



## Saliva Test Product Training

Lisa  
September, 2021

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How does saliva test work

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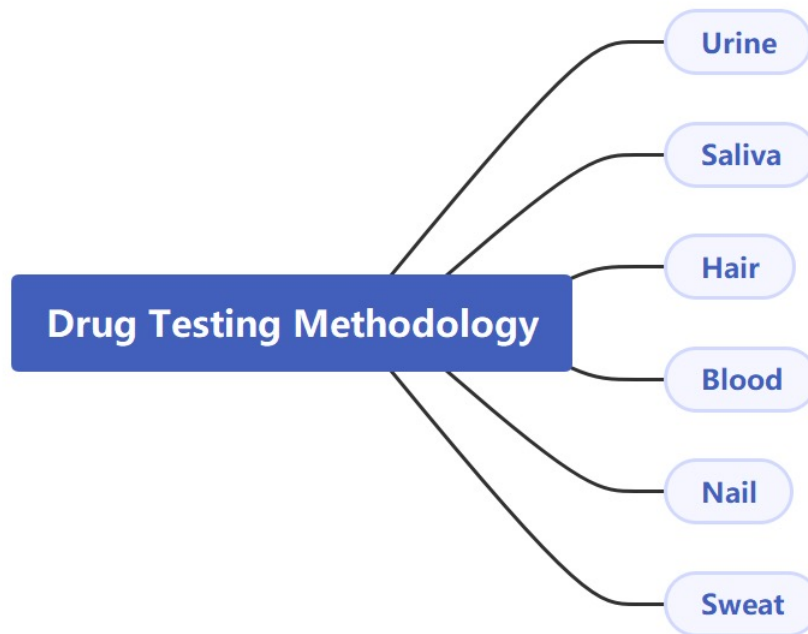
Why Saliva Test

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- The saliva test device is an immunoassay based on the principle of competitive binding. Drugs that may be present in the oral fluid specimen compete against their respective drug conjugate for binding sites on their specific antibody.
  - Drug testing, a portion of the oral fluid specimen migrates upward by capillary action. A drug, if present in the oral fluid specimen below its cutoff 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 line region of the specific drug strip. The presence of the drug above the cutoff concentration in the oral fluid specimen will saturate all the binding sites of the antibody. Therefore, the colored line will not form in the test line region.
  - A drug-positive oral fluid specimen will not generate a colored line in the specific test line region of the strip because of drug competition, while a drug-negative oral fluid specimen will generate a line in the test line region because of the absence of drug competition.
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- The test is a lateral flow chromatographic immunoassay for the qualitative detection of multiple drugs and their metabolites in oral fluids based on the principle of competitive binding.
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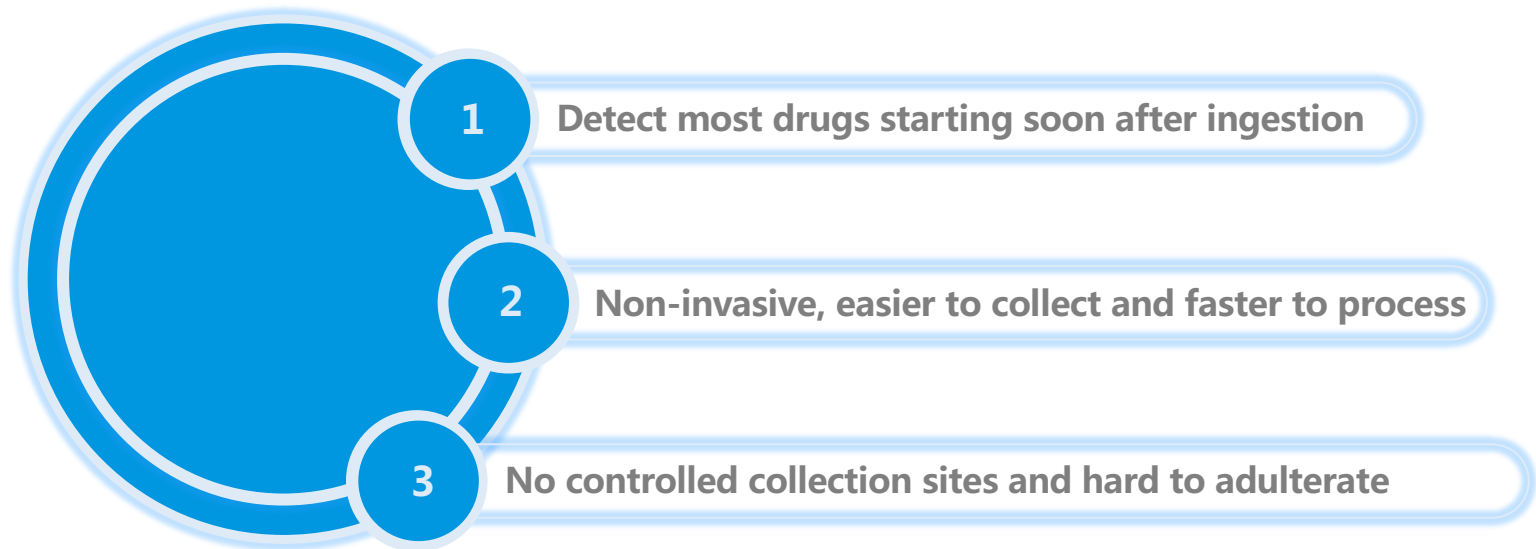
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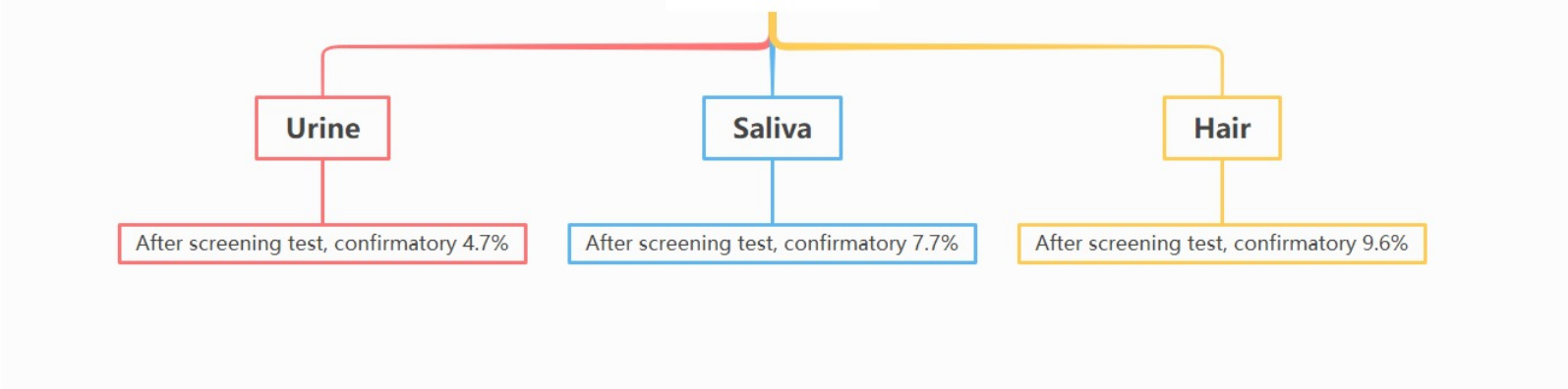
**Performance Requirements**

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**What do we have**



# Confirmatory after screening test



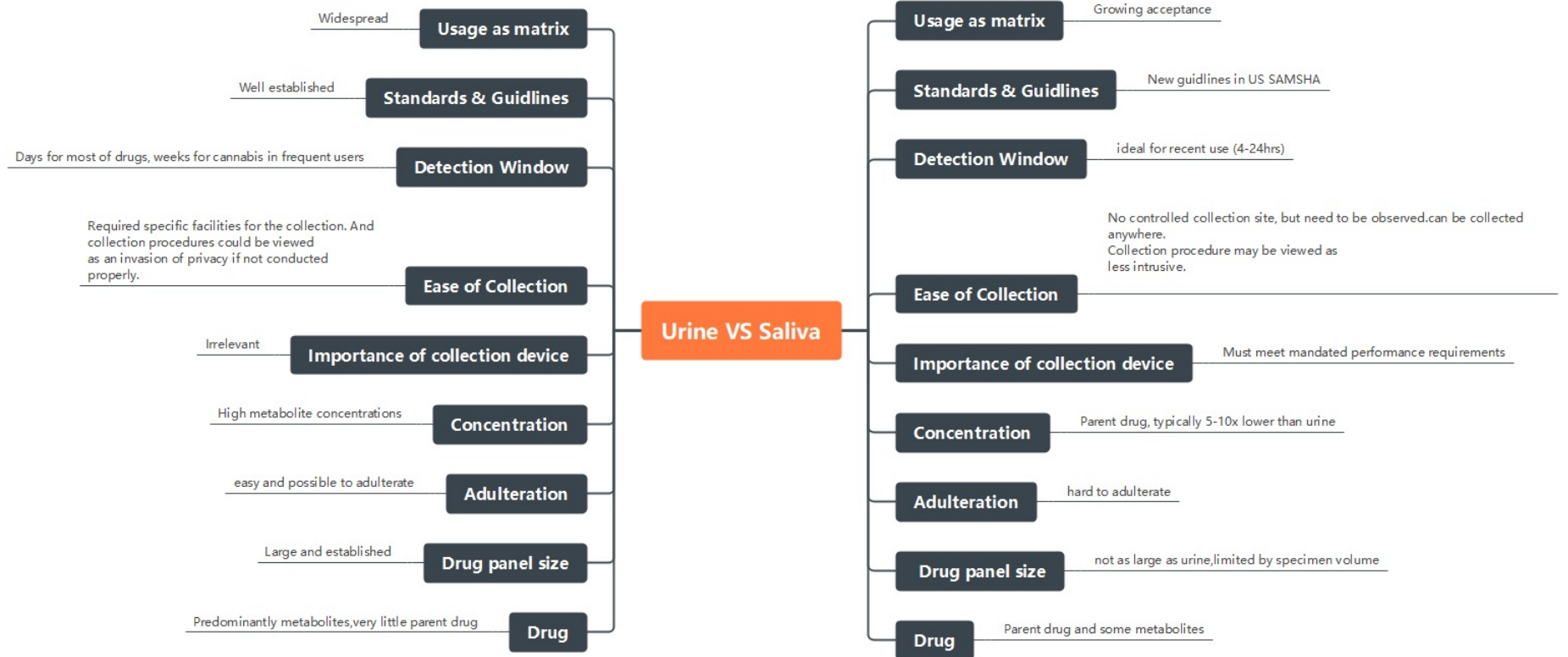


Material	Detection window					On-site testing possible?
	<i>Minutes</i>	<i>Hours</i>	<i>Days</i>	<i>Weeks</i>	<i>Months</i>	
Blood	Immediately after consumption to a few hours					No
Saliva	Shortly after consumption to several hours					Yes
Urine	Significantly delayed after consumption to several days					Yes
Hair	A few days after last consumed to several months					No

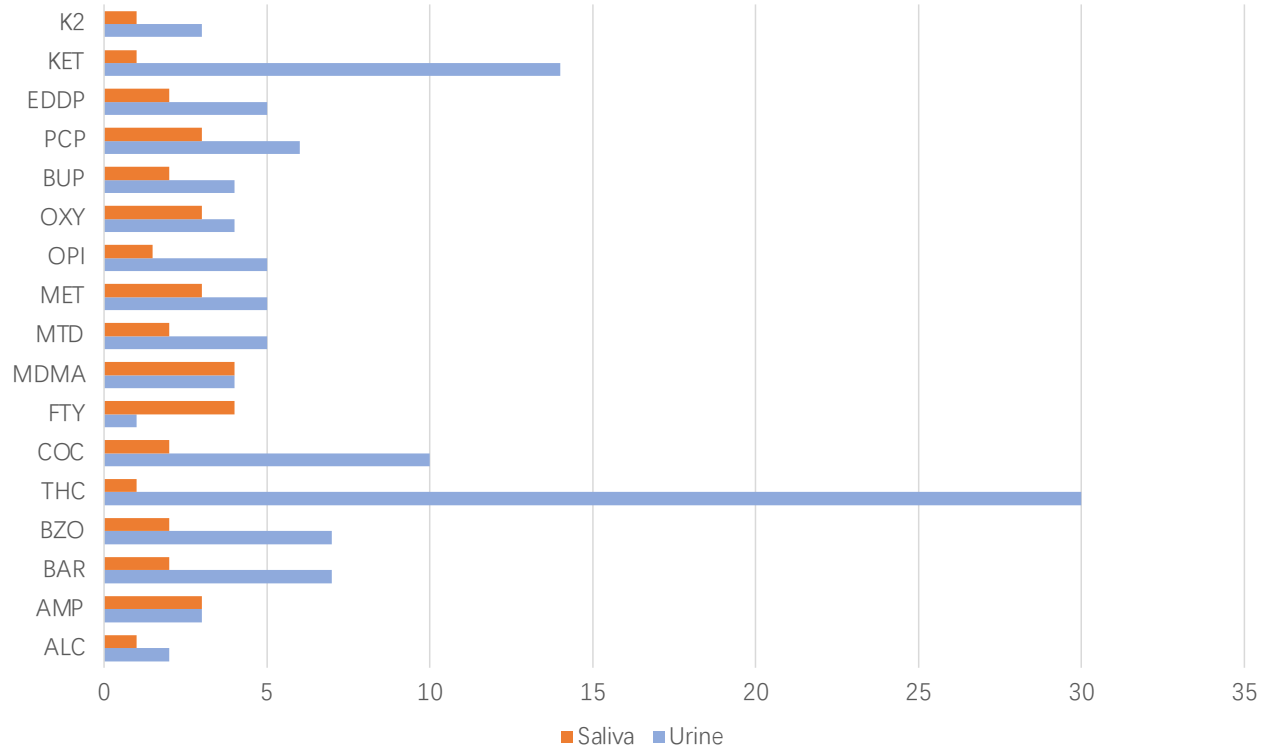
- Difficult to adulterate
  - Simple, rapid, minimally-invasive collection
  - Indication of adequate specimen volume
  - Generally, parent drugs present in higher concentration than metabolites
  - Potentially shows recent ingestion
  - Ideal for post-accident or “for cause” testing
  - No special collection facilities required
  - Easier implementation of random testing
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- Low concentrations of drug present
  - Limited or unknown sample site in some devices
  - Low specimen volume may limit drug test panel
  - Window of exposure usually shorter than urine
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# Urine VS Saliva



### Detection Window for Urine VS Saliva



Drug	Saliva Cutoff	Urine Cut off
THC ( $\Delta^9$ -THC)	THC 40	THC 50
THC (11-nor-D9-THC-9 COOH)	THC 25	
ALC	> 0.02% B.A.C.	
AMP (Amphetamines)	AMP 40/50	AMP 300/500/1000
BZO (Benzodiazepines)	BZO 30	BZO 200
BUP (Buprenorphine)	BUP 5	BUP 10
BAR (Barbiturates)	BAR 60	BAR 300
COT (Cotinine)		COT 200
COC (Cocaine)	COC 20	COC 150/300
EDDP	EDDP 20	EDDP 100/300
FYL (Fentanyl)	FTY 30	FTY 20
K2 (Synthetic marijuana)	K2 5	K2 50
KET (Ketamine)	KET 100	KET 1000
MEP (Mephedrone)		
MET (Methamphetamine)	MET 50	MET 500/1000
MTD (Methadone)	MTD 30	MTD 200/300
MDMA (Ecstasy/Methylenedioxyamfetamine)	MDMA 100	MDMA 500
OPI (Opiate)	OPI 40	OPI 300/2000
OXY (Oxycodone)	OXY 20	OXY 100
PGB (Pregabalin)		PGB 500
PCP (Phencyclidine)	PCP 10	PCP 25
TCA (Tricyclic antidepressant)		TCA 1000
6-MAM (6-Acetylmorphine)		6-MAM 10
$\alpha$ -PVP ( $\alpha$ -Pyrrolidinovalerophenone)		
MOR (Morphine)	MOP 40	MOP 100
PPX (Propoxyphene)		PPX 300

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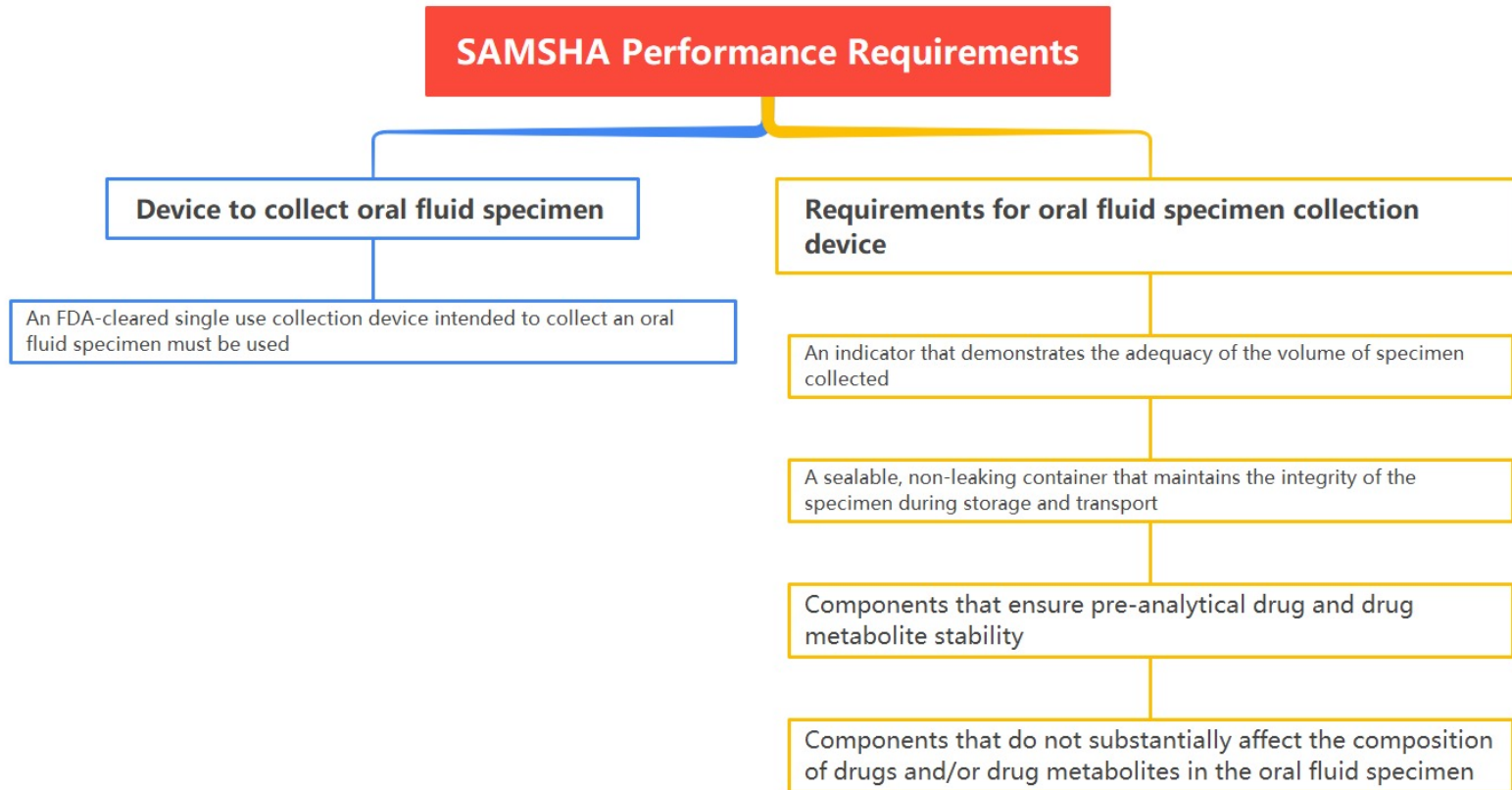
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**What do we have**







### T-square

- Up to 12 different drugs & alcohol testing
- Optional saliva saturation indicator
- Flexible configurations for different uses
- Convenient rapid screening and fast results



### T-swab

- Up to 6 different drugs & alcohol testing
  - Small & less sample needed
  - Easy to use for collection
  - Available for both "E&I Exempt" and "Forensic Use Only"
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## Exempt Panels

Drug	Cutoff	Drug	Cutoff
Barbiturates (BAR)	20 ng/mL	Methamphetamine (MET)	50 ng/mL
Methylenedioxy-methamphetamine (MDMA)	50 ng/mL	Opiate (OPI)	40 ng/mL
Marijuana (THC)	40 ng/mL	Oxycodone (OXY)	20 ng/mL
Amphetamine (AMP)	50 ng/mL	Methadone (MTD)	30 ng/mL
Cocaine (COC)	20 ng/mL	Phencyclidine (PCP)	10 ng/mL

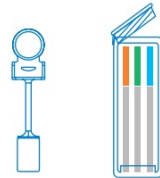
## Forensic Use Panels

	Alcohol (ACL)	0.02g/dL		Ketamine (KET)	100ng/mL
	Amphetamine (AMP)	50ng/mL		Methadone (MTD)	30ng/mL
	Barbiturates (BAR)	60ng/mL		Methamphetamine ( MET/mAMP)	50ng/mL
	Benzodiazepines (BZO)	30ng/mL		Methylenedioxymethamphetamine (MDMA)	100ng/mL
	Buprenorphine (BUP)	5ng/mL		Opiate (OPI)	40ng/mL
	Cocaine (COC)	20ng/mL		Oxycodone (OXY)	20ng/mL
	Cannabinoids (THC)	25ng/mL		Phencyclidine (PCP)	10ng/mL
	2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidine (EDDP)	20ng/mL		Synthetic Canabisnoids (K2)	5ng/mL
	Fentanyl (FTY)	30ng/mL			

# Testing Procedures for T-square

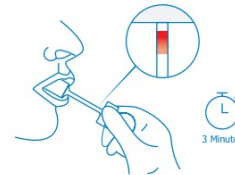
### Step 1

Remove the test cube and the sponge collector from the foil pouch by tearing at the notch. Place the test cube upright on a level surface.



### Step 2

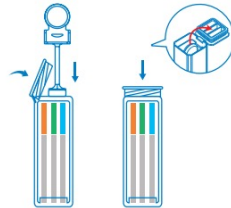
Put the sponge end of the collector on your tongue to collect oral fluid for about 7 minutes or 3 minutes if using the saturation indicator, until the color on saturation indicator strip appears RED in the indicator window.



### Step 3

Open the test cube and place the fully saturated sponge collector inside the test cube. Press the sponge collector down firmly until it reaches the bottom of the test cube, then close the cube lid tightly while compressing the collector. Keep test cube upright on a flat surface and follow Step 4.

**Note:** Make sure the sponge collector is inserted vertically and the handle of collector is put into the clamp.



### Step 4

#### 1. Interpreting Alcohol Test Result:

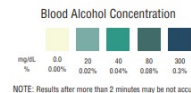
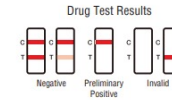
Read result at 2 minutes.

**NEGATIVE:** No color changes on reaction pad.

**POSITIVE:** Compare the color of reaction pad with provided color chart to estimate the approximate blood alcohol level.

#### 2. Interpreting Drug Test Results:

Read results at 5 minutes. A negative result will be shown by two color lines on the strip. The intensity of the line does not matter. A positive result will be shown by a single color line in the C section of the test strip. If there are no color lines present or a single color line in the T section of the test strip, the results are invalid, and the test should be repeated.



# Testing Procedures for T-swab

1 Holding the grip of the device.

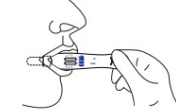
2 Remove the blue cap to expose the collection pad.



3 Place the collection pad into mouth horizontally.



A. Open the mouth and rub the collection pad inside the mouth against one cheek gently in a circular motion several times (approximately 15-20).



B. Keep it horizontal still, gently rub the collection pad against the opposite cheek in a circular motion several times (approximately 15-20).



C. Rub the collection pad on top of the tongue several times (approximately 15-20).

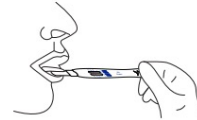


**Note:** Do not chew, suck, blow, bite or bend the collection pad.

4 Place the collection pad under your tongue and press the tip of your tongue against the collection pad until red liquid lines appear in both result windows.



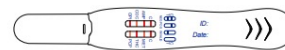
5 Hold the device in place by hand until red liquid appears in both result windows.



6 Remove the device from mouth as soon as the red line appears in both test windows.

**Note:** The majority of the red liquid will appear in both result windows within 1 minutes. If no red line is observed after 5 minutes, discard the device, review procedures 1-5 above with the donor and repeat the test using a new device.

7 Re-cap the device, lay it on a flat surface and start timing. Read the result at 5-10 minutes. Do not read after 10 minutes.



# THANK YOU!



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