



ACCU-TELL®

Multi-Line Drug Cassette (Urine)

For professional in vitro diagnostic use only

For Urine Sample

This package insert is applied to the below products:

Catalog No.	Product Name
ABT-DOA-B116	Multi-line 6 Drug Cassette(Urine)
ABT-DOA-B117	Multi-line 7 Drug Cassette(Urine)
ABT-DOA-B118	Multi-line 8 Drug Cassette(Urine)
ABT-DOA-B119	Multi-line 9 Drug Cassette(Urine)
ABT-DOA-B120	Multi-line 10 Drug Cassette(Urine)
ABT-DOA-B350	Multi-line 11 Drug Cassette(Urine)
ABT-DOA-B351	Multi-line 12 Drug Cassette(Urine)

Instruction Sheet for testing of combination of the following drugs:
AMP/BAR/BZO/BU/PCP/THC/MTD/MET/MDMA/MOP/MQL/OPI/PCP/PPX/TCA/TML/KET/OXY/COT/EDDP/FYL/SMA/6-MAM

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

INTENDED USE

ACCU-TELL® Multi-Line Drug Cassette (Urine) is a rapid chromatographic immunoassay for the qualitative detection of multi-line drugs and drug metabolites in urine at the following cut-off concentrations:

Test	Calibrator	Cut-off (ng/mL)
Amphetamine (AMP 1000)	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)	Oxazepam	300
Benzodiazepines (BZO)	Oxazepam	200
Benzodiazepines (BZO)	Oxazepam	100
Buprenorphine (BUP)	Buprenorphine	10
Cocaine (COC300)	Benzoyllecgonine	300
Cocaine (COC 100)	Benzoyllecgonine	100
Cocaine (COC 150)	Benzoyllecgonine	150
Marijuana (THC50)	11-nor-Δ9-THC-9 COOH	50
Marijuana (THC150)	11-nor-Δ9-THC-9 COOH	150
Marijuana (THC25)	11-nor-Δ9-THC-9 COOH	25
Methadone (MTD300)	Methadone	300
Methadone (MTD200)	Methadone	200
Methamphetamine (MET 1,000)	d-Methamphetamine	1,000
Methamphetamine (MET 500)	d-Methamphetamine	500
Methamphetamine (MET 300)	d-Methamphetamine	300
Methylenedioxymethamphetamine (MDMA)	d,l-Methylenedioxymethamphetamine	500
Morphine (MOP/OPI300)	Morphine	300
Morphine (MOP/OPI100)	Morphine	100
Methaqualone (MQL)	Methaqualone	300
Opiate (OPI)	Morphine	2,000
Phencyclidine (PCP)	Phencyclidine	25
Propoxyphene (PPX)	Propoxyphene	300
Tricyclic Antidepressants (TCA)	Nortriptyline	1,000
Tramadol (TML)	Tramadol	100
Ketamine (KET1000)	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
2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP300)	2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine	300
2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP100)	2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine	100
Fentanyl(FYL20)	Norfentanyl	20
Fentanyl(FYL10)	Norfentanyl	10
Synthetic Marijuana (K2-50)	JWH-018, JWH-073	50

Accurate, Reliable, Cost Effective

Synthetic Marijuana (K2-30)	JWH-018, JWH-073	30
6-mono-acetyl-morphine (6-MAM10)	6-MAM	10
Ethyl Glucuronide (ETG500)	Ethyl Glucuronide	500
Ethyl Glucuronide (ETG1000)	Ethyl Glucuronide	1000
Pregabalin(PGB700)	Pregabalin	700
Pregabalin(PGB2000)	Pregabalin	2000
Pregabalin(PGB500)	Pregabalin	500
Synthetic Marijuana K3+(AB-Pinaca10)	Synthetic Marijuana K3+	10
Zopiclone (ZOP)	Zopiclone	50
Zolpidem (ZOL)	Zolpidem	50
3,4-methylenedioxypyrovalerone (MDPV3000)	3,4-methylenedioxypyrovalerone	3000
3,4-methylenedioxypyrovalerone (MDPV1000)	3,4-methylenedioxypyrovalerone	1000

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

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of amphetamines in urine exceeds 1,000 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

Amphetamine (AMP 500)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when amphetamines in urine exceed 500ng/mL. See Amphetamine (AMP 1,000) for the summary.

Amphetamine (AMP 300)

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of barbiturates 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)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of barbiturates in urine exceeds 200ng/mL. See Barbiturate (BAR 300) for the summary.

Benzodiazepines (BZO 300)

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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of benzodiazepines 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 benzodiazepine positive specimens.

Benzodiazepines (BZO 200)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Benzodiazepines in urine exceeds 200ng/mL. See Benzodiazepines (BZO 300) for the summary.

Benzodiazepines (BZO 100)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Benzodiazepines in urine exceeds 100ng/mL. See Benzodiazepines (BZO 300) 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 1ng/ml after therapeutic administration, but can range up to 20 ng/ml in abuse situations.¹⁰ The plasma half life of Buprenorphine is 2-4 hours.¹⁰ 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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 100)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of benzoylecgonine in urine exceeds 100ng/mL. See Cocaine (COC 300) for the summary.

Cocaine (COC 150)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of benzoylecgonine in urine exceeds 150ng/mL. See Cocaine (COC 300) for the summary.

Marijuana (THC50)

THC (Δ^9 -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- Δ^9 -tetrahydrocannabinol-9-carboxylic acid (THC-COOH).

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of THC-COOH in urine exceeds 50ng/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 (THC150)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of THC-COOH in urine exceeds 150ng/mL. See Marijuana (THC 50) for the summary.

Marijuana (THC25)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of THC-COOH in urine exceeds 25ng/mL. See Marijuana (THC 50) 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 be prescribed 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

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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)

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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 has 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.

ACCU-TELL® Multi-Line Drug Cassette (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 Methamphetamine in urine. ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Methamphetamine in urine exceeds 1,000ng/mL.

Methamphetamine (MET 500)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Methamphetamine in urine exceeds 500ng/mL. See Methamphetamine (MET1000) for the summary.

Methamphetamine (MET 300)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Methamphetamine in urine exceeds 300ng/mL. See Methamphetamine (MET1000) for the summary.

Methylenedioxymethamphetamine

Methylenedioxymethamphetamine (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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Methylenedioxy-methamphetamine 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 Methylenedioxy-methamphetamine positive specimens.

Morphine/Opiate (MOP/OPI 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

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of morphine in urine exceeds 300ng/mL.

Morphine/Opiate (MOP/OPI 100)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of morphine in urine exceeds 100ng/mL. See Morphine/Opiate (MOP 300) for the summary.

Morphine/Opiate (OPI 2,000)

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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.

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 1956.² It 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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%).⁶

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of phencyclidine in urine exceeds 25ng/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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Propoxyphene or Norpropoxyphene 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 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of tricyclic antidepressants in urine exceeds 1,000ng/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 (TML)

Tramadol(TML) 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.

ACCU-TELL® Multi-Line Drug Cassette (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 Tramadol in urine. The ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when Tramadol in urine exceeds 100ng/mL.

Ketamine1000

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

ACCU-TELL® Multi-Line Drug Cassette (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 Ketamine in urine. ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when Ketamine in urine exceeds 1,000ng/mL.

Ketamine (KET500)

ACCU-TELL® Multi-Line Drug Cassette (Urine)yields a positive result when the concentration of Ketamine in urine exceeds 500 ng/mL. See Ketamine(KET1,000) for the summary.

Ketamine (KET300)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Ketamine in urine exceeds 300 ng/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 thebaine, 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.

ACCU-TELL® Multi-Line Drug Cassette (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 Oxycodone in urine. ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when Oxycodone in urine exceeds 100ng/mL.

Cotinine (COT200)

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%.¹ While 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. 2 Nicotine 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Cotinine in urine exceeds 200ng/ml

Cotinine (COT 100)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Cotinine in urine exceeds 100 ng/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.¹ Exacerbating 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) 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)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of EDDP in urine exceeds 100ng/mL. See 2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP300)forthe 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 overdose ⁴.

ACCU-TELL® Multi-Line Drug Cassette (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 FYL in urine. ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when FYL in urine exceeds 20ng/mL.

Fentanyl (FYL10)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of Norfentanyl 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 brand names K2 and Spice, both of which have largely become genericized trademarks 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 a 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-200 and cannabicyclo hexanol are now illegal in the US because these substances have the potential to be extremely harmful and, therefore, pose an imminent hazard to the public safety.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the synthetic marijuana metabolite in urine exceeds 50ng/mL.

Synthetic Marijuana (K2-30)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of the synthetic marijuana metabolite in urine exceeds 30ng/mL. See K2-50 for the summary.

6-mono-acetyl-morphine (6-MAM10)

6-Monoacetylmorphine (6-MAM) or 6-acetylmorphine (6-AM) is one of three active metabolites of heroin (diacetylmorphine), the others being morphine and the much less active 3-monoacetylmorphine (3-MAM). 6-MAM is rapidly created from heroin in the body, and then is either metabolized into morphine or excreted in the urine. 6-MAM remains in the urine for no more than 24 hours. So a urine specimen must be collected soon after the last heroin use, but the presence of 6-MAM guarantees that heroin was in fact used as recently as within the last day. 6-MAM is naturally found in the brain, but in such small quantities that detection of this compound in urine virtually guarantees that heroin has recently been consumed.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of the 6-Monoacetylmorphine in urine exceeds 10ng/mL.

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 enzymes. 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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Ethyl Glucuronide in urine exceeds 500ng/mL.

Ethyl Glucuronide (ETG 1000)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Ethyl Glucuronide in urine exceeds 1000ng/mL. See ETG500 for the summary.

Pregabalin(PGB700)

Pregabalin, sold under the trade name Lyrica®, an analog of the inhibitory neurotransmitter gamma-aminobutyric acid and also of gabapentin, has been used clinically since 2002 as an analgesic, anticonvulsant and anxiolytic agent. It is supplied as the free drug in 25-300mg capsules for oral administration. Adult dose are normally within a range of 50-200mg thrice daily.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of barbiturates in urine exceeds 700ng/mL. At present, the Substance Abuse and Mental Health Services Administration (SAMHSA) does not have a recommended screening cut-off for Pregabalin positive specimens.

Pregabalin(PGB2000)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Pregabalin in urine exceeds 2000ng/mL. See PGB700 for the summary.

Pregabalin(PGB500)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Pregabalin in urine exceeds 500ng/mL See PGB700 for the summary

Synthetic Marijuana K3+ (AB-Pinaca)

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.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the AB-PINACA pentanoic acid metabolite in urine exceeds 10ng/mL.

Zolpidem(ZOL)

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}

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the Zolpidem Phenyl-4-carboxylic acid (ZOL metabolite) in urine exceeds 50ng/mL.

Zopiclone (ZOP)

Zopiclone (Imovane, Noctirex, Ximovane, Zimovane) is a racemic cyclopyrrolone derivative that has been utilized clinically as a hypnotic agent since 1994. The adverse reactions associated with zopiclone therapy include nausea, dizziness, headache, anterograde amnesia and respiratory depression. Reversible renal failure has been reported. Zopiclone is known to undergo biotransformation via N-demethylation, N-oxidation and ester hydrolysis. A single oral dose is excreted in the 24 hour urine as parent (4.5%), zopiclone-N-oxide (11%) and N-desmethylzopiclone (15%).

With the widespread clinical application of these drugs, the use of zopiclone to carry out narcotic robbery, rape, murder and other cases has been reported from time to time¹⁴. There have also been incidents of suicide by mistake or oral zopiclone¹⁵.

In urine, the N-demethyl and N-oxide metabolites account for 30% of the initial dose. Between 7 and 10% of zopiclone is recovered from the urine, indicating extensive metabolism of the drug before excretion.

The time limit for urine testing is longer than that for blood and plasma. For therapeutic doses of zopiclone, the testing window for blood is 6-20 hours, and urine is about 24-48 hours¹⁶⁻¹⁷.

In drug crimes, high-dose drugs may be used, and the maximum time window for the detection of zopiclone in the blood can reach 48h, and the urine is 72h¹⁸.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive



result when Zopiclone in urine exceeds 50ng/mL.

3,4-methylenedioxypyrovalerone (MDPV3000)

3,4-methylenedioxypyrovalerone (MDPV) is a psychoactive recreational drug with stimulant properties which acts as a norepinephrine-dopamine reuptake inhibitor (NDRI). It was first developed in the 1960s by a team at Boehringer Ingelheim. MDPV remained an obscure stimulant until around 2004 when it was reportedly sold as a designer drug. The recreational use of MDPV in the USA has become more prevalent since late 2010 and it is now illegal in many states¹⁹.

Products labeled as bath salts containing MDPV were previously sold as recreational drugs in gas stations and convenience stores in the United States, similar to the marketing for Spice and K2 as incense. MDPV is the 3,4-methylenedioxy ring-substituted analog of the compound pyrovalerone, developed in the 1960s, which has been used for the treatment of chronic fatigue and as an anorectic, but caused problems of abuse and dependence. However, despite its structural similarity, the effects of MDPV bear little resemblance to other methylenedioxy phenylalkylamine derivatives such as 3,4-methylenedioxy-N-methylamphetamine (MDMA), instead producing primarily stimulant effects with only mild entactogenic qualities. MDPV undergoes CYP450 2D6, 2C19, 1A2, and COMT phase 1 metabolism (liver) into methylcatechol and pyrrolidine, which in turn are glucuronated (uridine 5'-diphospho-glucuronosyl-transferase) allowing it to be excreted by the kidneys, with only a small fraction of the metabolites being excreted into the stools. No free pyrrolidine will be detected in the urine.

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when 3,4-methylenedioxypyrovalerone in urine exceed 3000 ng/mL.

3,4-methylenedioxypyrovalerone (MDPV1000)

ACCU-TELL® Multi-Line Drug Cassette (Urine) yields a positive result when the concentration of the 3,4-methylenedioxypyrovalerone in urine exceeds 1000ng/mL. See MDPV3000 for the summary.

PRINCIPLE

ACCU-TELL® Multi-Line Drug Cassette (Urine) is an immunoassay based on the principle of competitive binding. Drugs which may be present in the urine specimen compete against their respective drug conjugate for binding sites on their specific antibody.

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 card 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**Materials Provided**

Test Cassettes
Package insert
Droppers

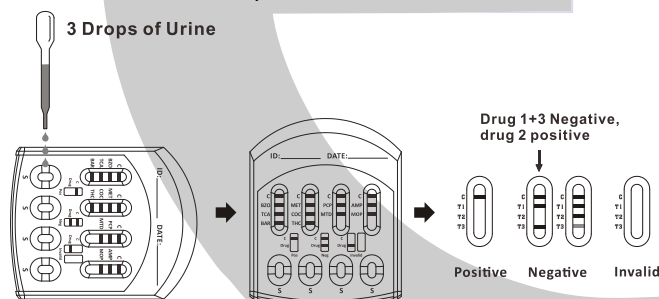
Materials Required But Not Provided

Specimen collection container
Timer

TEST PROCEDURE

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

1. Bring the pouch to room temperature before opening it. Remove the test cassette from the sealed pouch and use it as soon as possible.
2. Place the test cassette on a clean and level surface. Hold the dropper vertically and transfer **3 full drops** of urine (approx. **120 µL**) to the specimen well (S) of the test cassette, and then start the timer. Avoid trapping air bubbles in the specimen well (S). See the illustration below.
3. Wait for the colored line(s) to appear. Read results at **5 minutes**. Do not interpret the result after 10 minutes.

**INTERPRETATION OF RESULTS**

(Please refer to the illustration above)

NEGATIVE:* A colored line appears in the Control region (C) and colored lines 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 card. 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 sufficient specimen volume, adequate membrane wicking



and correct procedural technique.

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. ACCU-TELL® Multi-Line Drug Cassette (Urine) 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 ACCU-TELL® Multi-Line Drug Cassette (Urine) 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. The following results were tabulated from these clinical studies:

Method		GC/MS		% Agreement with GC/MS	Overall agreement
ACCU-TELL® Multi-Line Drug Cassette (Urine)		Pos.	Neg.		
Methamphetamine (MET 1,000ng/ml)	Positive	165	9	>99.9%	97.4%
	Negative	0	176	95.1%	
Methamphetamine (MET 500ng/ml)	Positive	168	6	>99.9%	98.3%
	Negative	0	176	96.7%	
Methamphetamine (MET 300ng/ml)	Positive	169	5	>99.9%	98.6%
	Negative	0	176	97.2%	
Cocaine (COC 300ng/ml)	Positive	120	8	97.6%	96.3%
	Negative	3	169	95.4%	
Cocaine (COC 100ng/ml)	Positive	126	12	98.4%	95.4%
	Negative	2	165	93.2%	
Cocaine (COC 150ng/ml)	Positive	105	0	99.1%	99.6%
	Negative	1	144	>99.9%	
Marijuana (THC50ng/ml)	Positive	117	9	99.2%	97.3%
	Negative	1	193	95.5%	
Marijuana (THC150ng/ml)	Positive	137	6	97.8%	97.5%
	Negative	3	184	96.8%	
Marijuana (THC25ng/ml)	Positive	117	9	99.2%	96.9%
	Negative	1	193	95.5%	
Amphetamine (AMP 1,000ng/ml)	Positive	161	4	97.0%	97.6%
	Negative	5	210	98.1%	
Amphetamine (AMP 500ng/ml)	Positive	165	5	98.8%	98.2%
	Negative	2	208	97.7%	
Amphetamine (AMP 300ng/ml)	Positive	168	3	99.4%	98.9%
	Negative	1	208	98.6%	
Benzodiazepines (BZO 300ng/ml)	Positive	136	2	97.1%	98.0%
	Negative	4	158	98.8%	
Benzodiazepines (BZO 200ng/ml)	Positive	137	2	97.2%	98.0%
	Negative	4	157	98.7%	
Benzodiazepines (BZO 100ng/ml)	Positive	138	2	97.9%	98.3%
	Negative	3	157	98.7%	
Methadone (MTD 300ng/ml)	Positive	123	4	99.2%	98.3%
	Negative	1	172	97.7%	
Methadone (MTD 200ng/ml)	Positive	123	4	99.2%	98.3%
	Negative	1	172	97.7%	
Barbiturates (BAR 300ng/ml)	Positive	129	2	93.5%	96.3%
	Negative	9	160	98.8%	
Barbiturates (BAR 200ng/ml)	Positive	135	2	94.4%	97.1%
	Negative	8	155	98.7%	

Tricyclic Antidepressants (TCA 1000ng/ml)	Positive	122	15	97.6%	94.9%
	Negative	3	210	93.3%	
Methylenedioxy methamphetamine (MDMA 500ng/ml)	Positive	132	1	>99.9%	99.7%
	Negative	0	172	99.4%	
Morphine (MOP 300ng/ml)	Positive	142	5	>99.9%	97.8%
	Negative	0	163	97.0%	
Morphine (MOP 100ng/ml)	Positive	123	4	99.2%	98.4%
	Negative	1	172	97.7%	
Phencyclidine (PCP 25ng/ml)	Positive	131	1	>99.9%	99.7%
	Negative	0	181	99.5%	
Propoxyphene (PPX 300ng/ml)	Positive	95	3	96.0%	97.2%
	Negative	4	148	98.0%	
Opiate (OPI 2000ng/ml)	Positive	116	11	94.3%	96.0%
	Negative	7	116	91.3%	
Methaqualone (MQL 300ng/ml)	Positive	98	2	99.0%	98.8%
	Negative	1	149	98.7%	
Tramadol (TML 100ng/ml)	Positive	98	2	99.0%	98.8%
	Negative	1	149	98.7%	
Buprenorphine (BUP 10ng/ml)	Positive	99	1	99.0%	99.2%
	Negative	1	149	99.3%	
Ketamine (KET 1000ng/ml)	Positive	102	9	94.4%	94.0%
	Negative	6	133	93.7%	
Ketamine (KET 500ng/ml)	Positive	113	9	96.6%	94.8%
	Negative	4	124	93.2%	
Ketamine (KET 300ng/ml)	Positive	109	11	94.0%	92.8%
	Negative	7	123	91.8%	
Oxycodone (OXY 100ng/ml)	Positive	104	1	98.1%	98.8%
	Negative	2	143	99.3%	
COT 200	Positive	87	4	94.6%	96.4%
	Negative	5	154	97.4%	
COT 100	Positive	91	3	95.8%	97.2%
	Negative	4	152	98.1%	
EDDP 300	Positive	82	5	98.8%	97.0%
	Negative	1	112	95.7%	
EDDP 100	Positive	87	6	96.7%	95.5%
	Negative	3	104	94.5%	
FYL 20	Positive	108	10	99.1%	95.6%
	Negative	1	131	92.9%	
FYL 10	Positive	110	13	99.1%	94.4%
	Negative	1	126	90.6%	
K2-50	Positive	62	3	96.9%	98.3%
	Negative	2	233	98.7%	
K2-30	Positive	66	3	98.5%	98.6%
	Negative	2	230	98.7%	
6-MAM10	Positive	36	0	>99%	>99%
	Negative	0	128	>99%	
ETG 500	Positive	178	2	97.8%	98.5%
	Negative	4	221	99.1%	
ETG 1000	Positive	179	2	97.8%	98.5%
	Negative	4	223	99.1%	
PGB700	Positive	12	0	>99%	>99%
	Negative	0	75	>99%	
PGB2000	Positive	29	0	>99%	>99%
	Negative	0	110	>99%	
PGB 500	Positive	29	0	>99%	>99%
	Negative	0	110	>99%	
ZOL50	Positive	148	2	98.0%	98.7%
	Negative	3	236	99.2%	
ZOP50	Positive	35	2	97.2%	96.4%
	Negative	1	46	95.8%	
MDPV3000	Positive	22	0	>99%	>99%
	Negative	0	128	>99%	
MDPV1000	Positive	22	0	>99%	>99%
	Negative	0	128	>99%	
Method		LC-MS/MS			Total Results
SMK K3+ (AB-Pinaca)	Results	Positive		Negative	
	Positive	4		0	
	Negative	0		40	
Total Results		4		40	
% Agreement		>99%		>99%	

* Clinical samples for each drug were run using each of ACCU-TELL® Multi-Line Drug Cassette (Urine) by an untrained operator at a professional point of care site. Based on GC/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 correlation with expected results was >99% across all lots and



sites (with a 95% confidence interval).

Analytical Sensitivity

A drug-free urine pool was spiked with drugs to various concentrations. >99% agreement with expected results was found at $\pm 50\%$ cut-off for each drug tested (with a 95% confidence interval).

Analytical Specificity

The following table lists the concentrations of compounds (ng/mL) that are detected as positive in urine by ACCU-TELL® Multi-Line Drug Cassette (Urine) 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-Methylenedioxy amphetamine	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-Methylenedioxy amphetamine	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-Methylenedioxy amphetamine	150	Methoxyphenamine	2,000
		D-Amphetamine	300
BARBITURATES (BAR 300)			
Amobarbital	3,000	Alphenol	300
5,5-Diphenylhydantoin	6,000	Aprobarbital	450
Allobarbital	450	Butabarbital	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	Butabarbital	100
Barbital	4,000	Butalbital	4,000
Talbutal	20	Butethal	300
Cyclopentobarbital	17,000	Phenobarbital	200
Pentobarbital	4,000	Secobarbital	200
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
Desalkylfurazepam	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
Desalkylfurazepam	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
Desalkylfurazepam	60	Temazepam	400
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)			
Benzoylecgonine	300	Cocaethylene	12,500
Cocaine HCl	200	Ecgonine	30,000
COCAINE (COC 100)			
Benzoylecgonine	100	Cocaethylene	5,000
Cocaine HCl	80	Ecgonine	10,000

COCAINE (COC 150)			
Benzoylecgonine	150	Cocaethylene	6,250
Cocaine HCl	100	Ecgonine	15,000
MARIJUANA (THC50)			
Cannabinol	20,000	Δ^8 -THC	15,000
11-nor- Δ^8 -THC-9 COOH	30	Δ^9 -THC	15,000
11-nor- Δ^9 -THC-9 COOH	50		
MARIJUANA (THC150)			
Cannabinol	60,000	Δ^8 -THC	45,000
11-nor- Δ^8 -THC-9 COOH	180	Δ^9 -THC	45,000
11-nor- Δ^9 -THC-9 COOH	150		
MARIJUANA (THC25)			
Cannabinol	10,000	Δ^8 -THC	7,500
11-nor- Δ^8 -THC-9 COOH	15	Δ^9 -THC	7,500
11-nor- Δ^9 -THC-9 COOH	25		
METHADONE (MTD300)			
Methadone	300	Doxylamine	100,000
METHADONE (MTD200)			
Methadone	200	Doxylamine	67,000
METHAMPHETAMINE (MET1, 000)			
ρ -Hydroxymethamphetamine	25,000	(±)-3,4-Methylenedioxy-methamphetamine	6,250
D-Methamphetamine	1,000	Mephentermine	50,000
L-Methamphetamine	12,500		
METHAMPHETAMINE (MET500)			
ρ -Hydroxymethamphetamine	12,500	(±)-3,4-Methylenedioxy-methamphetamine	3,000
D-Methamphetamine	500		
L-Methamphetamine	9,000	Mephentermine	25,000
METHAMPHETAMINE (MET300)			
ρ -Hydroxymethamphetamine	7,500	(±)-3,4-Methylenedioxy-methamphetamine	1,800
D-Methamphetamine	300		
L-Methamphetamine	3,750	Mephentermine	15,000
METHYLENEDIOXYMETHAMPHETAMINE (MDMA500) Ecstasy			
(±) 3,4-Methylenedioxy methamphetamine HCl	500	3,4-Methylenedioxyethyl -amphetamine	300
(±) 3,4-Methylenedioxyamphetamine HCl	3,000		
MORPHINE (MOP/OPI 300)			
Codeine	200	Norcodeine	6,000
Levorphanol	1,500	Normorphine	50,000
Morphine-3- β -D-Glucuronide	800	Oxycodone	30,000
Ethylmorphine	6,000	Oxymorphine	50,000
Hydrocodone	50,000	Procaine	15,000
Hydromorphone	3,000	Thebaine	6,000
6-Monoacetylmorphine	400	Morphine	300
MORPHINE (MOP/OPI 100)			
Codeine	80	Norcodeine	2,000
Levorphanol	500	Normorphine	20,000
Morphine-3- β -D-Glucuronide	300	Oxycodone	10,000
Ethylmorphine	2,000	Oxymorphine	20,000
Hydrocodone	20,000	Procaine	5,000
Hydromorphone	1,000	Thebaine	2,000
6-Monoacetylmorphine	100	Morphine	100
Methaqualone (MQL 300)			
Methaqualone	300		
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	Oxymorphine	25,000
6-Monoacetylmorphine	3,000	Procaine	50,000
Morphine 3- β -D-Glucuronide	2,000	Thebaine	25,000
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 (TML)			
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 (OXY100)			
Oxycodone	100	Hydromorphone	50,000
Oxymorphone	200	Naloxone	25,000



Levorphanol	50,000	Naltrexone	25,000
Hydrocodone	6,250		
COTININE (COT200)			
(-)-Cotinine	200	(-)-Nicotine	3,000
COTININE (COT100)			
(-)-Cotinine	100	(-)-Nicotine	1,500
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	5,000
Fenfluramine	40,000	Fentanyl	100
Norfentanyl	20	Sufentanyl	60,000
Pipamperon	25,000	Risperdal	10,000
FENTANYL (FYL10)			
Alfentanil	300,000	Perphenazine	2,500
Fenfluramine	20,000	Fentanyl	50
Norfentanyl	10	Sufentanyl	30,000
Pipamperon	12,500	Risperdal	5,000
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			200
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
6-MONO-ACETYL-MORPHINE (6-MAM)			
Codeine	> 100,000	Morphine	> 100,000
6-Monoacetylmorphine	10	Oxycodone	> 100,000
Diacetylmorphine(herion)	25	Oxymorphone	> 100,000
ETHYL GLUCURONIDE (ETG 500)			
Ethyl glucuronide			500
ETHYL GLUCURONIDE (ETG 1000)			
Ethyl glucuronide			1000
Pregabalin(PGB700)			
Pregabalin			700
Pregabalin(PGB2000)			
Pregabalin			2000
Pregabalin(PGB500)			
Pregabalin			500
SYNTHETIC MARIJUANA K3+ (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			1,000
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 MDMB-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	
Zolpidem Phenyl-4-carboxylic acid	50
Zopiclone	
Zopiclone	50
3,4-methylenedioxypyrovalerone (MDPV3000)	
3,4-methylenedioxypyrovalerone	3000
3,4-methylenedioxypyrovalerone (MDPV1000)	
3,4-methylenedioxypyrovalerone	1000

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. ACCU-TELL® Multi-Line Drug Cassette (Urine) 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 ACCU-TELL® Multi-Line Drug Cassette (Urine). 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, Methaqualone, Ketamine, Phencyclidine, Propoxyphene, Tricyclic Antidepressants, Oxycodone, Cotinine, 2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine, Fentanyl, Synthetic Marijuana, 6-mono-acetyl-morphine Ethyl Glucuronide, Pregabalin, synthetic Marijuana K3+(AB-PINACA), Zolpidem, Zopiclone or 3,4-methylenedioxypyrovalerone. The following compounds show no cross-reactivity when tested with ACCU-TELL® Multi-Line Drug Cassette (Urine) at a concentration of 100µg/mL.

Non Cross-Reacting Compounds

Acetophenetidin	Cortisone	Zomepirac	d-Pseudoephedrine
N-Acetylprocainamide	Creatinine	Ketoprofen	Quinidine
Acetylsalicylic acid	Deoxycorticosterone	Labeltalol	Quinine
Aminopyrine	Dextromethorphan	Loperamide	Salicylic acid
Amoxicillin	Diclofenac	Meprobamate	Serotonin
Ampicillin	Diffunisal	d,l-Propanolol	Sulfamethazine
l-Ascorbic acid	Digoxin	Methylphenidate	Sulindac
Apomorphine	Diphenhydramine	Nalidixic acid	Tetracycline
Aspartame	Ethyl-p-aminobenzoate	Naproxen	Tetrahydrocortisone, 3-acetate
Atropine	β-Estradiol	Niacinamide	Tetrahydrocortisone
Benzilic acid	Estrone-3-sulfate	Nifedipine	Tetrahydrozoline
Benzoic acid	Erythromycin	Norethindrone	Thiamine
Bilirubin	Fenoprofen	Noscapine	Thioridazine
d,l-Brompheniramine	Furosemide	d,l-Octopamine	d,l-Tyrosine
Caffeine	Gentisic acid	Oxalic acid	Tolbutamide
Chloral hydrate	Hemoglobin	Oxolinic acid	Triamterene
Chloramphenicol	Hydralazine	Oxymetazoline	Trifluoperazine
Chlorothiazide	Hydrochlorothiazide	Papaverine	Trimethoprim
d,l-Chlorpheniramine	Hydrocortisone	Penicillin-G	d,l-Tryptophan
Chlorpromazine	o-Hydroxyhippuric	Isoxsuprine	Uric acid
Cholesterol	3-Hydroxytyramine	Phenelzine	Verapamil
Clonidine	d,l-Isoproterenol	Prednisone	

BIBLIOGRAPHY









- Hawks RL, CN Chiang. Urine Testing for Drugs of Abuse. National Institute for Drug Abuse (NIDA), Research Monograph 73, 1986.
- Tietz NW. Textbook of Clinical Chemistry. W.B. Saunders Company. 1986; 1735.
- Stewart DJ, Inaba T, Lucassen M, Kalow W. Clin. Pharmacol. Ther. April 1979; 25 ed: 464, 264-8.
- Ambre J. J. Anal. Toxicol. 1985; 9:241.
- Winger, Gail, A Handbook of Drug and Alcohol Abuse, Third



Edition, Oxford Press, 1992, page 146.

6. Robert DeCresce. Drug Testing in the workplace, 1989 page 114.
7. Glass, IB. The International Handbook of Addiction Behavior. Routledge Publishing, New York, NY. 1991; 216
8. B. Cody, J.T., "Specimen Adulteration in drug urinalysis. Forensic Sci. Rev., 1990, 2:63.
9. C. Tsai, S.C. et.al., J. Anal. Toxicol. 1998; 22 (6): 474
10. Baselt RC. Disposition of Toxic Drugs and Chemicals in Man. 6th Ed. Biomedical Publ., Foster City, CA 2002.
11. Hardman JG, Limbird LE. Goodman and Gilman's: The Pharmacological Basis for Therapeutics. 10th Edition. McGraw Hill Medical Publishing, 2001; 208-209.
12. J.H. Lewis and J.H. Vine. "A Simple and Rapid Method for the Identification of Zolpidem Carboxylic Acid in Urine." Journal of Analytical Toxicology, Vol. 31, May 2007.
13. SALVAP, COSTAJ. Clinical pharmacokinetics and pharmacodynamics of zolpidem. Therapeutic implications [J]. Clin Pharmacokinet, 1995, 29(3): 142-153.
14. KINTZ P. Bioanalytical procedures for detection of chemical agents in hair in the case of drug-facilitated crimes [J]. Anal Bioanal Chem, 2007, 388(7): 1467-1474.
15. VILLAIN M, CHEZE M, TRACQUI A, et al. Testing for zopiclone in hair application to drug-facilitated crimes [J]. Forensic Sci Int, 2004, 145(2-3): 117-121.
16. HOJER J, SALMONSON H, SUNDIN P. Zaleplon induced coma and bluish-green urine: possible antidotal effect by flumazenil [J]. J Toxicol Clin Toxicol, 2002, 40(5): 571-572.
17. DROVER D, LEMMENS H, NAIDU S, et al. Pharmacokinetics, pharmacodynamics, and relative pharmacokinetic/pharmacodynamic profiles of zaleplon and zolpidem [J]. Clin Ther, 2000, 22(12): 1443-1461
18. SCOTT-HAM M, BURTON F C. Toxicological findings in cases of alleged drug-facilitated sexual assault in the United Kingdom over a 3-year period [J]. J Clin Forensic Med, 2005, 12(4): 175-186.
19. Murray, Brittany L., Christine M. Murphy, and Michael C. Beuhler. "Death Following Recreational Use of Designer Drug „Bath Salts“ Containing 3,4-Methylenedioxypyrovalerone (MDPV)." J. Med. Toxicol 2012.8: 69-75.

GLOSSARY OF SYMBOLS

	Catalog number		Temperature limitation
	Consult instructions for use		Batch code
	In vitro diagnostic medical device		Use by
	Manufacturer		Do not reuse



AccuBioTech Co., Ltd.
Building 4, Maohua Industry Park, No. 1, CAIDA Third Street,
Nancai Town, Shunyi District, 101399, Beijing, P.R.China
Tel: 0086 10 80484980 Web: www.accubiotech.com
Medical Device Safety Service GmbH
Schiffgraben 41, 30175 Hannover, Germany