



Multi-Drug Rapid Test Panel (Urine)

Package Insert

English

Instruction Sheet for testing of any combination of the following drugs:

AMP/BAR/BZO/BUP/COC/THC/MTD/MET/MDMA/MOP/MQL/OPV/PCP/PPX/TCA/TRA/KET/OXY/COT/EDDP/FYL/K2/ETG/K2+ZOL/MCAT/MEP/UR-144

A rapid test for the simultaneous, qualitative detection of multiple drugs and drug metabolites in human urine. For healthcare professionals including professionals at point of care sites. Immunoassay for *in vitro* diagnostic use only.

【INTENDED USE】

The Multi-Drug Rapid Test Panel is a rapid chromatographic immunoassay for the qualitative detection of multiple drugs and drug metabolites in urine at the following cut-off concentrations:

Test	Calibrator	Cut-off (ng/mL)
Amphetamine (AMP1,000)	d-Amphetamine	1,000
Amphetamine (AMP 500)	d-Amphetamine	500
Amphetamine (AMP 300)	d-Amphetamine	300
Barbiturates (BAR 300)	Secobarbital	300
Barbiturates (BAR 200)	Secobarbital	200
Benzodiazepines (BZO 500)	Oxazepam	500
Benzodiazepines (BZO 300)	Oxazepam	300
Benzodiazepines (BZO 200)	Oxazepam	200
Benzodiazepines (BZO 100)	Oxazepam	100
Buprenorphine (BUP)	Buprenorphine	10
Cocaine (COC 300)	Benzoylcegonine	300
Cocaine (COC150)	Benzoylcegonine	150
Cocaine (COC 100)	Benzoylcegonine	100
EDDP300	2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine	300
EDDP100	2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine	100
Ethyl Glucuronide (ETG)	Ethyl Glucuronide	500
Marijuana (THC150)	11-nor-Δ9-THC-9 COOH	150
Marijuana (THC 50)	11-nor-Δ9-THC-9 COOH	50
Marijuana (THC 25)	11-nor-Δ9-THC-9 COOH	25
Marijuana (THC 20)	11-nor-Δ9-THC-9 COOH	20
Mephedrone (MEP)	Mephedrone	500
Methadone (MTD 300)	Methadone	300
Methadone (MTD 200)	Methadone	200
Methamphetamine (MET 1,000)	d-Methamphetamine	1,000
Methamphetamine (MET 500)	d-Methamphetamine	500
Methamphetamine (MET 300)	d-Methamphetamine	300
Methcathinone (MCAT)	Methcathinone	1,000
Methylenedioxyamphetamine (MDMA 500)	d,l-Methylenedioxyamphetamine	500
Methylenedioxyamphetamine (MDMA 1,000)	d,l-Methylenedioxyamphetamine	1,000
Methylenedioxyamphetamine (MDMA 250)	d,l-Methylenedioxyamphetamine	250
Methylenedioxyamphetamine (MDMA 300)	d,l-Methylenedioxyamphetamine	300
Morphine (MOP 300)	Morphine	300
Morphine (MOP 100)	Morphine	100
Methaqualone (MQL)	Methaqualone	300
Opiate (OPI 2,000)	Morphine	2,000
Opiate (OPI 1,000)	Morphine	1,000
Phencyclidine (PCP)	Phencyclidine	25
Propoxyphene (PPX)	Propoxyphene	300
Tricyclic Antidepressants (TCA)	Nortriptyline	1,000
Tramadol (TRA)	Tramadol	100
Ketamine (KET 1,000)	Ketamine	1,000
Ketamine (KET 500)	Ketamine	500
Ketamine (KET 300)	Ketamine	300
Oxycodone (OXY)	Oxycodone	100
Cotinine (COT200)	Cotinine	200
Cotinine (COT100)	Cotinine	100
Fentanyl (FYL20)	Norfentanyl	20

Fentanyl (FYL10)	Norfentanyl	10
Synthetic Marijuana (K2-50)	JWH-073, JWH-018	50
Synthetic Marijuana (K2-30)	JWH-073, JWH-018	30
Synthetic Marijuana (K2+)	AB-PINACA pentanoic acid metabolite	10
UR-144	UR-144 5-Pentanoic acid metabolite	25
Zolpidem (ZOL)	Zolpidem	50

Configurations of the Multi-Drug Rapid Test Panel come with any combination of the above listed drug analytes. This assay provides only a preliminary analytical test result. A more specific alternate chemical method must be used in order to obtain a confirmed analytical result. Gas chromatography/mass spectrometry (GC/MS) is the preferred confirmatory method. Clinical consideration and professional judgment should be applied to any drug of abuse test result, particularly when preliminary positive results are indicated.

【SUMMARY】

The Multi-Drug Rapid Test Panel is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes monoclonal antibodies to selectively detect elevated levels of specific drugs in urine.

Amphetamine (AMP 1,000)

Amphetamine is a Schedule II controlled substance available by prescription (Dexedrine®) and is also available on the illicit market. Amphetamines are a class of potent sympathomimetic agents with therapeutic applications. They are chemically related to the human body's natural catecholamines: epinephrine and norepinephrine. Acute higher doses lead to enhanced stimulation of the central nervous system (CNS) and induce euphoria, alertness, reduced appetite, and a sense of increased energy and power. Cardiovascular responses to amphetamines include increased blood pressure and cardiac arrhythmias. More acute responses produce anxiety, paranoia, hallucinations, and psychotic behavior. The effects of Amphetamines generally last 2-4 hours following use and the drug has a half-life of 4-24 hours in the body. About 30% of amphetamines are excreted in the urine in unchanged form, with the remainder as hydroxylated and deaminated derivatives.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of amphetamines in urine exceeds 1,000ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹

Amphetamine (AMP 500)

The Multi-Drug Rapid Test Panel yields a positive result when amphetamines in urine exceed 500ng/mL. See Amphetamine (AMP 1,000) for the summary.

Amphetamine (AMP 300)

The Multi-Drug Rapid Test Panel yields a positive result when amphetamines in urine exceed 300ng/mL. See Amphetamine (AMP 1,000) for the summary.

Barbiturates (BAR 300)

Barbiturates are CNS depressants. They are used therapeutically as sedatives, hypnotics, and anticonvulsants barbiturates are almost always taken orally as capsules or tablets. The effects resemble those of intoxication with alcohol. Chronic use of barbiturates leads to tolerance and physical dependence.

Short-acting barbiturates taken at 400 mg/day for 2-3 months can produce a clinically significant degree of physical dependence. Withdrawal symptoms experienced during periods of drug abstinence can be severe enough to cause death.

Only a small amount (less than 5%) of most barbiturates are excreted unaltered in the urine.

The approximate detection time limits for barbiturates are:

Short acting (e.g. Secobarbital)	100 mg PO (oral)	4.5 days
Long acting (e.g. Phenobarbital)	400 mg PO (oral)	7 days ²

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of secobarbital in urine exceeds 300ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for Barbiturate positive specimens.

Barbiturates (BAR 200)

The Multi-Drug Rapid Test Panel yields a positive result when secobarbital in urine exceed 200ng/mL. See Barbiturates (BAR 300) for the summary.

Benzodiazepines (BZO 500)

Benzodiazepines are medications that are frequently prescribed for the symptomatic treatment of anxiety and sleep disorders. They produce their effects via specific receptors involving a neurochemical called gamma aminobutyric acid (GABA). Because they are safer and more effective, benzodiazepines have replaced barbiturates in the treatment of both anxiety and insomnia. Benzodiazepines are also used as sedatives before some surgical and medical procedures, and for the treatment of seizure disorders and alcohol withdrawal.

Risk of physical dependence increases if benzodiazepines are taken regularly (e.g., daily) for more than a few months, especially at higher than normal doses. Stopping abruptly can bring on such symptoms as trouble sleeping, gastrointestinal upset, feeling unwell, loss of appetite, sweating, trembling, weakness, anxiety and changes in perception.

Only trace amounts (less than 1%) of most benzodiazepines are excreted unaltered in the urine; most of the concentration in urine is conjugated drug. The detection period for benzodiazepines in urine is 3-7 days.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of oxazepam in urine exceeds 500ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for benzodiazepine positive specimens.

Benzodiazepines (BZO 300)

The Multi-Drug Rapid Test Panel yields a positive result when oxazepam in urine exceed 300ng/mL. See Benzodiazepines (BZO 500) for the summary.

Benzodiazepines (BZO 200)

The Multi-Drug Rapid Test Panel yields a positive result when oxazepam in urine exceed 200ng/mL. See Benzodiazepines (BZO 500) for the summary.

Benzodiazepines (BZO 100)

The Multi-Drug Rapid Test Panel yields a positive result when oxazepam in urine exceed

100ng/mL. See Benzodiazepines (BZO 500) for the summary.

Buprenorphine (BUP)

Buprenorphine is a potent analgesic often used in the treatment of opioid addiction. The drug is sold under the trade names Subutex™, Buprenex™, Temgesic™ and Suboxone™, which contain Buprenorphine HCl alone or in combination with Naloxone HCl. Therapeutically, Buprenorphine is used as a substitution treatment for opioid addicts. Substitution treatment is a form of medical care offered to opiate addicts (primarily heroin addicts) based on a similar or identical substance to the drug normally used. In substitution therapy, Buprenorphine is as effective as Methadone but demonstrates a lower level of physical dependence. Concentrations of free Buprenorphine and Norbuprenorphine in urine may be less than 1 ng/ml after therapeutic administration, but can range up to 20 ng/ml in abuse situations. The plasma half-life of Buprenorphine is 2-4 hours.³ While complete elimination of a single dose of the drug can take as long as 6 days, the window of detection for the parent drug in urine is thought to be approximately 3 days.

Substantial abuse of Buprenorphine has also been reported in many countries where various forms of the drug are available. The drug has been diverted from legitimate channels through theft, doctor shopping, and fraudulent prescriptions, and been abused via intravenous, sublingual, intranasal and inhalation routes.

The Multi-Drug Rapid Test Panel yields a positive result when the Buprenorphine in urine exceeds 10ng/mL.

Cocaine(COC 300)

Cocaine is a potent central nervous system stimulant and a local anesthetic. Initially, it brings about extreme energy and restlessness while gradually resulting in tremors, over-sensitivity and spasms. In large amounts, cocaine causes fever, unresponsiveness, difficulty in breathing and unconsciousness.

Cocaine is often self-administered by nasal inhalation, intravenous injection and free-base smoking. It is excreted in the urine in a short time primarily as benzoylecgonine.^{3,4} Benzoylecgonine, a major metabolite of cocaine, has a longer biological half-life (5-8 hours) than cocaine (0.5-1.5 hours), and can generally be detected for 24-48 hours after cocaine exposure.⁴

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of benzoylecgonine in urine exceeds 300ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹

Cocaine (COC 150)

The Multi-Drug Rapid Test Cassette yields a positive result when the concentration of benzoylecgonine in urine exceeds 150ng/mL. See Cocaine (COC 300) for the summary.

Cocaine (COC 100)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of benzoylecgonine in urine exceeds 100ng/mL. See Cocaine (COC 300) for the summary.

Marijuana (THC150)

THC (Δ9-tetrahydrocannabinol) is the primary active ingredient in cannabis (marijuana). When smoked or orally administered, THC produces euphoric effects. Users have impaired short-term memory and slowed learning. They may also experience transient episodes of confusion and anxiety. Long-term, relatively heavy use may be associated with behavioral disorders. The peak effect of marijuana administered by smoking occurs in 20-30 minutes and the duration is 90-120 minutes after one cigarette. Elevated levels of urinary metabolites are found within hours of exposure and remain detectable for 3-10 days after smoking. The main metabolite excreted in the urine is 11-nor-Δ9-tetrahydrocannabinol-9-carboxylic acid (THC-COOH).

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of THC-COOH in urine exceeds 150ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹

Marijuana (THC50)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of THC-COOH in urine exceeds 50ng/mL. See Marijuana (THC150)for the summary.

Marijuana (THC25)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of THC-COOH in urine exceeds 25ng/mL. See Marijuana (THC150) for the summary.

Marijuana (THC20)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of THC-COOH in urine exceeds 20 ng/mL. See Marijuana (THC150) for the summary.

Methadone (MTD300)

Methadone is a narcotic analgesic prescribed for the management of moderate to severe pain and for the treatment of opiate dependence (heroin, Vicodin, Percocet, morphine). The pharmacology of oral methadone is very different from IV methadone. Oral methadone is partially stored in the liver for later use. IV methadone acts more like heroin. In most states you must go to a pain clinic or a methadone maintenance clinic to beprescribed methadone.

Methadone is a long acting pain reliever producing effects that last from twelve to forty-eight hours. Ideally, methadone frees the client from the pressures of obtaining illegal heroin, from the dangers of injection, and from the emotional roller coaster that most opiates produce. Methadone, if taken for long periods and at large doses, can lead to a very long withdrawal period. The withdrawals from methadone are more prolonged and troublesome than those provoked by heroin cessation, yet the substitution and phased removal of methadone is an acceptable method of detoxification for patients and therapists.⁷

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of methadone in urine exceeds 300ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for methadone positive specimens.

Methadone (MTD200)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of methadone in urine exceeds 200ng/mL. See Methadone (MTD300)for the summary.

Methamphetamine (MET 1,000)

Methamphetamine is an addictive stimulant drug that strongly activates certain systems in the

brain. Methamphetamine is closely related chemically to Amphetamine, but the central nervous system effects of Methamphetamine are greater. Methamphetamine is made in illegal laboratories and has a high potential for abuse and dependence. The drug can be taken orally, injected, or inhaled. Acute higher doses lead to enhanced stimulation of the central nervous system and induce euphoria, alertness, reduced appetite, and a sense of increased energy and power. Cardiovascular responses to Methamphetamine include increased blood pressure and cardiac arrhythmias. More acute responses produce anxiety, paranoia, hallucinations, psychotic behavior, and eventually, depression and exhaustion.

The effects of Methamphetamine generally last 2-4 hours and the drug have a half-life of 9-24 hours in the body. Methamphetamine is excreted in the urine primarily as Amphetamine, and oxidized and deaminated derivatives. However, 10-20% of Methamphetamine is excreted unchanged. Thus, the presence of the parent compound in the urine indicates Methamphetamine use. Methamphetamine is generally detectable in the urine for 3-5 days, depending on urine pH level.

The Multi-Drug Rapid Test Panel is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of Methamphetamine in urine. The Multi-Drug Rapid Test Panel yields a positive result when the Methamphetamine in urine exceeds 1,000ng/mL.

Methamphetamine (MET 500)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Methamphetamine in urine exceeds 500ng/mL. See Methamphetamine (MET1,000) for the summary.

Methamphetamine (MET 300)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Methamphetamine in urine exceeds 300ng/mL. See Methamphetamine (MET1,000) for the summary.

Methylenedioxyamphetamine (MDMA500)

Methylenedioxyamphetamine (ecstasy) is a designer drug first synthesized in 1914 by a German drug company for the treatment of obesity.⁵ Those who take the drug frequently report adverse effects, such as increased muscle tension and sweating. MDMA is not clearly a stimulant, although it has, in common with amphetamine drugs, a capacity to increase blood pressure and heart rate. MDMA does produce some perceptual changes in the form of increased sensitivity to light, difficulty in focusing, and blurred vision in some users. Its mechanism of action is thought to be via release of the neurotransmitter serotonin. MDMA may also release dopamine, although the general opinion is that this is a secondary effect of the drug (Nichols and Oberlander, 1990). The most pervasive effect of MDMA, occurring in virtually all people who took a reasonable dose of the drug, was to produce a clenching of the jaws.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Methylenedioxyamphetamine in urine exceeds 500ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for Methylenedioxyamphetamine positive specimens.

Methylenedioxyamphetamine (MDMA1,000)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of methylenedioxyamphetamine in urine exceeds 1,000ng/mL. See methylenedioxyamphetamine (MDMA500) for the summary.

Methylenedioxyamphetamine (MDMA250)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of methylenedioxyamphetamine in urine exceeds 250ng/mL. See methylenedioxyamphetamine (MDMA500) for the summary.

Methylenedioxyamphetamine (MDMA300)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of methylenedioxyamphetamine in urine exceeds 300ng/mL. See methylenedioxyamphetamine (MDMA500) for the summary.

Morphine (MOP 300)

Opiate refers to any drug that is derived from the opium poppy, including the natural products, morphine and codeine, and the semi-synthetic drugs such as heroin. Opioid is more general, referring to any drug that acts on the opioid receptor.

Opioid analgesics comprise a large group of substances which control pain by depressing the CNS. Large doses of morphine can produce higher tolerance levels, physiological dependency in users, and may lead to substance abuse. Morphine is excreted unmetabolized, and is also the major metabolic product of codeine and heroin. Morphine is detectable in the urine for several days after an opiate dose.²

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of morphine in urine exceeds 300ng/mL.

Morphine (MOP 100)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of morphine in urine exceeds 100ng/mL. See Morphine (MOP300) for the summary.

Morphine/Opiate (OPI 2,000)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of morphine in urine exceeds 2,000ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹ See morphine (MOP 300) for summary.

Morphine/Opiate (OPI 1,000)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of morphine in urine exceeds 1,000ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹ See morphine (MOP 300) for summary.

Methaqualone (MQL)

Methaqualone (Quaalude, Sopor) is a quinazoline derivative that was first synthesized in 1951 and found clinically effective as a sedative and hypnotic in 1956.¹⁰It soon gained popularity as a drug of abuse and in 1984 was removed from the US market due to extensive misuse. It is occasionally encountered in illicit form, and is also available in European countries in combination with diphenhydramine (Mandrax). Methaqualone is extensively metabolized *in vivo* principally by hydroxylation at every possible position on the molecule. At least 12

metabolites have been identified in the urine.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Methaqualone in urine exceeds 300ng/mL.

Phencyclidine (PCP)

Phencyclidine, also known as PCP or Angel Dust, is a hallucinogen that was first marketed as a surgical anesthetic in the 1950's. It was removed from the market because patients receiving it became delirious and experienced hallucinations.

PCP is used in powder, capsule, and tablet form. The powder is either snorted or smoked after mixing it with marijuana or vegetable matter. PCP is most commonly administered by inhalation but can be used intravenously, intra-nasally, and orally. After low doses, the user thinks and acts swiftly and experiences mood swings from euphoria to depression. Self-injurious behavior is one of the devastating effects of PCP.

PCP can be found in urine within 4 to 6 hours after use and will remain in urine for 7 to 14 days, depending on factors such as metabolic rate, user's age, weight, activity, and diet.⁶ PCP is excreted in the urine as an unchanged drug (4% to 19%) and conjugated metabolites (25% to 30%).⁵

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of phencyclidine in urine exceeds 25 ng/mL. This is the suggested screening cut-off for positive specimens set by the Substance Abuse and Mental Health Services Administration (SAMHSA, USA).¹

Propoxyphene (PPX)

Propoxyphene (PPX) is a narcotic analgesic compound bearing structural similarity to methadone. As an analgesic, propoxyphene can be from 50-75% as potent as oral codeine. Darvocet™, one of the most common brand names for the drug, contains 50-100 mg of propoxyphene napsylate and 325-650 mg of acetaminophen. Peak plasma concentrations of propoxyphene are achieved from 1 to 2 hours post dose. In the case of overdose, propoxyphene blood concentrations can reach significantly higher levels.

In humans, propoxyphene is metabolized by N-demethylation to yield norpropoxyphene. Norpropoxyphene has a longer half-life (30 to 36 hours) than parent propoxyphene (6 to 12 hours). The accumulation of norpropoxyphene seen with repeated doses may be largely responsible for resultant toxicity.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Propoxyphene or Norpropoxyphene in urine exceeds 300 ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for propoxyphene positive specimens.

Tricyclic Antidepressants (TCA)

TCA (Tricyclic Antidepressants) are commonly used for the treatment of depressive disorders. TCA overdoses can result in profound CNS depression, cardiotoxicity and anticholinergic effects. TCA overdose is the most common cause of death from prescription drugs. TCAs are taken orally or sometimes by injection. TCAs are metabolized in the liver. Both TCAs and their metabolites are excreted in urine mostly in the form of metabolites for up to ten days.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of nortriptyline in urine exceeds 1,000 ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for tricyclic antidepressant positive specimens.

Tramadol (TRA)

Tramadol(TRA) is a quasi-narcotic analgesic used in the treatment of moderate to severe pain. It is a synthetic analog of codeine, but has a low binding affinity to the mu-opioid receptors. Large doses of tramadol can develop tolerance and physiological dependency and lead to its abuse. Tramadol is extensively metabolized after oral administration. Approximately 30% of the dose is excreted in the urine as unchanged drug, whereas 60% is excreted as metabolites. The major pathways appear to be N- and O- demethylation, glucuronidation or sulfation in the liver.

The Multi-Drug Rapid Test Panel is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of Tramadol in urine. The Multi-Drug Rapid Test Panel yields a positive result when Tramadol in urine exceed 100ng/mL.

Ketamine(KET1,000)

Ketamine is a dissociative anesthetic developed in 1963 to replace PCP (Phencyclidine). While Ketamine is still used in human anesthesia and veterinary medicine, it is becoming increasingly abused as a street drug. Ketamine is molecularly similar to PCP and thus creates similar effects including numbness, loss of coordination, sense of invulnerability, muscle rigidity, aggressive / violent behavior, slurred or blocked speech, exaggerated sense of strength, and a blank stare. There is depression of respiratory function but not of the central nervous system, and cardiovascular function is maintained. The effects of Ketamine generally last 4-6 hours following use. Ketamine is excreted in the urine as unchanged drug (2.3%) and metabolites (96.8%).¹

The Multi-Drug Rapid Test Panel is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of Ketamine in urine. The Multi-Drug Rapid Test Panel yields a positive result when Ketamine in urine exceeds 1,000ng/mL.

Ketamine (KET500)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Ketamine in urine exceeds 500ng/mL. See Ketamine(KET1,000) for the summary.

Ketamine (KET300)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Ketamine in urine exceeds 300ng/mL. See Ketamine(KET1,000) for the summary.

Oxycodone (OXY)

Oxycodone is a semi-synthetic opioid with a structural similarity to codeine. The drug is manufactured by modifying the baine, an alkaloid found in the opium poppy. Oxycodone, like all opiate agonists, provides pain relief by acting on opioid receptors in the spinal cord, brain, and possibly directly in the affected tissues. Oxycodone is prescribed for the relief of moderate to high pain under the well-known pharmaceutical trade names of OxyContin®, Tylox®, Percodan® and Percocet®. While Tylox®, Percodan® and Percocet® contain only small doses of oxycodone hydrochloride combined with other analgesics such as acetaminophen or

aspirin, OxyContin consists solely of oxycodone hydrochloride in a time-release form. Oxycodone is known to metabolize by demethylation into oxymorphone and noroxycodone. In a 24-hour urine, 33-61% of a single, 5 mg oral dose is excreted with the primary constituents being unchanged drug (13-19%), conjugated drug (7-29%) and conjugated oxymorphone (13-14%). The window of detection for Oxycodone in urine is expected to be similar to that of other opioids such as morphine.

The Multi-Drug Rapid Test Panel is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of Oxycodone in urine. The Multi-Drug Rapid Test Panel yields a positive result when Oxycodone in urine exceeds 100ng/mL.

Cotinine (COT 200)

Cotinine is the first-stage metabolite of nicotine, a toxic alkaloid that produces stimulation of the autonomic ganglia and central nervous system when in humans. Nicotine is a drug to which virtually every member of a tobacco-smoking society is exposed whether through direct contact or second-hand inhalation. In addition to tobacco, nicotine is also commercially available as the active ingredient in smoking replacement therapies such as nicotine gum, transdermal patches and nasal sprays.

In a 24-hour urine, approximately 5% of a nicotine dose is excreted as unchanged drug with 10% as cotinine and 35% as hydroxycotinine; the concentrations of other metabolites are believed to account for less than 5%.¹⁰While cotinine is thought to be an inactive metabolite, it's elimination profile is more stable than that of nicotine which is largely urine pH dependent. As a result, cotinine is considered a good biological marker for determining nicotine use. The plasma half-life of nicotine is approximately 60 minutes following inhalation or parenteral administration.¹¹Nicotine and cotinine are rapidly eliminated by the kidney; the window of detection for cotinine in urine at a cutoff level of 200ng/mL is expected to be up to 2-3 days after nicotine use.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Cotinine in urine exceeds 200ng/mL.

Cotinine (COT 100)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Cotinine in urine exceeds 100ng/mL. See Cotinine(COT200) for the summary.

2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP 300)

Methadone is an unusual drug in that its primary urinary metabolites (EDDP and EMDP) are cyclic in structure, making them very difficult to detect using immunoassays targeted to the native compound.¹⁰Exacerbating this problem, there is a subsection of the population classified as "extensive metabolizers" of methadone. In these individuals, a urine specimen may not contain enough parent methadone to yield a positive drug screen even if the individual is in compliance with their methadone maintenance. EDDP represents a better urine marker for methadone maintenance than unmetabolized methadone.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of EDDP in urine exceeds 300ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for EDDP positive specimens.

2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP 100)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of EDDP in urine exceeds 100ng/mL. See EDDP 300 for the summary.

Fentanyl (FYL20)

Fentanyl, belongs to powerful narcotics analgesics, and is a µ special opiates receptor stimulant. Fentanyl is one of the varieties that been listed in management of United Nations "Single Convention of narcotic drug in 1961". Among the opiates agents that under international control, fentanyl is one of the most commonly used to cure moderate to severe pain¹. After continuous injection of fentanyl, the sufferer will have the performance of protracted opioid abstinence syndrome, such as ataxia and irritability etc.^{2,3}, which presents the addiction after taking fentanyl in a long time. Compared with drug addicts of amphetamine, drug addicts who take fentanyl mainly have got the possibility of higher infection rate of HIV, more dangerous injection behavior and more lifelong medication overdose⁴.

The FYL Rapid Test Panel (Urine) is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of norfentanyl¹ in urine. The FYL Rapid Test Panel (Urine) yields a positive result when norfentanyl¹ in urine exceeds 20ng/mL.

Fentanyl (FYL 10)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Norfentanyl¹ in urine exceeds 10ng/mL. See FYL20 for the summary.

Synthetic Marijuana (K2-50)

Synthetic Marijuana or K2 a psychoactive herbal and chemical product that when consumed, mimics the effects of Marijuana. It is best known by the brandnames K2 and Spice, both of which have largely become genericized trade marks used to refer to any synthetic Marijuana product. The studies suggest that synthetic marijuana intoxication is associated with acute psychosis, worsening of previously stable psychotic disorders, and also may have the ability to trigger chronic (long-term) psychotic disorder among vulnerable individuals such as those with a family history of mental illness.

Elevated levels of urinary metabolites are found within hours of exposure and remain detectable for 72 hours after smoking (depending on usage/dosage).As of March 1, 2011, five cannabinoids, JWH-018, JWH-073, CP-47, JWH-200and cannabicyclo hexanol are now illegal in the US because these substances have the potential to be extremely harmful and, therefore, pose an imminenthazard to the public safety.

The Multi-Drug Rapid Test Panel yields a positive result when the synthetic marijuana metabolite in urine exceeds 50ng/mL.

Synthetic Marijuana (K2-30)

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of the synthetic marijuana metabolite in urine exceeds 30ng/mL. See K2-50 for the summary.

Ethyl Glucuronide (ETG 500)

Ethyl glucuronide (ETG) is a metabolite of ethyl alcohol which is formed in the body by glucuronidation following exposure to ethanol, usually from drinking alcoholic beverages. After Alcohol is absorbed by the body, 90-95% Alcohol is oxidized with the help of emzymes. Only

0.5%-1.5% Alcohol integrates with glucose into Ethyl Glucuronide. ETG remains in urine longer period than Alcohol. When low Alcohol volume is drunk (such as 0.1g/kg), ETG detection window varies from 13 - 20hours after drinking. However, maximum ETG detection window can be 80 hours for high Alcohol volume drinking.

The Multi-Drug Rapid Test Panel yields a positive result when the Ethyl Glucuronide in urine exceeds 500ng/mL.

Synthetic Marijuana (K2+)

Synthetic cannabinoids are designer drugs that are structurally different from THC (the active component of cannabis) but act in similar ways to affect the cannabinoid receptor system in the brain. Over the past few years, this class of designer drugs has mainstreamed to become globally popular and increasingly problematic. Synthetic cannabinoids fall into seven major structural groups:

1. Naphthoylindoles (e.g. JWH-018, JWH-073)
2. Naphthylmethylindoles (JWH-175, JWH-184, JWH-185, JWH-199)
3. Naphthoylpyrroles (JWH-145, JWH-146, JWH-147, etc)
4. Naphthylmethylindenes (JWH-176)
5. Phenylacetylindoles (JWH-250, JWH-251, JWH-302)
6. Cyclohexylphenols (e.g. CP 47,497)

7. Dibenzopyrans (classic cannabinoid structure such as HU-210 and HU-211)

New structural group: Aminoalkylindazoles (AB-PINACA, AB-FUBINACA, AB-CHMINACA, etc)In their original, chemical state, synthetic cannabinoids are liquid. The drugs are usually sold combined with dried herbs that emulate marijuana and are intended for smoking although powdered versions are also available. As laws are written to control these drugs with each new synthetic cannabinoid class as they are introduced to the market, the older versions (JWH-018,JWH-073) are seen less frequently than years past. The current trend shows the aminoalkylindazole based drugs such as AB-PINACA, AB-FUBINACA and AB-CHMINACA. The Synthetic Marijuana K2+(AB-Pinaca) Rapid Test Panel (Urine) is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of Synthetic Marijuana(K2+) metabolite in human urine. The Synthetic Marijuana K2+(AB-Pinaca) Rapid Test Panel (Urine) yields a positive result when the AB-PINACA pentanoic acid metabolite in urine exceeds10ng/mL.

Zolpidem (ZOL50)

Zolpidem is a non-benzodiazepine hypnotic sold under the trade names Ambien®, Stilnox® and Edluar® for the treatment of insomnia. Zolpidem has not adequately demonstrated effectiveness in maintaining sleep, unless delivered in a controlled-release (CR) form. However, it is effective in initiating sleep.It works quickly, usually within 15 minutes, and has a short half-life of 2-3 hours. Because the characteristic of quick effect, low side effect, etc, Zolpidem has the trend of gradually replacing the barbiturates and benzodiazepine sleeping pills. The result of its widely used and easily obtained, the criminal cases showed a trend of rising.Zolpidem Phenyl-4-carboxylic acid is the major urinary metabolite of zolpidem, accounting for 51% of an administered dose. Literature references indicate the metabolite can be found in urine after ingesting a single therapeutic dose of zolpidem, for 2-3 days. Only 1% Zolpidem was extracted with original version by urine.^{12,13}

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Zolpidem Phenyl-4-carboxylic acid in urine exceeds 50ng/mL.

Methcathinone (MCAT 1000)

Methcathinone, a methyl derivative of cathinone, is an illicit drug also known as ephedrone. It is a stimulant found in the "khat" plant, Catha edulis, which can easily be synthesized from pseudoephedrine. It is used as a recreational drug due to its potent stimulant and euphoric effects and is considered to be addictive, with both physical and psychological withdrawal occurring if its use is discontinued after prolonged or high-dosage administration. It is usually snorted, but can be smoked, injected, or taken orally. Effects of this drug typically last from 4 to 6 hours.

Methcathinone is listed as a Schedule I controlled substance by the Convention on Psychotropic Substances and the United States' Controlled Substances Act, and as such it is not considered to be safe or effective in the treatment, diagnosis, prevention, or cure of any disease, and has no approved medical use. Possession and distribution of methcathinone for the purpose of human consumption is illegal under any/all circumstances in the United States and is either illegal or highly regulated in most jurisdictions world-wide.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Methcathinone in urine exceeds 100ng/mL.

Mephedrone (MEP 500)

Mephedrone, also known as 4-methylmethcathinone(4-MMC) or 4-methylephedrone, is a synthetic stimulant drug of the amphetamine and cathinone classes. Slang names include bath salts, drone, M-CAT, White Magic and meow meow. It is chemically similar to the cathinone compounds found in the khat plant of eastern Africa.

Mephedrone has been used as a recreational drug in Europe and elsewhere in the world since 2007. It comes in the form of tablets or a powder, which users can swallow, snort or inject, producing similar effects to MDMA, amphetamines and cocaine. In addition to its stimulant effects, mephedrone produces side effects, of which teeth grinding are the most common. A number of metabolites are possible, however the n-demethyl metabolite of Mephedrone will be 4-Methylcathinone. This metabolite appears to be nearly inactive as a Monoamine Oxidase Inhibitor. On further metabolism of this metabolite one of the possible metabolites is 4-Methylnorephedrine, caused by the reduction of the Keto.

The Multi-Drug Rapid Test Panel yields a positive result when the concentration of Mephedrone in urine exceeds 500ng/mL.

UR-144

UR-144 5-Pentanoic acid metabolite, a primary urinary metabolite of UR-144, a synthetic cannabinoid found in many blends of the herbal mixture Spice also known as K2, Genie, or Demon, which has been detected in many 'legal highs', seized from the global drug market since the beginning of 2012.

(1-Pentyl-1H-indol-3-yl)(2,2,3,3-tetramethylcyclopropyl)methanone (UR-144) is a synthetic cannabinoid receptor agonist (SCRA) that binds to and activates CB1 and CB2 receptors and the currently available data also suggest that UR-144 shows selectivity towards the CB2 receptor. Although there is an increasing indication that some SCRAs have been associated with dependence producing features, studies related to UR-144 specifically are not available. Abuse potential: Clinical studies in humans could not be identified. Pharmacological investigations (in vitro and in vivo) confirmed that UR-144 shares similarities with Δ9-THC and other cannabinoid receptor agonists in its mechanisms of action, which was in alignment with the documented history of its use over several years since it emerged as a 'research chemical' around 2012. Most commonly, this substance is encountered in the form of smokable 'herbal mixtures' although other forms have also been identified

The UR-144 Rapid Test is a rapid urine screening test that can be performed without the use of an instrument. The test utilizes a monoclonal antibody to selectively detect elevated levels of UR-144 5-Pentanoic acid metabolite in urine.

The Multi-Drug Rapid Test Panel yields a positive result when UR-144 5-Pentanoic acid metabolite in urine reaches 25 ng/mL.

【PRINCIPLE】

During testing, a urine specimen migrates upward by capillary action. A drug, if present in the urine specimen below its cut-off concentration, will not saturate the binding sites of its specific antibody. The antibody will then react with the drug-protein conjugate and a visible colored line will show up in the test region of the specific drug strip. The presence of drug above the cut-off concentration will saturate all the binding sites of the antibody. Therefore, the colored line will not form in the test region.

A drug-positive urine specimen will not generate a colored line in the specific test region of the strip because of drug competition, while a drug-negative urine specimen will generate a line in the test region because of the absence of drug competition.

To serve as a procedural control, a colored line will always appear at the control region, indicating that proper volume of specimen has been added and membrane wicking has occurred.

【REAGENTS】

Each test line contains anti-drug mouse monoclonal antibody and corresponding drug-protein conjugates. The control line contains goat anti-rabbit IgG polyclonal antibodies and rabbit IgG.

【PRECAUTIONS】

- For healthcare professionals including professionals at point of care sites.
- Immunoassay for *in vitro* diagnostic use only. The test panel should remain in the sealed pouch until use.
- All specimens should be considered potentially hazardous and handled in the same manner as an infectious agent.
- The used test panel should be discarded according to federal, state and local regulations.

【STORAGE AND STABILITY】

Store as packaged in the sealed pouch at 2-30°C. The test is stable through the expiration date printed on the sealed pouch. The test panels must remain in the sealed pouch until use. **DO NOT FREEZE.** Do not use beyond the expiration date.

【SPECIMEN COLLECTION AND PREPARATION】

Urine Assay

The urine specimen should be collected in a clean and dry container. Urine collected at any time of the day may be used. Urine specimens exhibiting visible precipitates should be centrifuged, filtered, or allowed to settle to obtain a clear specimen for testing.

Specimen Storage

Urine specimens may be stored at 2-8°C for up to 48 hours prior to testing. For prolonged storage, specimens may be frozen and stored below -20°C. Frozen specimens should be thawed and mixed well before testing.

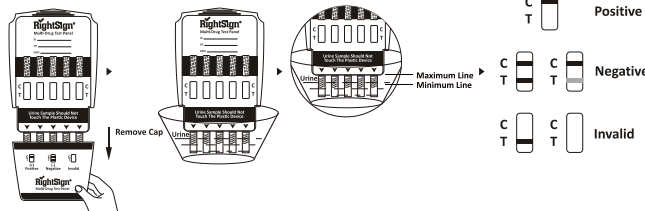
【MATERIALS】

- Test Panels
 - Package insert
 - Specimen collection container
 - timer
- Materials Required But Not Provided**

【DIRECTIONS FOR USE】

Allow the test panel, urine specimen, and/or controls to equilibrate to room temperature (15-30°C) prior to testing.

1. Bring the pouch to room temperature before opening it. Remove the test panel from the sealed pouch and use it within one hour.
2. Remove the cap.
3. With the arrow pointing toward the urine specimen, immerse the test panel vertically in the urine specimen for at least 10 to 15 seconds. **Immerse the strip to at least the level of the wavy lines, but not above the arrow on the test panel.**
4. Replace the cap and place the test panel on a non-absorbent flat surface.
5. Start the timer and wait for the colored line(s) to appear.
6. The result should be read at 5 minutes. Do not interpret the result after 10 minutes.



【INTERPRETATION OF RESULTS】

(Please refer to the illustration above)

NEGATIVE: * Two lines appear. A colored line appears in the Control region (C) and a colored line appears in the Test region (T). This negative result means that the concentrations in the urine sample are below the designated cut-off levels for a particular drug tested.

***NOTE:** The shade of the colored lines(s) in the Test region (T) may vary. The result should be considered negative whenever there is even a faint line.

POSITIVE: A colored line appears in the Control region (C) and NO line appears in the Test region (T). The positive result means that the drug concentration in the urine sample is greater than the designated cut-off for a specific drug.

INVALID: No line appears in the Control region (C). Insufficient specimen volume or incorrect procedural techniques are the most likely reasons for Control line failure. Read the directions again and repeat the test with a new test panel. If the result is still invalid, contact your manufacturer.

【QUALITY CONTROL】

A procedural control is included in the test. A line appearing in the control region (C) is considered an internal procedural control. It confirms adequate membrane wicking. Control standards are not supplied with this kit. However, it is recommended that positive and negative controls be tested as good laboratory practice to confirm the test procedure and to verify proper test performance.

【LIMITATIONS】

1. The Multi-Drug Rapid Test Panel provides only a qualitative, preliminary analytical result. A secondary analytical method must be used to obtain a confirmed result. Gas chromatography/mass spectrometry (GC/MS) is the preferred confirmatory method.^{1,10}
2. There is a possibility that technical or procedural errors, as well as interfering substances in the urine specimen may cause erroneous results.
3. Adulterants, such as bleach and/or alum, in urine specimens may produce erroneous results regardless of the analytical method used. If adulteration is suspected, the test should be repeated with another urine specimen.
4. A positive result does not indicate level or intoxication, administration route or concentration in urine.
5. A negative result may not necessarily indicate drug-free urine. Negative results can be obtained when drug is present but below the cut-off level of the test.
6. This test does not distinguish between drugs of abuse and certain medications.
7. A positive test result may be obtained from certain foods or food supplements.

【EXPECTED VALUES】

This negative result indicates that the drug concentration is below the detectable level. Positive result means the concentration of drug is above the detectable level.

【PERFORMANCE CHARACTERISTICS】

Accuracy

A side-by-side comparison was conducted using the Multi-Drug Rapid Test Panel and commercially available drug rapid tests. Testing was performed on approximately 250 specimens per drug type previously collected from subjects presenting for Drug Screen Testing. Presumptive positive results were confirmed by GC/MS, LC/MS or LC-LC/MS.

Method		GC/MS, LC/MS or LC-LC/MS		% agreement with GC/MS
Multi-Drug Rapid Test Panel		Positive	Negative	
AMP	Positive	161	4	97.0%
	Negative	5	210	98.1%
AMP	Positive	165	5	98.8%
	Negative	2	208	97.7%
AMP	Positive	168	3	99.4%
	Negative	1	208	98.6%
BAR	Positive	129	2	93.5%
	Negative	9	160	98.8%
BAR	Positive	135	2	94.4%
	Negative	8	155	98.7%
BZO	Positive	135	2	96.4%
	Negative	5	158	98.8%
BZO	Positive	136	2	97.1%
	Negative	4	158	98.8%
BZO	Positive	137	2	97.2%
	Negative	4	157	98.7%
BZO	Positive	138	2	97.9%
	Negative	3	157	98.7%
BUP	Positive	99	1	99.0%
	Negative	1	149	99.3%
COC	Positive	120	8	97.6%
	Negative	3	169	95.4%
COC	Positive	105	0	99.1%
	Negative	1	144	>99.9%
COC	Positive	126	12	98.4%
	Negative	2	165	93.2%
THC	Positive	127	5	97.7%
	Negative	3	185	97.4%

Method		GC/MS, LC/MS or LC-LC/MS		% agreement with GC/MS
Multi-Drug Rapid Test Panel		Positive	Negative	
THC 50	Positive	137	6	97.8%
	Negative	3	184	96.8%
THC 25	Positive	117	9	99.2%
	Negative	1	193	95.5%
THC 20	Positive	117	9	99.2%
	Negative	1	193	95.5%
MTD 300	Positive	123	4	99.2%
	Negative	1	172	97.7%
MTD 200	Positive	123	4	99.2%
	Negative	1	172	97.7%
MET 1,000	Positive	165	9	>99.9%
	Negative	0	176	95.1%
MET 500	Positive	168	6	>99.9%
	Negative	0	176	96.7%
MET 300	Positive	169	5	>99.9%
	Negative	0	176	97.2%
MDMA 1,000	Positive	129	0	99.2%
	Negative	1	180	>99.9%
MDMA 500	Positive	132	1	>99.9%
	Negative	0	172	99.4%
MDMA 250	Positive	125	5	96.9%
	Negative	4	116	95.9%
MDMA 300	Positive	125	5	96.9%
	Negative	4	116	95.9%
MOP 300	Positive	141	6	99.3%
	Negative	1	164	97.6%
MOP 100	Positive	142	5	>99.9%
	Negative	0	163	97.0%
MQL	Positive	98	2	99.0%
	Negative	1	149	98.7%
OPI 2000	Positive	95	10	>99.9%
	Negative	0	145	93.5%
OPI 1000	Positive	95	10	>99.9%
	Negative	0	145	93.5%
PCP	Positive	131	1	>99.9%
	Negative	0	181	99.5%
PPX	Positive	95	3	96.0%
	Negative	4	148	98.0%
TCA	Positive	122	15	97.6%
	Negative	3	210	93.3%
TRA	Positive	98	2	99.0%
	Negative	1	149	98.7%
KET 1,000	Positive	102	9	94.4%
	Negative	6	133	93.7%
KET 500	Positive	113	9	96.6%
	Negative	4	124	93.2%
KET 300	Positive	109	11	94.0%
	Negative	7	123	91.8%
OXY	Positive	104	1	98.1%
	Negative	2	143	99.3%
COT 200	Positive	87	4	94.6%
	Negative	5	154	97.4%
COT 100	Positive	91	3	95.8%
	Negative	4	152	98.1%
EDDP 300	Positive	82	5	98.8%
	Negative	1	112	95.7%
EDDP 100	Positive	87	6	96.7%
	Negative	3	104	94.5%
FYL 20	Positive	108	10	99.1%
	Negative	1	131	92.9%
FYL 10	Positive	110	13	99.1%
	Negative	1	126	90.6%
K2-50	Positive	62	3	96.9%
	Negative	2	233	98.7%
K2-30	Positive	66	3	98.5%
	Negative	1	230	98.7%
ETG 500	Positive	178	2	97.8%
	Negative	4	221	99.1%

Method		GC/MS, LC/MS or LC-LC/MS		% agreement with GC/MS
Multi-Drug Rapid Test Panel		Positive	Negative	
ZOL 50	Positive	148	2	98.0%
	Negative	3	236	99.2%
K2+(SMP)	Positive	4	0	>99%
	Negative	0	40	>99%
MCAT 1000	Positive	18	0	>99%
	Negative	0	132	>99%
MEP 500	Positive	15	0	>99%
	Negative	0	135	>99%
UR-144 25	Positive	48	1	96.0%
	Negative	2	49	98.0%

The following results were tabulated from these clinical studies:

% Agreement with Commercial Kit

	AMP 1,000	AMP 500	AMP 300	BAR 300	BAR 200	BZO 500	BZO 300	BZO 200	BZO 100	BUK	COC 300
Positive Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Negative Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Total Results	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%

	COC 150	COC 100	THC 150	THC 50	THC 25	MTD 300	MTD 200	MET 1,000	MET 500	MET 300
Positive Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Negative Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Total Results	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%

	MDMA 1,000	MDMA 500	MOP 300	MOP 100	MQL	PCP	PPX	KET 1,000	KET 500	KET 300
Positive Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Negative Agreement	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%
Total Results	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%	>99.9%

	K2 50	K2 30	OPI 2000	OPI 1000	TCA	TRA	OXY	COT 200	COT 100	EDDP 300	EDDP 100	FYL 20
Positive Agreement	*	*	*	*	*	*	*	*	*	*	*	*
Negative Agreement	*	*	*	*	*	*	*	*	*	*	*	*
Total Results	*	*	*	*	*	*	*	*	*	*	*	*

	FYL 10	ETG 500	ZOL 50	K2+(SMP) LC-MS/MS	THC 20	MDMA 250	MDMA 300	UR-144 25	MCAT 1000	MEP 500
Positive Agreement	*	*	*	*	*	*	*	*	*	*
Negative Agreement	*	*	*	*	*	*	*	*	*	*
Total Results	*	*	*	*	*	*	*	*	*	*

* Note: Based on GC/MS or LC-MS/MS data instead of Commercial Kit.

% Agreement with GC/MS, LC/MS or LC-MS/MS

	AMP 1,000	AMP 500	AMP 300	BAR 300	BAR 200	BZO 500	BZO 300	BZO 200	BZO 100	BUK	COC 300
Positive Agreement	97.0%	98.8%	99.4%	93.5%	94.4%	96.4%	97.1%	97.2%	97.9%	99.0%	97.6%
Negative Agreement	98.1%	97.7%	98.6%	98.8%	98.7%	98.8%	98.8%	98.7%	98.7%	99.3%	95.4%
Total Results	97.6%	98.2%	98.9%	96.3%	97.1%	97.7%	98.0%	98.0%	98.3%	99.2%	96.3%

	COC 150	COC 100	THC 150	THC 50	THC 25	MTD 300	MTD 200	MET 1,000	MET 500	MET 300	MQL
Positive Agreement	99.1%	98.4%	97.7%	97.8%	99.2%	99.2%	98.1%	>99.9%	>99.9%	>99.9%	99.0%
Negative Agreement	>99.9%	93.2%	97.4%	96.8%	95.5%	97.7%	97.9%	95.1%	96.7%	97.2%	98.7%
Total Results	99.6%	95.4%	97.5%	97.3%	96.9%	98.3%	98.0%	97.4%	98.3%	98.6%	98.8%

	MDMA 1,000	MDMA 500	MOP 300	MOP 100	OPI 2000	PCP	KET 1,000	KET 500	KET 300	K2 50	K2 30
Positive Agreement	99.2%	>99.9%	99.3%	>99.9%	>99.9%	>99.9%	94.4%	96.6%	94.0%	96.9%	98.5%
Negative Agreement	>99.9%	99.4%	97.6%	97.0%	93.5%	99.5%	93.7%	93.2%	91.8%	98.7%	98.7%
Total Results	99.7%	99.7%	97.8%	98.4%	96.0%	99.7%	94.0%	94.8%	92.8%	98.3%	98.7%

	PPX	TCA	TRA	OXY	COT 200	COT 100	EDDP 300	EDDP 100	FYL20	FYL10	ETG 500
Positive Agreement	96.0%	97.6%	99.0%	98.1%	94.6%	95.8%	98.8%	96.7%	99.1%	99.1%	97.8%
Negative Agreement	98.0%	93.3%	98.7%	99.3%	97.4%	98.1%	95.7%	94.5%	92.9%	90.6%	99.1%
Total Results	97.2%	94.9%	98.8%	98.8%	96.4%	97.2%	97.0%	95.5%	95.6%	94.4%	98.5%

	OPI 1000	ZOL 50	K2+	THC 20	MDMA 250	MDMA 300	MCAT 1000	MEP 500	UR-144 25
Positive Agreement	94.3%	98.0%	>99%	99.2%	96.9%	96.9%	>99.9%	>99.9%	96.0%
Negative Agreement	91.3%	99.2%	>99%	95.5%	95.9%	95.9%	>99.9%	>99.9%	98.0%
Total Results	92.8%	98.7%	>99%	96.9%	96.4%	96.4%	>99.9%	>99.9%	97.0%

Clinical samples for each drug were run using each of the Multi-Drug Rapid Test Panel by an untrained operator at a professional point of care site. Based on GC/MS or LC-MS/MS data, the operator obtained statistically similar positive agreement, negative agreement and overall agreement rates as trained laboratory personnel.

Precision

A study was conducted at three hospitals by untrained operators using three different lots of product to demonstrate the within run, between run and between operator precision. An identical card of coded specimens, containing drugs at concentrations of $\pm 50\%$ and $\pm 25\%$ cut-off level, was labeled, blinded and tested at each site. The results are given below:

AMPHETAMINE (AMP 1,000)

Amphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	9	1	8	2	8	2
1,250	10	2	8	2	8	2	8
1,500	10	0	10	0	10	0	10

AMPHETAMINE (AMP 500)

Amphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	8	2	8	2	8	2
625	10	2	8	2	8	2	8
750	10	0	10	0	10	0	10

AMPHETAMINE (AMP 300)

Amphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	7	3	8	2	8	2
375	10	2	8	2	8	2	8
450	10	0	10	0	10	0	10

BARBITURATES (BAR 300)

Secobarbital conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	8	2	8	2
375	10	2	8	1	9	2	8
450	10	0	10	0	10	0	10

BARBITURATES (BAR 200)

Secobarbital conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
100	10	10	0	10	0	10	0
150	10	9	1				

BENZODIAZEPINES (BZO 500)

Oxazepam conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	8	2	9	1	9	1
625	10	1	9	1	9	1	9
750	10	0	10	0	10	0	10

BENZODIAZEPINES (BZO 300)

Oxazepam conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	9	1	9	1
375	10	1	9	1	9	1	9
450	10	0	10	0	10	0	10

BENZODIAZEPINES (BZO 200)

Oxazepam conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
100	10	10	0	10	0	10	0
150	10	8	2	8	2	9	1
250	10	1	9	1	9	1	9
300	10	0	10	0	10	0	10

BENZODIAZEPINES (BZO 100)

Oxazepam conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	8	2	9	1
125	10	1	9	1	9	2	8
150	10	0	10	0	10	0	10

BUPRENORPHINE (BUP)

Buprenorphine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
5	10	10	0	10	0	10	0
7.5	10	9	1	8	2	8	2
12.5	10	1	9	1	9	1	9
15	10	0	10	0	10	0	10

COCAINE (COC 300)

Benzoyllecgonine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	8	2	8	2
375	10	1	9	1	9	1	9
450	10	0	10	0	10	0	10

COCAINE (COC 150)

Benzoyllecgonine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
75	10	10	0	10	0	10	0
112.5	10	8	2	8	2	8	2
187.5	10	1	9	1	9	1	9
225	10	0	10	0	10	0	10

COCAINE (COC 100)

Benzoyllecgonine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	9	1	9	1
125	10	2	8	1	9	1	9
150	10	0	10	0	10	0	10

MARIJUANA (THC150)

11-nor- Δ^9 -COOH conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
75	10	10	0	10	0	10	0
112.5	10	9	1	9	1	9	1
187.5	10	1	9	1	9	1	9
225	10	0	10	0	10	0	10

MARIJUANA (THC50)

11-nor- Δ^9 -COOH conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
25	10	10	0	10	0	10	0
37.5	10	9	1	8	2	9	1
62.5	10	1	9	1	9	1	9
75	10	0	10	0	10	0	10

MARIJUANA (THC25)

11-nor- Δ^9 -COOH conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
12.5	10	10	0	10	0	10	0
18.75	10	8	2	8	2	9	1
31.25	10	1	9	1	9	2	8
37.5	10	0	10	0	10	0	10

MARIJUANA (THC20)

11-nor- Δ^9 -COOH conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
10	10	10	0	10	0	10	0
15	10	9	1	8	2	9	1
25	10	2	8	1	9	2	8
30	10	0	10	0	10	0	10

METHADONE (MTD300)

Methadone conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	8	2	9	1	9	1
375	10	1	9	1	9	1	9
450	10	0	10	0	10	0	10

METHADONE (MTD200)

Methadone conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
100	10	10	0	10	0	10	0
150	10	8	2	9	1	9	1
250	10	1	9	1	9	1	9
300	10	0	10	0	10	0	10

METHAMPHETAMINE (MET1,000)

Methamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	9	1	9	1	9	1
1,250	10	1	9	1	9	1	9
1,500	10	0	10	0	10	0	10

METHAMPHETAMINE (MET 500)

Methamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	8	2	9	1	9	1
625	10	1	9	1	9	1	9
750	10	0	10	0	10	0	10

METHAMPHETAMINE (MET300)

Methamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	9	1	8	2
375	10	1	9	1	9	1	9
450	10	0	10	0	10	0	10

METHYLENEDIOXYMETHAMPHETAMINE (MDMA1,000) Ecstasy

Methylenedioxyamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	8	2	9	1	8	2
1,250	10	2	8	2	8	1	9
1,500	10	0	10	0	10	0	10

METHYLENEDIOXYMETHAMPHETAMINE (MDMA 500) Ecstasy

Methylenedioxyamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	8	2	9	1	9	1
625	10	2	8	1	9	1	9
750	10	0	10	0	10	0	10

METHYLENEDIOXYMETHAMPHETAMINE (MDMA 250) Ecstasy

Methylenedioxyamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
125	10	10	0	10	0	10	0
187.5	10	8	2	9	1	9	1
312.5	10	2	8	1	9	1	9
375	10	0	10	0	10	0	10

METHYLENEDIOXYMETHAMPHETAMINE (MDMA 300) Ecstasy

Methylenedioxyamphetamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	8	2	9	1	9	1
375	10	2	8	1	9	1	9
450	10	0	10	0	10	0	10

MORPHINE (MOP 300)

Morphine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	9	1	9	1
375	10	1	9	1	9	1	9
450	10	0	10	0	10	0	10

MORPHINE (MOP 100)

Morphine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	9	1	9	1
125	10	1	9	2	8	1	9
150	10	0	10	0	10	0	10

METHAQUALONE (MQL 300)

Methaqualone conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	9	1	9	1
375	10	1	9	2	8	1	9
450	10	0	10	0	10	0	10

MORPHINE/OPIATE (OPI 2,000)

Morphine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10</	

Propoxyphene conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	8	2	9	1	9	1
375	10	1	9	1	9	2	8
450	10	0	10	0	10	0	10

TRICYCLIC ANTIDEPRESSANTS (TCA)

Nortriptyline conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	8	2	8	2	8	2
1,250	10	1	9	1	9	2	8
1,500	10	0	10	0	10	0	10

Tramadol (TRA)

Tramadol conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	8	2	8	2
125	10	1	9	1	9	2	8
150	10	0	10	0	10	0	10

KETAMINE (KET1, 000)

Ketamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	9	1	8	2	9	1
1,250	10	1	9	1	9	2	8
1,500	10	0	10	0	10	0	10

KETAMINE (KET500)

Ketamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	9	1	9	1	8	2
625	10	1	9	1	9	2	8
750	10	0	10	0	10	0	10

KETAMINE (KET300)

Ketamine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	9	1	9	1	9	1
375	10	1	9	1	9	2	8
450	10	0	10	0	10	0	10

Oxycodone (OXY)

Oxycodone conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	9	1	9	1
125	10	1	9	1	9	2	8
150	10	0	10	0	10	0	10

Cotinine (COT 200)

Cotinine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
100	10	10	0	10	0	10	0
150	10	9	1	9	1	9	1
250	10	1	9	1	9	2	8
300	10	0	10	0	10	0	10

COTININE (COT 100)

Cotinine conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	9	1	9	1	9	1
125	10	1	9	1	9	2	8
150	10	0	10	0	10	0	10

2-ETHYLIDENE-1,5-DIMETHYL-3,3-DIPHENYLPYRROLIDINE (EDDP 300)

EDDP conc. (ng/mL)	n per site	Site A	Site B	Site C
0	10	10	0	10
50	10	10	0	10
75	10	9	1	9
125	10	1	9	2
150	10	0	10	0

	site	-	+	-	+	-	+
0	10	10	0	10	0	10	0
150	10	10	0	10	0	10	0
225	10	8	2	9	1	9	1
375	10	1	9	2	8	1	9
450	10	0	10	0	10	0	10

2-ETHYLIDENE-1,5-DIMETHYL-3,3-DIPHENYLPYRROLIDINE (EDDP 100)

EDDP conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
50	10	10	0	10	0	10	0
75	10	8	2	9	1	9	1
125	10	1	9	1	9	1	9
150	10	0	10	0	10	0	10

FENTANYL (FYL20)

Norfentanyl conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
10	10	10	0	10	0	10	0
15	10	8	2	9	1	9	1
25	10	1	9	1	9	2	8
30	10	0	10	0	10	0	10

FENTANYL (FYL10)

Norfentanyl conc. (ng/mL)	n per site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
5	10	10	0	10	0	10	0
7.5	10	8	2	9	1	9	1
12.5	10	1	9	1	9	2	8
15	10	0	10	0	10	0	10

K2-50

Synthetic Marijuana Concentration (ng/mL)	nper Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
25	10	10	0	10	0	10	0
37.5	10	8	2	9	1	9	1
62.5	10	1	9	1	9	2	8
75	10	0	10	0	10	0	10

K2-30

Synthetic Marijuana Concentration (ng/mL)	nper Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
15	10	10	0	10	0	10	0
22.5	10	8	2	9	1	9	1
37.5	10	1	9	1	9	2	8
45	10	0	10	0	10	0	10

ETG-500

Synthetic Marijuana Concentration (ng/mL)	nper Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
250	10	10	0	10	0	10	0
375	10	6	4	7	3	6	4
625	10	2	8	1	9	1	9
750	10	0	10	0	10	0	10

K2+(SMP)

AB-PINACA metabolite Concentration (ng/mL)	nper Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
5	10	10	0	10	0	10	0
7.5	10	9	1	9	1	9	1
12.5	10	1	9	1	9	2	8
15	10	0	10	0	10	0	10

ZOL-50

Zolpidem Concentration (ng/mL)	n per Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
25	10	10	0	10	0	10	0
37.5	10	6	4	6	4	6	4
62.5	10	1	9	1	9	1	9
75	10	0	10	0	10	0	10

MCAT-1000

Methcathinone Concentration (ng/mL)	n per Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	7	3	7	3	8	2
1250	10	1	9	1	9	2	8
1500	10	0	10	0	10	0	10

MEP-500

Mephedrone Concentration (ng/mL)	n per Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
500	10	10	0	10	0	10	0
750	10	7	3	7	3	8	2
1250	10	1	9	1	9	2	8
1500	10	0	10	0	10	0	10

UR-144 -25

UR-144 5-Pentanoic acid metabolite Concentration (ng/mL)	n per Site	Site A		Site B		Site C	
		-	+	-	+	-	+
0	10	10	0	10	0	10	0
12.5	10	10	0	10	0	10	0
18.75	10	9	1	8	2	9	1
31.25	10	0	10	1	9	1	9
37.5	10	0	10	0	10	0	10

Analytical Sensitivity

A drug-free urine pool was spiked with drugs at the listed concentrations. The results are summarized below.

Drug Concentration Cut-off Range	AMP 1,000		AMP 500		AMP 300		BAR 300		BAR 200		BZO 500		BZO 300		BZO 200		BZO 100	
	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
0% Cut-off	30	0	30	0	30	0</												

Drug Concentration	MQL		OXY		COT 200		COT 100		EDDP 300		EDDP 100		FYL 20		FYL 10	
Cut-off Range	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
0% Cut-off	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0
-50% Cut-off	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0
-25% Cut-off	27	3	27	3	27	3	27	3	27	3	27	3	27	3	27	3
Cut-off	15	15	16	14	15	16	14	16	14	16	14	16	14	16	14	
+25% Cut-off	3	27	4	26	4	26	4	26	4	26	4	26	3	27	3	27
+50% Cut-off	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30
+300% Cut-off	0	30	0	30	0	30	0	30	0	30	0	30	0	30	0	30

Drug Concentration	K2 50		K2 30		ETG 500		K2+ (SMP)		ZOL 50		OPI 1000		THC 20		MDMA 250	
Cut-off Range	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
0% Cut-off	30	0	30	0	20	0	30	0	30	0	30	0	30	0	30	0
-50% Cut-off	30	0	30	0	20	0	30	0	30	0	30	0	30	0	30	0
-25% Cut-off	27	3	27	3	18	2	27	3	27	3	27	3	27	3	25	5
Cut-off	16	14	16	14	12	8	15	15	15	15	15	13	17	14	16	16
+25% Cut-off	3	27	3	27	3	17	3	27	4	26	4	26	4	26	4	26
+50% Cut-off	0	30	0	30	0	20	0	30	0	30	0	30	0	30	0	30
+300% Cut-off	0	30	0	30	0	20	0	30	0	30	0	30	0	30	0	30

Drug Concentration	MDMA 300		MCAT 1000		MEP 500		UR-144 25	
Cut-off Range	-	+	-	+	-	+	-	+
0% Cut-off	30	0	30	0	30	0	30	0
-50% Cut-off	30	0	30	0	30	0	30	0
-25% Cut-off	25	5	27	3	27	3	19	11
Cut-off	14	16	14	16	14	16	12	18
+25% Cut-off	4	26	4	26	4	26	0	30
+50% Cut-off	0	30	0	30	0	30	0	30
+300% Cut-off	0	30	0	30	0	30	0	30

Analytical Specificity

The following table lists the concentrations of compounds (ng/mL) that are detected as positive in urine by the Multi-Drug Rapid Test Panel at 5 minutes.

Analytes	Concentration (ng/mL)	Analytes	Concentration (ng/mL)
AMPHETAMINE (AMP 1,000)			
D,L-Amphetamine sulfate	200	Phentermine	800
L-Amphetamine	25,000	Maprotiline	50,000
(±) 3,4-Methylenedioxyamphetamine	400	Methoxyphenamine	6,000
		D-Amphetamine	1,000
AMPHETAMINE (AMP 500)			
D,L-Amphetamine sulfate	100	Phentermine	400
L-Amphetamine	12,500	Maprotiline	25,000
(±) 3,4-Methylenedioxyamphetamine	200	Methoxyphenamine	3,000
		D-Amphetamine	500
AMPHETAMINE (AMP 300)			
D,L-Amphetamine sulfate	70	Phentermine	300
L-Amphetamine	10,000	Maprotiline	12,500
(±) 3,4-Methylenedioxyamphetamine	150	Methoxyphenamine	2,000
		D-Amphetamine	300
BARBITURATES (BAR 300)			
Amobarbital	3,000	Alphenol	300
5,5-Diphenylhydantoin	6,000	Aprobarbital	450
Allobarbital	450	Butobarbital	150
Barbital	6,000	Butalbital	6,000
Talbutal	30	Butethal	450
Cyclopentobarbital	25,000	Phenobarbital	300
Pentobarbital	6,000	Secobarbital	300
BARBITURATES (BAR 200)			
Amobarbital	2,000	Alphenol	200
5,5-Diphenylhydantoin	4,000	Aprobarbital	300
Allobarbital	300	Butobarbital	100
Barbital	4,000	Butalbital	4,000
Talbutal	20	Butethal	300
Cyclopentobarbital	17,000	Phenobarbital	200
Pentobarbital	4,000	Secobarbital	200
BENZODIAZEPINES (BZO 500)			
Alprazolam	200	Bromazepam	1,300
a-hydroxyalprazolam	2,500	Chlordiazepoxide	1,300
Clobazam	300	Nitrazepam	300
Clonazepam	650	Norchlordiazepoxide	200
Clorazepate dipotassium	650	Nordiazepam	1,300
Delorazepam	1,300	Oxazepam	500

Desalkylflurazepam	300	Temazepam	200
Flunitrazepam	300	Diazepam	2,500
(±) Lorazepam	5,000	Estazolam	10,500
RS-Lorazepam glucuronide	300	Triazolam	5,000
Midazolam	10,500		
BENZODIAZEPINES (BZO 300)			
Alprazolam	100	Bromazepam	780
a-hydroxyalprazolam	1,500	Chlordiazepoxide	780
Clobazam	200	Nitrazepam	200
Clonazepam	390	Norchlordiazepoxide	100
Clorazepate dipotassium	390	Nordiazepam	780
Delorazepam	780	Oxazepam	300
Desalkylflurazepam	200	Temazepam	100
Flunitrazepam	200	Diazepam	1,500
(±) Lorazepam	3,100	Estazolam	6,250
RS-Lorazepam glucuronide	200	Triazolam	3,100
Midazolam	6,250		
BENZODIAZEPINES (BZO 200)			
Alprazolam	70	Bromazepam	520
a-hydroxyalprazolam	1,000	Chlordiazepoxide	520
Clobazam	120	Nitrazepam	120
Clonazepam	260	Norchlordiazepoxide	70
Clorazepate dipotassium	260	Nordiazepam	520
Delorazepam	520	Oxazepam	200
Desalkylflurazepam	120	Temazepam	70
Flunitrazepam	120	Diazepam	1,000
(±) Lorazepam	2,000	Estazolam	4,200
RS-Lorazepam glucuronide	120	Triazolam	2,000
Midazolam	4,200		
BENZODIAZEPINES (BZO 100)			
Alprazolam	40	Bromazepam	260
a-hydroxyalprazolam	500	Chlordiazepoxide	260
Clobazam	60	Nitrazepam	60
Clonazepam	130	Norchlordiazepoxide	40
Clorazepate dipotassium	130	Nordiazepam	260
Delorazepam	260	Oxazepam	100
Desalkylflurazepam	60	Temazepam	40
Flunitrazepam	60	Diazepam	500
(±) Lorazepam	1,000	Estazolam	2,100
RS-Lorazepam glucuronide	60	Triazolam	1,000
Midazolam	2,100		
BUPRENORPHINE (BUP)			
Buprenorphine	10	Norbuprenorphine	50
Buprenorphine 3-D-Glucuronide	50	Norbuprenorphine 3-D-Glucuronide	100
COCAINE (COC 300)			
Benzoyllecgonine	300	Cocaethylene	12,500
Cocaine HCl	200	Ecgonine	30,000
COCAINE (COC 150)			
Benzoyllecgonine	150	Cocaethylene	6,250
Cocaine HCl	100	Ecgonine	15,000
COCAINE (COC 100)			
Benzoyllecgonine	100	Cocaethylene	5,000
Cocaine HCl	80	Ecgonine	10,000
MARIJUANA (THC150)			
Cannabinol	50,000	Δ8-THC	45,000
11-nor-Δ8-THC-9 COOH	90	Δ9-THC	45,000
11-nor-Δ9-THC-9 COOH	150		
MARIJUANA (THC50)			
Cannabinol	20,000	Δ8-THC	15,000
11-nor-Δ8-THC-9 COOH	30	Δ9-THC	15,000
11-nor-Δ9-THC-9 COOH	50		
MARIJUANA (THC25)			
Cannabinol	10,000	Δ8-THC	7,500
11-nor-Δ8-THC-9 COOH	15	Δ9-THC	7,500
11-nor-Δ9-THC-9 COOH	25		
MARIJUANA (THC20)			
Cannabinol	10,000	Δ8-THC	7,500
11-nor-Δ8-THC-9 COOH	15	Δ9-THC	7,500
11-nor-Δ9-THC-9 COOH	20		
METHADONE (MTD300)			
Methadone	300	Doxylamine	100,000
METHADONE (MTD200)			
Methadone	200	Doxylamine	60,000
METHAMPHETAMINE (MET1, 000)			
p-Hydroxymethamphetamine	25,000	(±)-3,4-Methylenedioxy-methamphetamine	6,250
D-Methamphetamine	1,000		
L-Methamphetamine	12,500	Mephentermine	50,000
METHAMPHETAMINE (MET500)			

p-Hydroxymethamphetamine	12,500	(±)-3,4-Methylenedioxy-methamphetamine	3,000
D-Methamphetamine	500		
L-Methamphetamine	9,000	Mephentermine	25,000
METHAMPHETAMINE (MET300)			
p-Hydroxymethamphetamine	7,500	(±)-3,4-Methylenedioxy-methamphetamine	1,800
D-Methamphetamine	300		
L-Methamphetamine	3,750	Mephentermine	15,000
METHYLENEDIOXYMETHAMPHETAMINE (MDMA1, 000) Ecstasy			
(±) 3,4-Methylenedioxy-methamphetamine HCl			1,000
3,4-Methylenedioxyethyl-amphetamine			600
(±) 3,4-Methylenedioxyamphetamine HCl			6,000
METHYLENEDIOXYMETHAMPHETAMINE (MDMA500) Ecstasy			
(±) 3,4-Methylenedioxy-methamphetamine HCl			500
3,4-Methylenedioxyethyl-amphetamine			300
(±) 3,4-Methylenedioxyamphetamine HCl			3,000
METHYLENEDIOXYMETHAMPHETAMINE (MDMA250) Ecstasy			
(±) 3,4-Methylenedioxy-methamphetamine HCl			250
3,4-Methylenedioxyethyl-amphetamine			150
(±) 3,4-Methylenedioxyamphetamine HCl			1,500
METHYLENEDIOXYMETHAMPHETAMINE (MDMA300) Ecstasy			
(±) 3,4-Methylenedioxy-methamphetamine HCl			300
3,4-Methylenedioxyethyl-amphetamine			180
(±) 3,4-Methylenedioxyamphetamine HCl			1,800
MORPHINE (MOP 300)			
Codeine	200	Norcodeine	6,000
Levorphanol	1,500	Normorphine	50,000
Morphine-3-β-D-Glucuronide	800	Oxycodone	30,000
Ethylmorphine	6,000	Oxymorphone	50,000
Hydrocodone	50,000	Procaine	15,000
Hydromorphone	3,000	Thebaine	6,000
6-Monoacetylmorphine	400	Morphine	300
MORPHINE (MOP 100)			
Codeine	80	Norcodeine	2,000
Levorphanol	500	Normorphine	20,000
Morphine-3-β-D-Glucuronide	300	Oxycodone	10,000
Ethylmorphine	2,000	Oxymorphone	20,000
Hydrocodone	20,000	Procaine	5,000
Hydromorphone	1,000	Thebaine	2,000
6-Monoacetylmorphine	100	Morphine	100
Methaqualone (MQL 300)			
Methaqualone	300		
MORPHINE/OPIATE (OPI 2,000)			
Codeine	2,000	Morphine	2,000
Ethylmorphine	3,000	Norcodeine	25,000
Hydrocodone	50,000	Normorphine	50,000
Hydromorphone	12,500	Oxycodone	25,000
Levorphanol	25,000	Oxymorphone	25,000
6-Monoacetylmorphine	3,000	Procaine	50,000
Morphine 3-β-D-glucuronide	2,000	Thebaine	25,000
MORPHINE/OPIATE (OPI 1,000)			
Codeine	1,000	Morphine	1,000
Ethylmorphine	1,500	Norcodeine	12,500
Hydrocodone	25,000	Normorphine	25,000
Hydromorphone	6,250	Oxycodone	12,500
Levorphanol	12,500	Oxymorphone	12,500
6-Monoacetylmorphine	1,500	Procaine	25,000
Morphine 3-β-D-glucuronide	1,000	Thebaine	12,500
PHENCYCLIDINE (PCP)			
Phencyclidine	25	4-Hydroxyphencyclidine	6,250
PROPOXYPHENE (PPX)			
D-Propoxyphene	300	D-Norpropoxyphene	300
TRICYCLIC ANTIDEPRESSANTS (TCA)			
Nortriptyline	1,000	Imipramine	400
Nordoxepine	400	Clomipramine	50,000
Trimipramine	3,000	Doxepine	1,500
Amitriptyline	1,500	Maprotiline	1,500
Promazine	3,000	Promethazine	25,000
Desipramine	200	Perphenazine	25,000
Cyclobenzaprine	1,500		
Tramadol (TRA)			
n-Desmethyl-cis-tramadol	200	o-Desmethyl-cis-tramadol	7,000
Cis-tramadol	100	Phencyclidine	100,000
Procyclidine	100,000	d,l-O-Desmethyl venlafaxine	50,000
KETAMINE (KET1, 000)			
Ketamine	1,000		
KETAMINE (KET500)			
Ketamine	500		
KETAMINE (KET300)			
Ketamine	300		

Oxycodone (OXY)		
Oxycodone	100	Hydromorphone
Oxymorphone	200	Naloxone
Levorphanol	50,000	Naltrexone
Hydrocodone	6,250	
Cotinine (COT 200)		
(-)-Cotinine	200	(-)-Nicotine
Cotinine (COT 100)		
(-)-Cotinine	100	(-)-Nicotine
2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP300)		
2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP)		300
2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP100)		
2-Ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP)		100
Fentanyl (FYL20)		
Alfentanil	600,000	Perphenazine
Fenfluramine	40,000	Fentanyl
Norfentanyl	20	Sufentanyl
Pipamperon	25,000	Risperdal
Fentanyl (FYL10)		
Alfentanil	300,000	Perphenazine
Fenfluramine	20,000	Fentanyl
Norfentanyl	10	Sufentanyl
Pipamperon	12,500	Risperdal
Synthetic Marijuana (K2-50)		
JWH-018 5-Pentanoic acid metabolite		50
JWH-073 4-butanoic acid metabolite		50
JWH-018 4-Hydroxypentyl metabolite		400
JWH-018 5-Hydroxypentyl metabolite		600
JWH-073 4-Hydroxybutyl metabolite		300
JWH-018 N-Propanoic acid		30
JWH-019 6-Hydroxyhexyl		1,000
JWH-122 N-4-Hydroxypentyl		1,000
RCS4 N-5-Carboxypentyl		45,000
MAM2201 N-Pentanoic acid		65
JWH-210 N-5-Carboxypentyl		400
JWH-398 N-Pentanoic acid		350
JWH-200 6-Hydroxyindole		600
JWH-073 N-2-Hydroxybutyl		1,000
JWH-019 5-Hydroxyhexyl		1,000
JWH-018		7,000
AM2201 N-(4-hydroxypentyl)		700
JWH-073 N-(3-hydroxybutyl)		450
Synthetic Marijuana (K2-30)		
JWH-018 5-Pentanoic acid metabolite		30
JWH-073 4-butanoic acid metabolite		30
JWH-018 4-Hydroxypentyl metabolite		250
JWH-018 5-Hydroxypentyl metabolite		360
JWH-073 4-Hydroxybutyl metabolite		180
JWH-018 N-Propanoic acid		18
JWH-019 6-Hydroxyhexyl		600
JWH-122 N-4-Hydroxypentyl		600
RCS4 N-5-Carboxypentyl		27000
MAM2201 N-Pentanoic acid		39
JWH-210 N-5-Carboxypentyl		240
JWH-398 N-Pentanoic acid		210
JWH-200 6-Hydroxyindole		360
JWH-073 N-2-Hydroxybutyl		600
JWH-019 5-Hydroxyhexyl		600
JWH-018		4200
AM2201 N-(4-hydroxypentyl)		420
JWH-073 N-(3-hydroxybutyl)		270
Ethyl glucuronide (ETG 500)		
Ethyl glucuronide		500
K2+(AB-PINACA)		
AB-PINACA pentanoic acid metabolite		10
AB-PINACA N-(4-hydroxypentyl) metabolite		10
ADB-PINACA N-(4-hydroxypentyl) metabolite		15
ADB-PINACA N-(5-hydroxypentyl) metabolite		20
5-fluoro AB-PINACA N-(4-hydroxypentyl)		20
ADB-PINACA pentanoic acid metabolite		20
AB-PINACA N-(5-hydroxypentyl) metabolite		30
5-fluoro AB-PINACA		50
AB-PINACA		100
AB-FUBINACA		150
5-fluoro ADB-PINACA		250
5-chloro AB-PINACA		1000
APINACA (AKB-48)		>10,000
APINACA (AKB-48) 5-hydroxypentyl metabolite		>10,000
CUMYL-THPINACA		>100,000
5-fluoro AEB		>100,000
AB-CHMINACA metabolite M2		>100,000
PX 1 (5-fluoro APP-PICA)		>100,000

PX 2 (5-fluoro APP-PINACA)		>100,000
5-fluoro ADB (5-fluoro MDMA-PINACA)		>100,000
4-cyano CUMYL-BUTINACA		>100,000
MMB-FUBINACA		>100,000
CUMYL-PICA		>100,000
5-fluoro MN-18		>100,000
MN-18		>100,000
5-fluoro PB-22 3-carboxyindole metabolite		>100,000
BB-22 3-carboxyindole metabolite		>100,000
AM 2201 N-(4-hydroxypentyl) metabolite		>100,000
Zolpidem (ZOL50)		
Zolpidem Phenyl-4-carboxylic acid		50
Methcathinone (MCAT)		
Methcathinone	1,000	Mephedrone
MDPV	>100,000	Cathinone
Mephedrone (MEP)		
Mephedrone	500	Methcathinone
MDPV	>100,000	Cathinone
UR-144 (UR-144 -25)		
UR144 5-Pentanoic acid metabolite		25
UR144 5-Hydroxypentyl metabolite		1,000

Effect of Urinary Specific Gravity

Fifteen (15) urine samples of normal, high, and low specific gravity ranges (1.000-1.037) were spiked with drugs at 50% below and 50% above cut-off levels respectively. The Multi-Drug Rapid Test Panel was tested in duplicate using fifteen drug-free urine and spiked urine samples. The results demonstrate that varying ranges of urinary specific gravity do not affect the test results.

Effect of Urinary Ph

The pH of an aliquoted negative urine pool was adjusted to a pH range of 5 to 9 in 1 pH unit increments and spiked with drugs at 50% below and 50% above cut-off levels. The spiked, pH-adjusted urine was tested with the Multi-Drug Rapid Test Panel. The results demonstrate that varying ranges of pH do not interfere with the performance of the test.

Cross-Reactivity

A study was conducted to determine the cross-reactivity of the test with compounds in either drug-free urine or drug positive urine containing, Amphetamine, Barbiturates, Benzodiazepines, Buprenorphine, Cocaine, Marijuana, Methadone, Methamphetamine, Methylenedioxymethamphetamine, Morphine, Tramadol, Ketamine, Phencyclidine, Propoxyphene, Tricyclic Antidepressants, Oxycodone, Cotinine, EDDP, Fentanyl, Synthetic, Marijuana, Ethyl Glucuronide, K2+, Zolpidem, Methcathinone, Mephedrone and UR-144. The following compounds show no cross-reactivity when tested with the Multi-Drug Rapid Test Panel at a concentration of 100µg/mL.

Non Cross-Reacting Compounds

Acetophenetidin	Dextromethorphan	3-Hydroxytyramine	Quinidine
Acetylsalicylic acid	Diclofenac	Isoxsuprine	Quinine
Aminopyrine	Diffunisal	Ketoprofen	Salicylic acid
Ampicillin	Digoxin	Labetalol	Serotonin
Apomorphine	Diphenhydramine	Loperamide	Sulfamethazine
Aspartame	Ethyl-p-aminobenzoat	Nalidixic acid	Sulindac
Atropine	β-Estradiol	Norethindrone	Tetracycline
Benzilic acid	Estrone-3-sulfate	Noscapine	Tetrahydrozoline
Benzoic acid	Erythromycin	d,l-Octopamine	Thiamine
Bilirubin	Furosemide	Oxalic acid	Thioridazine
Chloramphenicol	Gentisic acid	Oxolinic acid	Tolbutamide
Chlorpromazine	Hemoglobin	Oxymetazoline	Triamterene
Cholesterol	Hydralazine	Penicillin-G	Trimethoprim
Cortisone	Hydrochlorothiazide	Perphenazine	d,l-Tryptophan
Creatinine	Hydrocortisone	Phenelzine	Uric acid
Deoxycorticosterone	o-Hydroxyhippuric acid	Prednisone	Verapamil

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Index of Symbols

	Consult Instruction for use		Tests per kit		Authorized Representative
	For <i>in vitro</i> diagnostic use only		Use by		Do not reuse
	Store between 2-30°C		Lot Number		Catalog #
	Do not use if package is damaged				



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EC REP

Shanghai International Holding Corp. GmbH (Europe)
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