensic Use Only

The Know Drug Test Cup is a one-step immunoassay for the qualitative detection of multiple drugs of abuse and/or their metabolites in human urine at the following cutoff concentrations:

Abbreviation	Class	Calibrator C	utoff(ng/ml)
6AM	Heroin	6-Acetylmorphine	10
AMP300	Amphetamines	d-Amphetamine	300
AMP500	Amphetamines	d-Amphetamine	500
AMP1000	Amphetamines	d-Amphetamine	1000
BAR200	Barbiturates	Secobarbital	200
BAR300	Barbiturates	Secobarbital	300
BUP	Buprenorphine	Buprenorphine	10
BZO200	Benzod azepine	Oxazepam	200
BZO300	Benzodiazepine	Oxazepam	300
COC150	Cocaine	Benzoylecgonine	150
COC300	Cocaine	Benzoylecgonine	300
COT	Nicotine	Cotinine	200
EDDP	Methadone	2-ethylidene-1,5-dimethyl-3,3- diphenylpyrolidine	300
ETG	Alcohol	Ethyl Glucuronide	500
FEN50	Fentanyl	Norfentanyl	50
K2 10	Syn Cann	JWH-018 5-Pentanoic Acid Metabo	olite 10
K2+10	Syn Cann	AB-PINACA Pentanoic Acid Metab	olite 10
MDMA	Ecstasy	Methylenedioxymethamphetamine	500
MDPV	Bath Salts	Methylenedioxypyrovalerone	1000
MET500	Methamphetamine	d-Methamphetamine	500
MET1000	Methamphetamine	d-Methamphetamine	1000
MTD	Methadone	d/l-Methadone	300
OPI300	Opiates	Morphine	300
OPI2000	Opiates	Morphine	2000
OXY	Oxycodone	Oxycodone	100
PCP	Phencyclidine	Phencyclidine	25
PPX	Propoxyphene	d-Propoxyphene	300
TCA	Tricyclics	Nortriptyline	1000
THC20	Marijuana	11-nor-∆9-THC-COOH	20
THC50	Marijuana	11-nor-Δ ⁹ -THC-COOH	50
TRA	Tramadol	Tramadol	200

The Know Drug Test Cup is intended for the detection of drugs of abuse and/or metabolites in human urine for employment, insurance and forensic use screening purposes only, excluding tests intended for Federal drug testing programs (SAMHSA, DOT, US Military).

The test provides a preliminary result only; presumptive positive results should be confirmed using an alternate chemical methodology (such as GC/MS, LC/MS, GC/MS/MS and LC/MS-MS) if donor doesn't acknowledge drug use or if your policies require.

The Know Drug Test Cup can consist of any combination of the drugs listed above with or without Specimen Validity Tests (SVT). The specimen validity test provides information regarding the integrity of urine sample through the semi-quantitative determination of creatinine, nitrite, pH, oxidants, glutaraldehyde, and specific gravity in human urine.

REAGENTS & MATERIALS SUPPLIED

- · 25 individually wrapped integrated cups
- · One instruction sheet
- One Adulteration Color Comparison Chart for interpretation of SVT test result (if applicable)

MATERIALS REQUIRED BUT NOT PROVIDED

Specimen collection container

WARNINGS AND PRECAUTIONS

- Treat all urine specimens and materials as if capable of transmitting infection. Wear gloves and proper laboratory attire to avoid skin contact with urine specimens. Proper handling and disposal methods should be established.
- Collect a fresh urine sample directly into the test cup. Fresh urine
 does not require any special pretreatment. If the specimen is not
 tested immediately, it may be refrigerated at 2-8°C up to 2 days.
- · Do not use the test kit after the expiration date.

PROCEDURE

Preparation:

- If refrigerated, allow the test device, controls, and/or specimens to equilibrate to room temperature (15-30°C) prior to testing.
- 2. Do not open the test device pouch until ready to perform the test.

Testing:

- Remove the cup from the sealed pouch. If required by your process, write the donor name or ID on the label in the provided space, and then remove the cap.
- Collect urine in the cup. Minimum volume required is 5mL.



- 3. Peel label to view results
- 4. Negative results can be interpreted as soon as the control lines appear and there are visible Test lines which usually occurs within 1 minute. Positive drug screen test results should be read at 5 minutes. All results remain stable for 60 minutes.
- 5. Read Specimen Validity Test (SVT) results by comparing the color of the reagent pads to the corresponding color blocks on the color chart at 3 to 5 minutes. Position of SVT pads may vary based on the drug strip configuration.



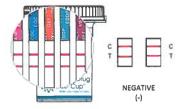
RESULT INTERPRETATION

Negative Results

Colored lines appear in both Control Region "C" and Test Region "T"

The red or pink line must appear next to the "C" (control) on all of the test strips. The appearance of a red or pink line next to the "C" on each test strip indicates that the test has worked properly.

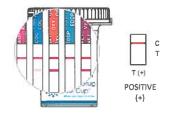
The red or pink line next to the "T" (drug test line) under the drug name indicates a negative result for that drug. If a test line appears next to the "T" for all drugs, the sample is considered negative. Certain lines may appear lighter or thinner than other lines.



Preliminary Positive Results:

Colored line appears in the control region. No line appears in the test region. If NO red or pink line appears next to the "T" under the drug name, the sample may contain that drug. Send the sample to a laboratory for confirmation testing.

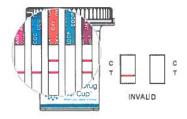
The illustration to the right shows preliminary positive results for the first strip and the fourth strip, but negative for all other drugs.



Invalid Result:

A colored line (Control Line) should always appear next to the letter "C" on every test strip. If no control line appears on any of test strips, the result is invalid.

The illustration shows no line next to the letter "C" on the first, second and fourth strips. The results for those three test strips are invalid.



Specimen Validity Tests:

Specimen validity test results are obtained by directly comparing the color of each test pad with the color block of Adulteration Color Comparison Chart. Problematic urine samples will produce abnormal color responses.



STORAGE

The Know Drug Test Cup should be stored at 2-30°C (36-86°F) in the original sealed pouch. Do not freeze. Do not store and/or expose reagent kits to temperatures greater than 30°C. Use the test kit within two (2) hours after opening the pouch.

QUALITY CONTROL

A procedural control is included in the test. A red line appearing in the control region C is an internal procedural control. It confirms sufficient specimen volume, adequate membrane wicking, and correct procedural technique.

PERFORMANCE CHARACTERISTICS

A. ACCURACY

The accuracy of the Know Drug Test Cup was evaluated in comparison to GC/MS and LC/MS (LC/MS/MS). Drug-free urine samples collected from presumed non-user volunteers were tested with the Know Drug Test Cup. Of these negative samples, all were correctly identified as negative. 10% of the negative samples were confirmed with GC/MS as drug

negative. Drug concentrations were confirmed with GC/MS and LC/MS (for TCA, FEN and EtG). A summary of the accuracy results on the Know Drug Test Cup are shown in the following table.

Summary of Accuracy Results on the Know Drug Test Cup

Sum	шагу	OI AC	curacy			Know D		t Cup
D		Range of GC/MS (or the like) Data						
Drug Test/Cutoff (ng/ml)	Result	Drug- free	-50% - <-25% C/O	-25% - C/O	C/O - +25% C/O	>+25% - +50%C/O	>+50/% C/O	% Agreement
	Nea	40	2	1	0	0	0	100%
6-AM/10	Pos	0	0	0	0	2	14	100%
	Neg	40	0	0	0	0	0	100%
AMP/300	Pos	0	0	0	0	0	52	100%
	Neg	40	3	0	0	0	0	97.70%
AMP/500	Pos	0	0	1	2	2	45	100%
	Neg	40	2	0	0	0	0	97.70%
AMP/1000	Pos	0	0	1	3	2	42	100%
	Neg	40	1	1	0	0	0	95.45%
BAR/200	Pos	0	0	2	2	3	42	100%
	-							
BAR/300	Neg	40	1	1	0	2	0	95.20%
	Pos	0	0	2	5		36	100%
BUP/10	Neg	40	1	1		0	0	95.50%
	Pos	0	0	2	8	0	32	100%
BZO/200	Neg	40	0	1	0	0	0	100%
	Pos	0	0	3	2	2	43	94%
BZO/300	Neg	40	0	1	0	0	0	93.20%
	Pos	0	0	3	1	6	34	100%
COC/150	Neg	40	0	3	0	0	0	97.70%
	Pos	0	0	1	4	1	53	100%
COC/300	Neg	40	0	3	1	0	0	100%
	Pos	0	0	0	4	11	46	98.00%
COT/200	Neg	146	7	1	2	3	0	97.40%
001/200	Pos	0	2	2	1	7	79	94.60%
EDDP/300	Neg	40	0	1	0	0	0	93 20%
12001 7000	Pos	0	0	3	5	2	33	100%
EtG/500	Neg	141	15	8	5	13	65	99.40%
210/500	Pos	0	0	1	2	0	0	97.60%
FEN/50	Neg	42	0	0	0	0	0	100%
FEIN/30	Pos	0	0	0	1	0	17	100%
K2/10	Neg	40	0	0	0	0	0	100%
N2/10	Pos	0	0	0	0	Ö	32	100%
K2+/10	Neg	40	0	0	0	0	0	100%
K2+/10	Pos	0	0	0	0	4	0	100%
MDMA/500	Neg	40	1	1	0	0	0	95.50%
MIDINIAVOU	Pos	0	0	2	5	1	34	100%
MDD://4000	Neg	40	0	0	0	0	0	100%
MDPV/1000	Pos	0	0	0	0	0	20	100%
	Neg	40	1	0	0	0	0	93 20%
MET/500	Pos	0	0	3	1	3	51	100%
	Neg	40	0	1	0	0	0	95.30%
MET/1000	Pos	0	0	2	2	3	45	100%
	Neg	40	0	2	0	0	0	95.50%
MTD/300	Pos	Ö	0	2	4	0	37	100%
	Neg		0	1	0	0	0	93 20%
OPI/300	Pos	0	0	3	4	0	53	100%
	Neg		1	0	0	0	0	93.20%
OPI/2000	Pos	0	Ö	2	4	3	40	100%
	Neg		1	0	0	0	0	93.20%
OXY/100	Pos	0	0	3	7	1	33	100%
	1 1 03						1 00	10070

PCP/25	Neg	40	0	3	0	0	0	97.70%
PUPIZS	Pos	0	0	1	3	8	33	100%
PPX/300	Neg	40	0	1	0	0	0	95 30%
FFN300	Pos	0	0	2	5	2	33	100%
TCA/1000	Neg	40	0	2	0	0	0	95,50%
10201000	Pos	0	0	2	5	7	28	100%
THC/20	Neg	51	0	0	2	0	0	100%
THUIZU	Pos	0	0	0	0	0	34	94.12%
THC/50	Neg	40	1	2	0	0	0	97.70%
100/30	Pos	0	0	1	4	7	44	100%
TRA/200	Neg	40	5	6	1	0	0	100%
1 KAV200	Pos	0	0	0	4	2	8	93.33%

B. ANALYTICAL SENSITIVITY/PRECISION

The Sensitivity/precision of the Know Drug Test Cup was evaluated by testing three lots of the test devices with spiked drug sample solutions on three consecutive days. Sample concentrations were confirmed by GC/MS, LC/MS and/or LC/MS/MS.

C. ANALYTICAL SPECIFICITY

The following compounds are detected positive in urine by the Know Drug Test Cup. Concentrations are given in ng/mL; percent cross-reactivity is shown in parentheses.

Compound	Conc. (%)	Compound	Conc. (%)
6-AM 6-Acetylmorphine Diacetylmorphine (heroin) Oxycodone	10 (100%) 300 (3%) >100,000 (<0.1%)	Morphine Codeine Oxymorphone	>100,000 (<0.1%) >100,000 (<0.1%) >100,000 (<0.1%)
AMP300 D-Amphetamine L-Amphetamine	300 (100%) 27,500 (1.09%)	MDA Phentermine	1,000 (30%) 3,000 (10%)
AMP500 D-Amphetamine L-Amphetamine	500 (100%) 50,000 (1%)	MDA Phentermine	8,000 (6.5%) 45,000 (1.1%)
AMP1000 D-Amphetamine L-Amphetamine	1,000 (100%) 100,000 (1%)	MDA Phentermine	15,000 (6.7%) 100,000 (1.0%)
BAR200 Secobarbital Amobarbital Aprobarbital Butabarbital	200 (100%) 1,660 (12%) 330 (66.7%) 60 (333%)	Butalbital Cyclopentobarbital Phenobarbital	200 (100%) 330 (66.7%) 200 (100%)
BAR300 Secobarbital Amobarbital Aprobarbital Butabarbital	300 (100%) 2,500 (12%) 500 (60%) 100 (300%)	Butalbital Cyclopentobarbital Phenobarbital Pentobarbital	300 (100%) 500 (60%) 300 (100%) 250 (120%)
BUP Buprenorphine Buprenorphine-3-β-D- glucuronide	10 (100%) 3.5 (286%)	Norbuprenorphine Norbuprenorphine- glucuronide	7.5 (133%) 35 (28%)
BZO 200 Oxazepam Alprazolam Bromazepam Clobazam Clorazepate Desalkylflurazepam Diazepam Flunitrazepam	200 (100%) 130 (153%) 650 (30.7%) 130 (153.8%) 500 (40%) 800 (25%) 650 (30.7%) 160 (125%)	α-Hydroxyalprazolam Lorazepam Lorazepam- glucuronide Nitrazepam Norchlordiazepoxide Nordazepam Temazepam Triazolam	1,300 (15.3%) 2,600 (7.7%) 3,500 (5.7%) 160 (125%) 330 (60.6%) 260 (76.9%) 100 (200%) 1,650 (12.1%)
BZO300 Oxazepam Alprazolam Bromazepam Clobazam Clorazepate Desalkylflurazepam Diazepam Flunitrazepam	300 (100%) 200 (150%) 1,000 (30%) 200 (150%) 750 (40%) 1,200 (25%) 1,000 (30%) 250 (120%)	a-Hydroxyalprazolam Lorazepam Lorazepam- glucuronide Nitrazepam Norchlordiazepoxide Nordazepam Temazepam Triazolam	1,900 (15.8%) 3,900 (7.7%) 5,000 (6%) 250 (120%) 500 (60%) 390 (76.9%) 150 (200%) 2,500 (12%)
COC150 Benzoylecgonine Cocaethylene	150 (100%) 50,000 (0.3%)	Cocaine Ecgonine	5,000 (3%) 50,000 (0.3%)
COC300 Benzoylecgonine Cocaethylene	300 (100%) 100,000 (0.3%)	Cocaine Ecgonine	10,000 (3%) 100,000 (0.3%)
COT (-)-Cotinine EDDP	200 (100%)	(-)-Nicotine	3,000 (6.7%)
EDDP EtG	300 (100%)	MTD	>100,000 (<0.3%)
Ethyl glucuronide	500 (100%)		

FEN50			
Norfentanyl Buprenorphine Morphine Codeine	50 (100%) >100,000 (<0.05%) >100,000 (<0.05%) >100,000 (<0.05%)	Fentanyl Levorphanol Morphine 3- Glucuronide	350 (14.3%) >100,000 (<0.05%) >100,000 (<0.05%)
Ethylmorphine	>100,000 (<0.05%)	Norcodeine	>100,000 (<0.05%)
Diacetylmorphine	>100,000 (<0.05%)	Oxycodone	>100,000 (<0.05%)
Hydrocodone Hydromorphone	>100,000 (<0.05%) >100,000 (<0.05%)	Tramadol N-Desmethyl-cis-	>100,000 (<0.05%) >100,000 (<0.05%)
	(100,000 (10.0070)	Tramadol	- 100,000 (-0.00 /0)
V0.40		Thebaine	>100,000 (<0.05%)
K2 10 JWH-018 5-	10 (100%)	JWH-073 4-	10 (100%)
Pentanoic acid	(,	Butanoic acid	()
metabolite JWH 018 N-	15 (66.67%)	metabolite MAM2201 N-	25 (20 578/)
Propanoic acid	15 (66.67 %)	Pentanoic acid	35 (28.57%)
metabolite		metabolite	
JWH 398 N- Pentanoic acid	60 (16.67%)	JWH 210 N- Pentanoic acid	100 (10%)
metabolite		metabolite	
JWH 073 N-(4-	200 (5%)	JWH 200 6-	200 (5%)
Hydroxybutyl) metabolite		Hydroxyindole metabolite	
JWH-018 4-	250 (4%)	JWH-073 4-	300 (3.33%)
Hydroxypentyl metabolite		Hydroxybutyl metabolite	
JWH-073 N-(3-	400 (2.5%)	AM2201 N-(4-	500 (2%)
Hydroxybutyl)		Hydroxypentyl)	
metabolite JWH-018 5-	600 (1.67%)	metabolite JWH 122 N-(4-	650 (1.54%)
Hydroxypentyl	000 (1.07 10)	Hydroxypentyl)	000 (1.0170)
metabolite JWH 073 N-(2-	1 000 (1%)	metabolite JWH-019 6-	1 000 (184)
Hydroxybutyl)	1,000 (1%)	Hydroxyhexyl	1,000 (1%)
metabolite	4 000 4454	metabolite	
JWH-018 RCS-4 N-(5-	1,000 (1%) 2,000 (0.5%)	JWH-019 5- Hydroxyhexyl	1,000 (1%)
Carboxypentyl)	_, (,	metabolite	
metabolite JWH-210 5-	>10,000 (<0.1%)	JWH-122 5- Hydroxypentyl	2,500 (0.4%)
Hydroxypentyl	- 10,000 (-0.174)	metabolite	
metabolite	- 40 000 (-0 48/)	JWH-250 5-	>10,000 (<0.1%)
JWH-073 JWH-210 4-	>10,000 (<0.1%) >10,000 (<0.1%)	Hydroxypentyl metabolite	
Hydroxypentyl	, , ,	5-Fluoro PB-22 3-	>100,000 (<0.01%)
metabolite BB-22 3-	>100,000 (<0.01%)	Carboxyindole metabolite	
Carboxyindole	100,000 (0.0111)	JWH-250 4-	>100,000 (<0.01%)
metabolite MDMB-	>100,000 (<0.01%)	Hydroxypentyl metabolite	
CHMINACA			
CHMINACA K2+ 10			
CHMINACA K2+ 10 AB-PINACA	10 (100%)	AB-PINACA N-(4-	10 (100%)
CHMINACA K2+ 10		Hydroxypentyl) metabolite	10 (100%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4-		Hydroxypentyl) metabolite ADB-PINACA N-(5-	10 (100%) 20 (50%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite	10 (100%)	Hydroxypentyl) metabolite	
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB-	10 (100%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA	
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4-	10 (100%) 15 (66.67%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite	20 (50%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite	10 (100%) 15 (66.67%) 20 (50%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB-	20 (50%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5-	10 (100%) 15 (66.67%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA	20 (50%) 20(50%) 50 (20%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA 5-Fluoro ADB-	20 (50%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA 5-Fluoro ADB- PINACA	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA 5-Chloro AB- PINACA	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA 5-Fluoro ADB- PINACA APINACA APINACA (AKB- 48)	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%) >10,000 (<0.1%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA APINACA APINACA (AKB-	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA AB-FUBINACA APINACA (AKB- 48) CUMYL-	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA APINACA APINACA APINACA APINACA APINACA (AKB- 48) 5- Hydroxypentyl	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA 5-Fluoro ADB- PINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA AB-CHMINACA	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%) >10,000 (<0.1%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA 4B-PINACA 4B-PINACA 4B-PINACA Hydroxypentyl metabolite	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%) >10,000 (<0.1%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA Metabolite M2	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.1%) >100,000 (<0.01%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA APINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AB- PINACA APINACA (AKB- AB) 5- Hydroxypentyl metabolite 5-fluoro AB- PX 1 (5-fluoro	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Filuoro AB- PINACA AB-FUBINACA AB-FUBINACA APINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA)	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%) >10,000 (<0.1%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA AN-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AEB PX 1 (5-fluoro APP-PICA)	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%) >10,000 (<0.1%) >100,000 (<0.01%) >100,000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA 5-Fluoro ADB- PINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL-	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.1%) >100,000 (<0.01%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA APINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AB- PINACA APINACA (AKB- AB) 5- Hydroxypentyl metabolite 5-fluoro AB- PX 1 (5-fluoro	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%) >10,000 (<0.1%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Filuoro AB- PINACA AB-FUBINACA AB-FUBINACA APINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA)	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%) >10,000 (<0.1%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AEB PX 1 (5-fluoro APP-PICA) 5-Fluoro ADB (5- Fluoro MDMB- PINACA)	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%) >10,000 (<0.1%) >100,000 (<0.01%) >100,000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA AFIURACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%)
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CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA A-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite PX 1 (5-fluoro APP-PICA) 5-Fluoro ADB (5- Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MNB- PINACA) MMB-FUBINACA 5-Fluoro MNB- PINACA) MMB-FUBINACA 5-Fluoro MNB- PINACA) MMB-FUBINACA 5-Fluoro MN-18 6-Fluoro MN-1	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (40.1%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >500,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Filuoro AB- PINACA AB-FUBINACA AB-FUBINACA AFIURACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18 BB-22 3- Carboxyindole metabolite (+/-)-MDEA Buphedrone Pentedrone	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Fluoro AEB PX 1 (5-fluoro APP-PICA) 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB 4-Fluoro MN-18 5-Fluoro MN-18 5-Fluoro MN-18 5-Fluoro MN-18 6-Fluoro MN	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (1%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) 100,000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA AFINACA APINACA APINACA APINACA APINACA APINACA APINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18 BB-22 3- Carboxyindole metabolite (+/-)-MDEA	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA AS-Chloro AB- PINACA AS-Chloro AB- PINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AEB PX 1 (5-fluoro APP-PICA) 5-Fluoro ADB (5- Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MN-18 5-Fluoro PB-22 Carboxyindole metabolite metabolite MMDMA (+/-)-MDMA (+/-)-MDMA MDPV (+/-)-MDPV	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (<0.1%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >500 (100%) >10000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA AFIURACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18 BB-22 3- Carboxyindole metabolite (+/-)-MDEA Buphedrone Pentedrone Methylone MDEA	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >30,000 (<0.01%) >30,000 (<0.01%) 30,000 (1.7%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA S-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Chloro AB- PINACA 5-Fluoro ABB PX 1 (5-fluoro APP-PICA) 5-Fluoro ADB (5- Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MDMB- PINACA) MDB-V (-/-)-MDMA (+/-)-MDMA (+/-)-MDMA (+/-)-MDPV Methcathinone MET500 D-Methamphetamine D-Amphetamine	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) 500 (100%) 500 (100%) 500 (100%) 500 (100%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA APINACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18 BB-22 3- Carboxyindole metabolite (+/-)-MDEA Buphedrone Pentedrone Methylone MDEA MDMA	20 (50%) 20(50%) 50 (20%) 150 (6 67%) 250 (4%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >10,000 (<0.01%) 30,000 (1.7%) 3,500 (14.3%)
CHMINACA K2+ 10 AB-PINACA Pentanoic acid metabolite ADB-PINACA N-(4- Hydroxypentyl) metabolite 5-Fluoro AB- PINACA N-(4- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA N-(5- Hydroxypentyl) metabolite AB-PINACA 5-Chloro AB- PINACA APINACA (AKB- 48) 5- Hydroxypentyl metabolite 5-fluoro AEB PX 1 (5-fluoro APP-PICA) 5-Fluoro ADB (5- Fluoro MDMB- PINACA) MMB-FUBINACA 5-Fluoro MN-18 5-Fluoro MN-18 5-Fluoro PB-22 Carboxyindole metabolite MMDMA (+/-)-MDDM (+/-)-MDPV Methcathinone MET500 D-Methamphetamine	10 (100%) 15 (66.67%) 20 (50%) 30 (33.33%) 100 (10%) 1,000 (<0.1%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >500 (100%) >10000 (<0.01%)	Hydroxypentyl) metabolite ADB-PINACA N-(5- hydroxypentyl) metabolite ADB-PINACA Pentanoic acid metabolite 5-Fluoro AB- PINACA AB-FUBINACA AB-FUBINACA AFIURACA APINACA (AKB- 48) CUMYL- THPINACA AB-CHMINACA metabolite M2 PX 2 (5-fluoro APP-PINACA) 4-Cyano CUMYL- BUTINACA CUMYL-PICA MN-18 BB-22 3- Carboxyindole metabolite (+/-)-MDEA Buphedrone Pentedrone Methylone MDEA	20 (50%) 20(50%) 50 (20%) 150 (6.67%) 250 (4%) >10,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >100,000 (<0.01%) >30,000 (<0.01%) >30,000 (<0.01%) 30,000 (1.7%)

MET1000 D-Methamphetamine D-Amphetamine L-Amphetamine 1R,2S(-)-Ephedrine MTD	1,000 (100%) 100,000 (1%) 100,000 (1%) >100,000 (<0.5%)	MDEA MDMA Mephentermine	60,000 (1.7%) 8,000 (12.5%) 10,000 (0.7%)
Methadone	300 (100%)		
OPI300 Morphine 6-Acetylmorphine Codeine Codein-6beta- Glucuronide Ethylmorphine	300 (100%) 85 (352.9%) 100 (300%) 150 (200%)	Levorphanol Morphine 3- glucuronide Norcodeine Oxycodone Thebaine	10,000 (3%) 7,500 (4%) 30,000 (1%) 70,000 (0.43%) 20,000 (1.5%)
Diacetylmorphine Hydrocodone Hydromorphone	900 (33.33%) 500 (60%) 600 (50%)	Oxymorphone-3beta- Glucuronide	>10,000 (<3%)
OPI2000 Morphine 6-Acetylmorphine Codeine	2,000 (100%) 700 (285,7%) 1,800 (111.1%)	Hydromorphone Morphine-3- glucuronide	5,000 (40%) 2,600 (76.9%)
Ethylmorphine Diacetylmorphine Hydrocodone	1,500 (133,3%) 11,000 (18,2%) 5,000 (40%)	Oxycodone Thebaine	70,000 (2.9%) 95,000 (2.1%)
OXY Oxycodone Codeine Ethylmorphine	100 (100%) 50,000 (0.2%) 50,000 (0.2%)	Hydrocodone Hydromorphone Oxymorphone	5,000 (2%) 25,000 (0.4%) 12,500 (0.8%)
PCP Phencyclidine	25 (100%)	4-Hydroxy-PCP	1,500 (1.7%)
PPX Propoxyphene	300 (100%)	Norpropoxyphene	300 (100%)
TCA Nortriptyline Amitriptyline Clomipramine Desipramine	1,000 (100%) 4,000 (25%) 2,000 (50%) 500 (200%)	Doxepine Imipramine Promethazine Trimipramine	1,000 (100%) 1,000 (100%) 1,000 (100%) 5,000 (20%)
THC20 11-nor-Δ ⁹ -THC-9- COOH	20 (100%)	(-)-Δ ⁸ -THC (-)-Δ ⁹ -THC	7,000 (0.28%) 4,500 (0.44%)
(+/-)-11-Hydroxy-∆ ⁹ - THC	8,000 (0.25%)	Cannabinol Cannabidiol	20,000 (0.1%) >100,000 (<0.02%)
THC50 11-nor-∆ ⁹ -THC-9- COOH	50 (100%)	(-)-Δ ⁸ -THC (-)-Δ ⁹ -THC	20,000 (0.3%) 20,000 (0.3%)
(+/-)-11-Hydroxy-∆ ⁹ - THC	5,000 (1%)	Cannabinol Cannabidiol	>100,000 (<0.05%) >100,000 (<0.05%)
TRA 200 cis-Tramadol O-Desmethyl-cis-	200 (100%) 15,000 (1.33%)	N-Desmethyl-cis- Tramadol	800 (25%)
Tramadol Venlafaxine	>100,000 (<0.2%)	O- Desmethylvenlafaxine	>10,000 (<2%)

D. INTERFERENCE

The following compounds were evaluated for potential positive or negative interference with the Know Drug Test Cup. All compounds were dissolved in drug control solutions 50% below and 50% above their respective cutoff concentrations and tested with the Know Drug Test Cup. An unaltered sample was used as control. No interference was found for following compounds at a concentration of 100 $\mu g/mL$.

Acetaminophen	4-Dimethylaminoantipyrine	Niacinamide
Acetone	Diphenhydramine	(+/-)-Norephedrine
Albumin	Dopamine	Oxalic acid
Ampicillin	(+/-)-Isoproterenol	Penicillin-G
Ascorbic acid	(+)-Naproxen	Pheniramine
Aspartame	Erythromycin	Phenothiazine
Aspirin	Ethanol (except EtG)	L-Phenylephrine
Atropine	Furosemide	B-Phenylethylamine
Benzocaine	Glucose	Procaine
Bilirubin	Guaiacol glyceryl ether	Quinidine
Caffeine	Hemoglobin	Ranitidine
Chloroquine	Ibuprofen	Riboflavin
(+)-Chlorpheniramine	(+/-)-Isoproterenol	Sodium chloride
(+/-)-Chlorpheniramine	Levorphanol	Sulindac
Creatine	Lidocaine	Theophylline
Dexbrompheniramine	(1R,2S)-(-)-n-Methylephedrine	Tyramine
Dextromethorphan		

Clinical specimens are evaluated for potential positive or negative interference with each test strip lot contained within the Know Drug Test Cup. No false positive or false negative results were observed with the following clinical specimens: Zantac (ranitidine), Zoloft (sertraline), Protonix (pantoprazole), Strattera (atomoxetine), Aleve (naproxen), Neurontin (gabapentin), Lyrica (pregabalin).

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