

DRINK DETECTIVE

Drinks Test Device Technical Insert

INTENDED USE

The Drink Detective is a simple to use test developed specially for detecting all the most common drugs put into drinks to facilitate drink spiking and drug rape.

PRINCIPLE

The G test detects particular changes in most drinks caused by spiking with clandestine GHB. A drink adulterated with illicitly manufactured GHB will instantly turn the G paper blue; the paper with most drinks will remain pink. Only a few drinks, like those which are oily or milk like and have the same property as illicit GHB and will give a false positive reaction.

Ketamine is a chemical known as a secondary amine. It can be detected with a special reagent in the K test, with little cross reactivity to other substances in drinks. These drugs produce a red/pink colour change. If no drug is present the paper will usually turn a white or grey colour. This test has proved to be very sensitive, but since the positive reaction is a red/pink colour, take care not to confuse a slight red/pink tint from the natural colour in red wine and orange juice. Positive results are obvious.

Benzodiazepines, or benzos, are a group of widely used drugs, and so are freely available. Flunitrazepam (Rohypnol®) is a sleeping pill also used as a sedative and a pre-anaesthetic drug. It has the effect of causing drowsiness and amnesia. Chlordiazepoxide (Librium) and diazepam (Valium) are common benzos. The B strip is an immunoassay, and uses antibodies, instead of chemicals, to detect drugs. The benzo in a drink will interact with the test strip to produce lines on the test area. One line means the drug is present (positive), two lines means it is absent (negative). The antibodies are affected by high concentrations of alcohol and so may not work with some neat spirits, but in this case no lines at all will form. However this type of drink is unlikely to be spiked.

STORAGE AND STABILITY

The kit can be stored at room temperature or refrigerated (2-30°C). The Drink Detective should remain in the sealed pouch until use. **DO NOT FREEZE.** Do not use beyond the expiry date.

DIRECTIONS FOR USE

1. Bring the pouch to room temperature before opening it. Remove the Drink Detective from the sealed pouch and use it as soon as possible.
2. Remove the dropper and use it to sample the drink.
3. Put one drop on each of the G Test and K test and observe the immediate colour reaction. Do not rely on the colours later than 30 seconds after you have tested the drink.
4. Put four drops onto the end of the B Test strip, and observe the magenta colour running along the strip.

INTERPRETATION OF RESULTS

(Please refer to the illustration on the test)

G TEST - an instant blue colour indicates the presence of illicit GHB in a quantity likely to cause a harmful effect.

K TEST - an instant red/pink colour indicates the presence of ketamine in a quantity likely to cause a harmful effect.

B TEST - One or two lines will develop within a minute or so. Their interpretation is as follows:

NEGATIVE: Two lines appear. This negative result indicates that the drink is free from benzos or else the benzo level is below the detectable level (500 ng/mL). The line on the right side is a 'control line' which confirms sufficient specimen volume, adequate membrane wicking and correct procedural technique.

***NOTE:** The shade of red of the left hand test line may vary, but it should be considered negative whenever there is even a faint pink line.

POSITIVE: One red line appears No line appears in the test region (T). This positive result indicates that the benzo concentration exceeds the detectable level (500 ng/mL).

INVALID: No lines appear. Insufficient specimen volume or incorrect procedural techniques are the most likely reasons for test failure. Review the procedure and repeat the test using a new test. If the problem persists, contact your local distributor.

LIMITATIONS

1. The Drink Detective is a presumptive test intended to screen out all drinks which contain the common substances used in drug rape. A secondary analytical method must be used to obtain a confirmed result. Gas chromatography/mass spectrometry (GC/MS) is the preferred confirmatory method.
2. It is possible that technical or procedural errors, as well as other interfering substances in the drink may cause erroneous results.
3. A positive result indicates presence of a drug but does not indicate its concentration.
4. A negative result may be obtained when drug is present but below the cut-off level of the test.

The Drink Detective gives a qualitative, presumptive analytical test result. If you wish to take legal action on the results 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. Professional judgment should be applied to any positive result. Consider seeking help from the Drink Spiking Hotline described on the product pack.

PERFORMANCE CHARACTERISTICS OF THE B TEST

The benzo test was compared with another brand leader using spiked water with the following results:

Total Results	90	150	240
% Agreement with this Rapid Test Kit	100%	99%	99%

When compared at 500 ng/mL cut-off with GC/MS, the following results were tabulated:

Method	GC/MS					
	Negative	-25% Cut-off to Cut-off	Cut-off to +25% Cut-off	> +25% Cut-off	% agreement with GC/MS	
Benzo Test Strip	Positive	0	4	27	30	97
	Negative	30	26	3	0	100

Analytical Specificity

The following table lists compounds that are positively detected by the Drink Detective Benzo test Strip in water. Detection levels in alcoholic drinks will vary and typical drink spiking doses will be detected. Other benzos will be detected at different sensitivities.

Compound	Concentration (ng/mL)	Compound	Concentration (ng/mL)
Alprazolam	196	Estazolam	2,500
a-ydroxalprazolam	1,262	Flunitrazepam	390
Bromazepam	1,562	(±) Lorazepam	1,562
Chlordiazepoxide	1,562	RS- Lorazepam gluc	156
Chlordiazepoxide I	781	Midazolam	12,500
Clobazam	98	Nitrazepam	98
Clonazepam	781	Norchlordiazepoxide	195
Clorazepate dipot.	195	Nordiazepam	390
Delorazepam	1,562	Oxazepam	300
Desalkylflurazepam	390	Temazepam	98
Diazepam	195	Triazolam	2,500

Cross-Reactivity

The following compounds show no cross-reactivity when tested with the Benzo Test Strip (Urine) at a concentration of 100 µg/mL.

Non Cross-Reacting Compounds

4-Acetamidophenol	β-Estradiol	Pentobarbital
Acetophenetidin	Estrone-3-sulfate	Perphenazine
N-Acetylprocainamide	Ethyl-p-aminobenzoate	Phencyclidine
Acetylsalicylic acid	Fenoprofen	Phenelzine
Aminopyrine	Furosemide	Phenobarbital
Amitypytline	Gentisic acid	Phentermine
Amobarbital	Hemoglobin	Trans-2-phenylcyclopropylamine hydrochloride
Amoxicillin	Hydralazine	L-Phenylephrine
Ampicillin	Hydrochlorothiazide	β-Phenylethylamine
L-Ascorbic acid	Hydrocodone	Phenylpropanolamine
D-Amphetamine	Hydrocortisone	Prednisolone
DL-Amphetamine	O-Hydroxyhippuric acid	Prednisone
L-Amphetamine	p-Hydroxyamphetamine	Procaine
Apomorphine	p-Hydroxy-methamphetamine	Promazine
Aspartame	Atropine	3-Hydroxytyramine
Benzilic acid	Benzilic acid	Imipramine
Benzoic acid	lproniazid	Promethazine
Benzoylcegonine	(±) - Isoproterenol	DL-Propranolol
Benzphetamine	Isoxsuprine	D-Propoxyphene
Bilirubin	Ketamine	D-Pseudoephedrine
(±) - Brompheniramine	Ketoprofen	Quinacrine
Buspiron	Labetalol	Quinidine
Caffeine	Levorphanol	Quinine
Cannabidiol	Loperamide	Ranitidine
Cannabinol	Maprotiline	Salicylic acid
Chloralhydrate	Meperidine	Secobarbital
Chloramphenicol	Mephentermine	Serotonin (5-Hydroxytyramine)
Chlorothiazide (±) - Chlorpheniramine	Meprobamate	Sulfamethazine
Chlorpromazine	Methamphetamine	Sulindac
Chlorquine	Methadone	Sustiva
Cholesterol	Methoxyphenamine	
Clomipramine	Methylphenidate	Tetracycline
Clonidine	Morphine-3-β-D-glucuronide	Tetrahydrocortisone, 3-acetate
	Morphine sulfate	Tetrahydrocortisone 3-(β-D

Cocacethylene	Nalidixic acid	Tetrahydrozoline
Cocaine hydrochloride	Naloxone	Thebaine
Codeine	Naltrexone	Theophylline
Cortisone	Naproxen	Thiamine
(-) Cotinine	Niacinamide	Trans-2-
Creatinine	Nifedipine	phenylcyclopropylamine
Deoxycorticosterone	Nimesulidate	Thioridazine
Dextromethorphan	Norcodein	Tolbutamide
Diclofenac	Noretindrone	Trazodone
	D-Norpropoxyphene	DL-Tyrosine
	Noscapine	Triamterene
	D,L-Octopamine	Trifluoperazine
	Oxalic acid	Trimethoprim
Diffunisal		Trimipramine
Digoxin		Tryptamine
Dicylomine		D L-Tryptophan
Diphenhydramine		Tyramine
5,5 - Diphenylhydantoin	Oxolinic acid	Uric acid
Doxylamine	Oxycodone	Verapamil
Ecgonine hydrochloride	Oxymetazoline	Zomepirac
Ecgonine methylester	Papaverine	
(-) - ψ -Ephedrine	Penicillin-G	
[1R,2S](-) Ephedrine	Pentazocine-hydrochloride	
(L) - Epinephrine		
Erythromycin		

PERFORMANCE CHARACTERISTICS OF THE G TEST

It is very important to note that the particular effects on individuals is highly variable for GHB. Consumption of other substances in combination with GHB will also greatly influence the effects.

The dosages and side effects commonly reported in the literature are illustrated below. Interconversion of parts per million (ppm) - grams - teaspoons per standard 250mL beverage has been included for reader's convenience.

Side Effect	Zero	Mild	Standard	Strong	Heavy	Overdose	Hypnosis	Coma	Death
Dose	0g	1.25g	2.5g	3.75g	5g	6.25g	7.5g	8.75	10+g
ppm	0	5000	10000	15000	20000	25000	30000	35000	40000
Teaspoons	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2

Calculated for a standard 250mL beverage.
General onset of effect is 5-20mins. Duration 1-5h.

The G test has been formulated to detect a positive drink when it contains 1000 mg (1 gram) of illicit GHB per 250 ml of drink. Sensitivities will vary from one drink to another. The G test is not formulated to react with laboratory standards or controls, only proper illicit GHB.

PERFORMANCE CHARACTERISTICS OF THE K TEST

It is very important to note that the particular effects on individuals is highly variable for ketamine. Consumption of other substances in combination with ketamine will also greatly influence the effects.

The dosages and side effects commonly reported in literature and the media are illustrated below. Interconversion of parts per million (ppm) and milligrams per standard 250mL beverage has been included for reader's convenience.

Side Effect	Low	Light	Common	Strong	K-Hole
Dose (mg)	40	50-200	200-300	300-450	500+
ppm	160	200-800	800-1200	1200-1800	2000

Calculated for a standard 250mL beverage.
General onset of effect is 5-20mins. Duration 4-8h.

The K test has been formulated to detect a positive drink between 100 and 200 mg per 250 ml drink. Sensitivities will vary from one drink

to another. The G paper and the K paper also detect a range of other drugs or adulterants.

DRINKS THAT HAVE BEEN TESTED

The following drinks give a negative reaction with the G, K and B test but the Drink Detective identifies the presence of the following levels of drug.

Beverage	Illicit GHB Detection, mg	Ketamine Detection, mg
Archers schnapps aqua raspberry	1000	200
Bacardi breezer cranberry	1500	200
Billy boy energy drink	1500	200
Chardonnay	1000	200
Coke	1500	166
Corona Beer	1000	336
Crabbies green ginger wine	1000	200
Dragon Ice strong white cider	1500	336
Fosters Beer	1000	336
Gin	1500	200
Gin + Tonic	1500	200
Goldwell snowball advocaat lime lemonade	1000	200

Guinness	1500	200
Hardcore triplex ultimate kick	1000	200
Lemonade	1000	200
Malibu + fruit juice	1500	200
Malibu white rum straight	1000	200
Metz citrus twist	100	200
Milk	False positive	200
Napoleon Brandy straight	1000	200
Orange Juice	1500	200
Permod Hex blackcurrant / lime	1000	200
Red wine cabernet sauvignon	1500	200
Red wine merlot	1500	166
Reef Vodka Blackcurrant + Raspberry	1000	166
Reef vodka pear/grape	1000	200
Reef Vodka Pineapple / citrus	1000	166
Scotch + Cola	1000	200
Smirnoff Black Ice Vodka	1000	200
Soda water	1000	200
Soda water + dash of lime	1000	200
Tango orange	1000	200

Tequila vodka red bull	1500	200
Tiger Beer	1500	336
Tomato Juice	1500	200
Tonic water	1500	200
Vibe vodka blueberry	1500	200
Vodka + lemonade	1000	200
Vodka + Orange Juice	1000	200
Vodka Mudshakes chocolate	False positive	200
Vodka Mudshakes Vanilla	False positive	200
Vodka straight	1000	200
Vodka Tequila Red Square	1500	200
Water	1000	125
Whiskey + Soda water	1000	200
Whiskey scotch straight	1000	200

MANUFACTURER OF THE DRINK DETECTIVE

The product is manufactured under license by SureScreen Diagnostics Ltd for Bloomsbury Innovations Ltd, 5E Bloomsbury Street, London, WC1B 3QE. Tel: +44 (0)207 6310707 Fax: +44 (0)207 6310704
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Safe Drinking Practices. - ways to stay alert and be on your guard.

- Tell someone where you go & what time you're expected home.
- Avoid drinking alone. Friends should watch-out for each other.
- Appoint a nominated drink watcher (e.g. the non-drinking driver?).
- Plan your night out, arranging your journey to and from home.
- Remember the biggest drug rape drug is alcohol. It affects your actions / reactions as well as ability to be alert.
- Stay aware of what is going on around you and keep away from situations you do not feel comfortable with. Know your alcohol limit.
- Never accept a drink from anyone you do not completely trust.
- Don't share or exchange drinks. Don't drink discarded drinks
- Don't leave your drink unattended, even when going to the toilet.
- Drugs can be put in soft drinks, tea, coffee, etc., as well as alcohol.
- Drinking from a bottle and keeping your thumb over the top is a good idea. Just remember that if you leave it unattended you may not be able to see if anything has been put in it.
- If you return to your drink and it has been moved, looks different, appears to have been topped-up or tastes strange, don't take a chance. Test it with the Drink Detective. Test your favourite drinks, and be alerted to different reactions.
- Consider very carefully whether you should leave the pub, club or party with someone you have just met.
- If you begin to feel really drunk after only a drink or two, seek help from a trusted friend or a member of the club or pub management.
- Remember this crime happens to men as well as women.