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DrugSIP®

Oral Fluid Cassette

NOTA: Documentación en español (Página 6)

INTENDED USE

Oral Fluid DrugSIP® Cassette is an in vitro, point of collection test for the simultaneous detection of 6 (six) drugs of abuse in oral fluid specimens. It is a lateral flow immunoassay in which each drug of abuse analyte is represented by a separate line in the test window of the device. The test system consists of an untreated collection swab with a built-in sample adequacy feature and a test device. Oral Fluid DrugSIP® Cassette is designed for professional use and provides only a preliminary result. Oral Fluid DrugSIP® Cassette is intended for use in the qualitative detection of the following drugs of abuse in human oral fluid.

Compound	Abbreviation	Level ng/mL
Amphetamine (d-amphetamine sulphate)	AMP	50
Cocaine (benzoylecgonine)	COC	20
Methamphetamine	MET	50
Opiates (morphine)	OPI	40
Phencyclidine (PCP)	PCP	10
THC Δ9 - Tetrahydrocannabinol (THC Parent)	THC	40

The Oral Fluid DrugSIP® Cassette provides only preliminary drug rest results. For a quantitative result for confirmation of a preliminary positive result obtained by the Oral Fluid DrugSIP® Cassette, a more specific method must be used. GC/MS or LC/MS/MS is the preferred confirmatory method. The samples for confirmatory testing should be collected with the oral fluid confirmation tube provided.

SUMMARY AND EXPLANATION

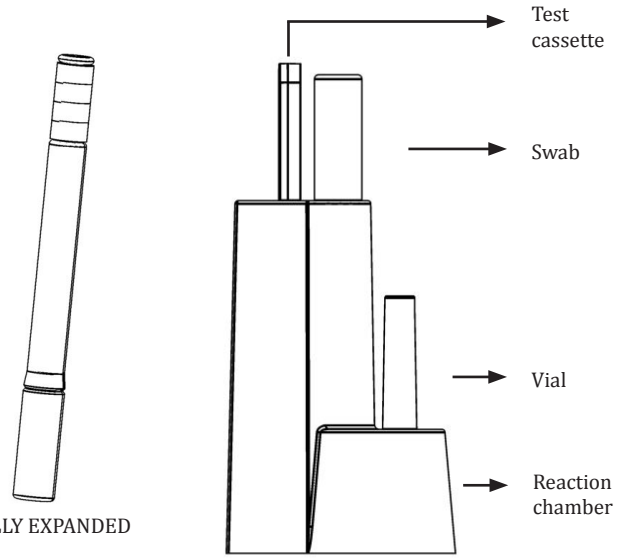
Oral Fluid DrugSIP® Cassette is a competitive immunoassay utilizing highly specific reactions between antibodies and antigens for the simultaneous detection of amphetamine, cocaine, methamphetamine, opiates, phencyclidine and THC in oral fluid.

Historically drug screening has been performed on urine specimens. Oral fluid has been introduced as an effective specimen for the detection of drugs of abuse. Collection of an oral fluid specimen is less invasive than urine, can easily be observed and is less susceptible to dilution or adulteration. Oral fluid is comprised of saliva and other residues in the mouth. A growing body of literature describes the detection and related pharmacokinetic of amphetamine, cocaine, methamphetamine, opiates, phencyclidine and THC in oral fluids. It has been shown that most drugs enter the oral fluid through the salivary glands by passive diffusion from the bloodstream. Studies have shown that Δ^9 – Tetrahydrocannabinol, the active drug in marijuana, does not pass from the bloodstream to saliva and therefore must be tested by detection of the residual THC parent drug in the oral fluid. Oral fluid drug testing detects recent drug use. The sensitivity and specificity of the lateral flow immunoassay drug screening technology incorporated in Oral Fluid DrugSIP® Cassette provides an accurate point of collection test without urine collection or complicated laboratory systems.

PRINCIPLES OF THE TEST

Oral Fluid DrugSIP® Cassette is a simple, qualitative, visually read test that detects recent drug use in oral fluid samples. Oral Fluid DrugSIP® Cassette provides a drug screening method with convenient collection and test results that can be used at the point of collection.

Each Oral Fluid DrugSIP® Cassette Device contains (1) foil sealed vial containing a running buffer, a reaction chamber and a test cassette. The test cassette contains (2) membrane test strips each containing dried multiple gold-labeled antibodies specific to the target drugs of abuse. The test strip membranes each have up to (3) different drug conjugates immobilized as separate test lines and a "Test Valid" control line. Except for a separate oral fluid collector, the Oral Fluid DrugSIP® Cassette test is a unitized system.



FULLY EXPANDED

The contents of the running buffer vial are released into the reaction chamber. The running buffer serves to reduce the viscosity of oral fluid specimens to ensure efficient capillary flow across the test strips. The collected oral fluid sample is then introduced into the reaction chamber to be thoroughly mixed with the running buffer. The mixing is done using a (10) second sliding agitation. The test cassette is then pushed down into the reaction chamber and the test begins to run allowing the strips to come in contact with the buffer and oral fluid mixture that flows up the strip using capillary action. The oral fluid running buffer mixture first comes in contact with the dried multiple gold-labeled antibodies where a pre-incubation phase occurs and allows the gold labeled antibodies sufficient time to bind drug molecules in the specimen, allowing adequate assay performance. The combined constituents are carried up the test strip to react with the individual drug conjugates contained on the test strip membrane. When drugs are present in the oral fluid

specimen, those drug molecules will have occupied the antibody binding sites and not allow the gold-labeled antibodies to bind to the immobilized drug conjugates on the test lines. There will be no color formed on the test line. If the oral fluid specimen does not contain any drugs, the gold labeled antibodies will have unoccupied binding sites that can bind to the immobilized drug conjugates and develop color on the test lines. The "Test Valid" control line consists of an immobilized antibody that can bind to the excess gold-labeled antibodies.

REAGENTS AND MATERIALS SUPPLIED

Each case of Oral Fluid DrugSIP® Cassette contains:
1. Fifteen (15) collection swabs. Each swab has untreated medical grade absorbent fiber sponges compressed into discs that expand during the collection process.
2. Fifteen (15) test devices. The test device consists of a test slide containing two (2) individual test channels each containing a reagent strip. Each reagent strip contains a membrane with two (2) attached absorbent pads. The upper pad acts as a reservoir for the specimen after it migrates through the membrane. The test lines contain a carrier-drug conjugate for the individual analytes, dried on the membrane. A control line, containing goat anti-mouse IgG, is placed above the test lines on the membrane.
3. Product Instructions

MATERIALS REQUIRED BUT NOT PROVIDED

Manual test performance: timer
Automatic test performance: DrugSIP® Multi Analyzer electronic device

WARNINGS AND PRECAUTIONS

For in vitro diagnostic use only.
Follow proper handling and disposal procedures.

While the Centers for Disease Control (CDC) has stated that saliva is not a potentially infectious bodily fluid and "Universal precautions do not apply to saliva except when visibly contaminated with blood or in the dental setting where blood contamination of saliva is predictable", the use of gloves is recommended for handling of all samples and is good hygienic practice. The Oral Fluid DrugSIP® Cassette test device and collection swab may be disposed of in a regular trash receptacle without any special handling.

Do not use if foil pouch seal is not intact (seal broken, tears, holes, etc.). Do not use if beyond the expiration date printed on the pouch. The expiration date is formatted as YYYY/MM, e.g. 2014/01 means the kits should not be used after the end of January, 2014.

STORAGE

The Oral Fluid DrugSIP® Cassette device should be stored at room temperature (59° to 86°F or 15° to 30°C) or refrigerated (36° to 46°F or 2° to 8°C). If refrigerated, allow test device to warm up to room temperature before conducting any testing.

SPECIMEN COLLECTION AND HANDLING

IMPORTANT: At least ten (10) minutes prior to administering the test, instruct the donor not to eat, drink, smoke or chew tobacco products.

Preliminary positive samples are collected in the collection tube supplied and mailed immediately to confirm the test.
Confirmation laboratory may keep samples for up to fifteen (15) days when stored at 2-8°C or up to forty-four (44) days when stored below -10°C.

PROCEDURE

1. Ensure donor has had nothing in their mouth for at least ten (10) minutes prior to collecting the oral fluid specimen and performing the Oral Fluid DrugSIP® Cassette test.
2. Verify the expiration date on the pouch. Do not use beyond the expiration date. Remove the Oral Fluid DrugSIP® Cassette device from the foil pouch just prior to use. Do not use if the foil pouch is not intact. Verify that the test cassette has not been completely pushed down into the sample well. If it has been, pull the cassette back up until the testing interpretation examples or the QR code on the cassette are visible.
3. Keeping the device on a flat surface, press down the plastic buffer vial firmly to break the vial seal.
4.Squeeze the vial two (2) times to release the buffer into the sample well.
5. Specimen collection: Instruct the donor to remove the collection swab from the sealed pouch to expose the sponges. Instruct the donor to run the swab loosely between each cheek and gum (top and bottom) for at least 30 seconds on each side. Rub across the tongue for 30 seconds. Rub around the entire gum line for another 30 seconds. Repeat this until the sponges are fully expanded past the indicator on the collector shaft. Total collection time should take around two (2) minutes, but for some donors extra time may be required.
6. While keeping the device on the flat surface, place the fully expanded collection swab into the sample well by allowing it to drop in vertically. Without touching the cassette, push the collection swab down firmly to dispense the collected specimen from the sponge.
7. While holding the front and back of the test, agitate by sliding back and forth for approximately ten (10) seconds. WARNING: A strong shaking can cause a buffer and sample leak. Later, let the test sit for an additional 180 seconds.
8. Slowly press the test cassette down completely until it stops. This will start the testing.
9. The test results may be interpreted in five (5) to six (6) minutes. Ensure that the control line has formed and interpret the results as described in the "Interpretation of Results" section.
10. If all drug results are negative or if no further confirmation tests are required, dispose of test device and collection swab in a regular trash receptacle. If confirmation is desired for testing of a non-negative result, have the donor add additional specimen. Follow the laboratory chain of custody protocol for packaging and shipping the collection tube to the laboratory, as determined by your organizations protocol.

INTERPRETATION OF RESULTS

The test validity and results may be interpreted at the end of five to six (5 to 6) minutes after the test cassette has been pushed into the device (step 8 of the procedure). If all lines have formed (test and control) prior to the five (5) minute test period, the test may be read as negative. If all lines have not formed, please wait the full time period to read (5-6 minutes).

IMPORTANT: Do not interpret the test after six (6) minutes.

Test Valid

The device control is the uppermost line appearing in each test area, labeled "C". Before reading the test result lines, verify that both of the Control lines have formed. If one or both of the Control lines does not appear, the test is invalid and the test results must not be used. The test should be repeated using a new Oral Fluid DrugSIP® Cassette device.

Negative

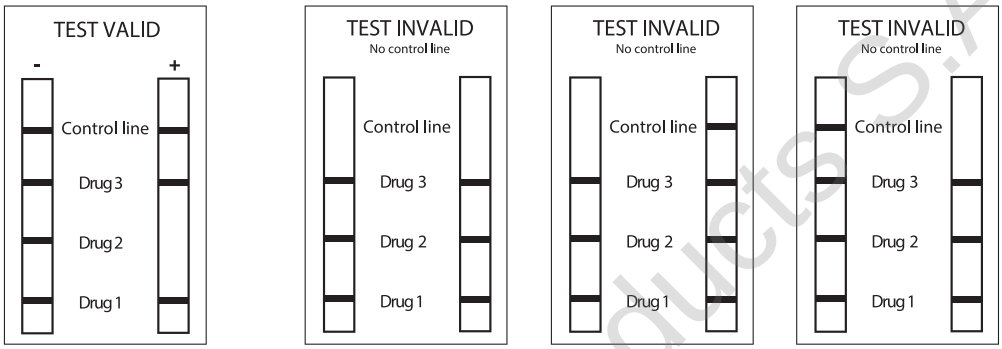
A NEGATIVE result for any single drug is the **presence of the purple-red line and a purple-red line adjacent to the particular drug. Read each test independently. Do not compare color intensity of one test line to another. When a faint purple-red line for a specific test is obtained in the test region along with the presence of the control line, the sample should be considered negative.**

Preliminary Positive (Non-negative)

A PRELIMINARY POSITIVE result for any single drug is the presence of the purple-red Control line and **no line adjacent to the particular drug at six (6) minutes.** Oral Fluid DrugSIP® Cassette provides a preliminary result only. After conducting the Oral Fluid DrugSIP® Cassette test, the included collection tube may be used to send additional sample to a laboratory for confirmation testing. Ensure the cap is secure on the collection tube; place a tamper evident seal so that it is in contact with the cap and the tube. The polypropylene collection tube may be placed in a biohazard bag for shipment to a laboratory.

Examples of Results

Control Line	Test Lines for Each Drug	Interpretation
No control line present	No test line present	Invalid test
No control line present	Test line present	Invalid test
Control line present	Test line present	Negative
Control line present	No test line present	Preliminary positive



Example: Drug 2 results are preliminary positive

QUALITY CONTROL INTERNAL

Procedural controls (one (1) Control line per test strip, two (2) in the device) are built into each test device, indicating that the reagents on the device are present and functioning properly. It is also good laboratory practice to use positive and negative controls to ensure proper test performance. Control samples are commercially available. Positive and negative controls should be used prior to using a new lot/shipment of test devices. Additional controls may be used according to guidelines or requirements of local, state, and/or federal regulations or accrediting organizations.

LIMITATIONS OF PROCEDURE

Oral Fluid DrugSIP® Cassette is designed for use with human oral fluid only.

Positive results only indicate a preliminary positive result; a presumptive presence of drugs in the sample. A preliminary positive result does not indicate or measure intoxication.

Oral Fluid DrugSIP® Cassette provides only a preliminary qualitative test result. The use of a more specific alternate analytical method is recommended to obtain a confirmed analytical result. Gas chromatography/ mass spectrometry (GC/MS), gas chromatography/ mass spectrometry/ mass spectrometry (GC/MS/MS), or liquid chromatography/ mass spectrometry/ mass spectrometry (LC/MS/MS) are recognized confirmatory methods. Apply clinical and professional judgment to any drugs of abuse test result, particularly when preliminary positive results are obtained. While it is not possible to test every substance for interference the most common substances have been tested and the data is listed below. Other substances and/or factors not listed may interfere with the test and cause discrepant results.

INTERFERENCE TESTING

The performance of the Oral Fluid DrugSIP® Cassette was tested for interference of cross-reactivity with non-like compounds listed below. The compounds were spiked at 10,000ng/mL for each determination into samples at +50% and +75% of each drug cutoff. For any observed interferences the compounds were made up at lesser concentrations of 7,500ng/mL, 5,000ng/mL, etc. until no interference was observed. There were no interferences observed from the list of compounds below.

Acetaminophen
Ibuprofen
Aspirin
Ascorbic Acid
Aspartame
Caffeine
Serotonin
d-Naproxin
Tetracycline
Benzoic Acid
Doxylamine
Bezillic Acid
Bilirubin
Promazine
d-Chlorpheniramine
Cholesterol
Dextromethorphan
Thiamine
Diphenhydramine
D,l, Tryptophan
l-Epinephrine
Erythromycin
Lidocaine
Mepiridine
Promethazine
Salicyclic Acid
Tryptamine
Hemoglobin
Human IgA
Human IgG
Human IgM
Papaverene
Ranitidine
Riboflavin
Benzocaine

Food, Beverage and Hygiene
Samples were tested at +50% and +75% of the drug cutoffs. The substances listed below were tested in duplicate after spiking 1% concentrations to determine if test performance is affected. There was no interference observed from any of the consumed constituents below.

Mouth Wash
Sugar
Salt
Toothpaste
Gum
Cough Syrup
Orange Juice
Food Colors: Red, Blue, Green
Tea
Cranberry Juice
Carbonated Cola
Cigarettes

pH Testing
Samples at +50% and +75% of the drug cutoffs were tested at various ranges of pH (pH 4.5- 8.5). Samples were then tested with the Oral Fluid DrugSIP® Cassette device in duplicate. There was no change in test results and no interference was observed.

CROSS REACTIVITY

Potential cross-reactive substances were tested in the laboratory by preparing pure standards at known concentrations in an artificial oral fluid solution. The table below lists the lowest concentrations tested that showed preliminary positive results.

Lowest Concentration (ng/mL) of Reactive Results
Testing showed that the listed like-structured compounds cross-reacted at the following listed concentrations.

Amphetamine-d Cutoff 50ng/mL	**Reactive at:**
1-Amphetamine	5000ng/mL
Phentermine	100ng/mL
b-phenylethylamine	8000ng/mL
Tyramine	3500ng/mL
Para-methoxypheneramine	6000ng/mL
MDA	100ng/mL
d-methamphetamine Cutoff 40ng/mL	**Reactive at:**
d,l,ephedrine	3500ng/mL
MDEA	2500ng/mL
para-methocypheneramine	250ng/mL
d,l, methamphetamine	60ng/mL
1, methamphetamine	1000ng/mL
1R, 2S, 1 ephederine	8000ng/mL
MDMA	75ng/mL
Morphine Cutoff 40ng/ML	**Reactive at:**
Hydromorphone	300ng/mL
Heroine	50ng/mL
Nalorphone	2000ng/mL

Hydrocodone	200ng/mL
6-acetylcodine	50ng/mL
Dyhydrocodine	100ng/mL
6-acetylmorphine	60ng/mL
Codeine	60ng/mL
Delta-9 THC Cutoff 40ng/mL	**Reactive at:**
Cannibinol	200ng/mL
Delta-9 THC-COOH	20ng/mL
11-nor-delta-9 THC-COOH	10ng/mL
11-hydroxy-delta-9-THC	50ng/mL
Delta 8-Tetrahydrocannibinol	75ng/mL
Benzoylecgonine (COC) Cutoff 20ng/mL	**Reactive at:**
Cocaine	9000ng/mL
PCP Cutoff 10ng/mL	**Reactive at:**
TCA	>3000ng/mL
Dextromethorphan	27,500ng/mL
4-hydroxy-phencyclidine	500ng/mL
Ketamine	100,000ng/mL
Doxylamine	>50,000ng/mL

CLINICAL PREFORMANCE

			NEGATIVE			POSITIVE		
AMP (d-amphetamine) (50 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	0	17	15	12	66	91%
		NEG	712	22	6	1	7	82%

			NEGATIVE			POSITIVE		
OPI (morphine) (40 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	23	24	25	26	346	92%
		NEG	452	50	13	4	30	88%

			NEGATIVE			POSITIVE		
COC (benzoylecgonine) (20 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	15	10	22	21	322	90%
		NEG	486	67	9	6	32	92%

			NEGATIVE			POSITIVE		
THC (Delta-9 THC) (40 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	81	92	20	9	75	82%
		NEG	513	171	11	5	13	78%

			NEGATIVE			POSITIVE		
METH (d-methamphetamine) (50 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	5	4	6	4	120	94%
		NEG	809	37	0	1	7	98%

			NEGATIVE			POSITIVE		
PCP (phencyclidine) (10 ng/mL Cutoff)	Reference Method	Conc.	Negative	Low Negative	Near Negative	Near Positive	High Positive	% Agreement
			0% Cutoff	< 50% Cutoff	50-100% Cutoff	100%-150% Cutoff	> 150% Cutoff	
	Manufacturer Test Result	POS	21	17	4	5	61	90%
		NEG	871	6	0	0	7	95%

BIBLIOGRAPHY

1. Cone E.J. (2001). Legal, workplace, and treatment drug testing with alternative biological matrices on a global scale. Forensic Sci Int, 121:7.
2. Yacoubian G.S., Wish E.D., and Perez D.M. (2001). A comparison of saliva testing to urinalysis in an arrestee population. J of Psychoactive Drugs, 33:289.
3. Niedbala R.S., Kardos K.W., Fritch D.F., Kardos S., Fries T., and Waga J. (2001). Detection of marijuana use by oral fluid and urine analysis following single-dose administration of smoked and oral marijuana. J Anal Toxicol, 25:289.
4. Caplan Y.H. and Goldberger B.A. (2001). Alternative specimens for workplace drug testing. J Anal Toxicol, 25:396.
5. Cone E.J., Oyler J., et al. (1997). Cocaine Disposition in Saliva Following Intravenous, Intranasal, and Smoked Administration. J Anal Toxicol, 21:465.
6. Samyn N., Verstraete A., van Haeren C., and Kintz P. (1999). Analysis of drugs of abuse in saliva, Forensic Sci Rev, 11:1.
7. Hawks R.L. (1982). The constituents of cannabis and the disposition and metabolism of Cannabinoids. In Hawks RL (Ed): The Analysis of Cannabinoids in Biological Fluids, NIDA Research Monograph Series 42; U.S. Government Printing Office; Washington, DC; p. 125.
8. Jenkins A.J., Oyler J.M., and Cone E.J. (1995). Comparison of heroin and cocaine concentrations in saliva with concentrations in blood and plasma. J Anal Toxicol, 19:359.
9. Jenkins A.J. (1998). Detecting Drugs of Abuse in Saliva. Ther Drug Monit and Toxicol 19:3.
10. O'Neal C.L., Crouch D.J., et al. (1999) Correlation of Saliva Codeine Concentrations with Plasma Concentrations After Oral Codeine Administration. J Anal Toxicol, 23:452.
11. CDC (1987) Universal Precautions for Prevention of Transmission of HIV and Other Bloodborne Infections. MMWR 1988,37:377-388

Oral Fluid DrugSIP® Cassette was developed by AlphaSIP and is manufactured by American Bio Medica Corporation. Oral Fluid DrugSIP® Cassette Patent Pending.

Customer Service/ Technical Support: Within the Spain: 976 512 887 / Outside the Spain: +34 976 512 887. Website: www.alphasip.es

AlphaSIP hereby warranties that its products covered under these Product Instructions will be free from defects in workmanship and materials at the time of sale. AlphaSIP shall only be responsible for direct damages that may result from such defect in workmanship or materials. Test results should be confirmed by an accepted reference method such as GC/MS.

BIBLIOGRAFÍA

1. Cone E.J. (2001). Legal, workplace, and treatment drug testing with alternative biological matrices on a global scale. Forensic Sci Int, 121:7.
2. Yacoubian G.S., Wish E.D., and Perez D.M. (2001). A comparison of saliva testing to urinalysis in an arrestee population. J of Psychoactive Drugs, 33:289.
3. Niedbala R.S., Kardos K.W., Fritch D.F., Kardos S., Fries T., and Waga J. (2001). Detection of marijuana use by oral fluid and urine analysis following single-dose administration of smoked and oral marijuana. J Anal Toxicol, 25:289.
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7. Hawks R.L. (1982). The constituents of cannabis and the disposition and metabolism of Cannabinoids. In Hawks RL (Ed): The Analysis of Cannabinoids in Biological Fluids, NIDA Research Monograph Series 42; U.S. Government Printing Office; Washington, DC; p. 125.
8. Jenkins A.J., Oyler J.M., and Cone E.J. (1995). Comparison of heroin and cocaine concentrations in saliva with concentrations in blood and plasma. J Anal Toxicol, 19:359.
9. Jenkins A.J. (1998). Detecting Drugs of Abuse in Saliva. Ther Drug Monit and Toxicol 19:3.
10. O'Neal C.L., Crouch D.J., et al. (1999) Correlation of Saliva Codeine Concentrations with Plasma Concentrations After Oral Codeine Administration. J Anal Toxicol, 23:452.
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Oral Fluid DrugSIP® Cassette ha sido desarrollado por AlphaSIP y fabricado por American Bio Medica Corporation. Oral Fluid DrugSIP® Cassette Patente Depositada.

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AlphaSIP garantiza que sus productos cubiertos por estas Instrucciones del producto estarán libres de defectos de fabricación y materiales en el momento de la venta. AlphaSIP sólo será responsable de los daños directos que puedan derivarse de ese defecto de fabricación o materiales. Los resultados del examen deben ser confirmadas por un método de referencia aceptado como GC / MS.

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06-RLB-840 DrugSip

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