



More than DNA



Hair Drug & Alcohol Testing FAQs



Need advice about testing?

Contact us using our online SMS service
or call Cellmark free on 0800 043 4247



Introduction

Cellmark is the UK's leading DNA paternity tester and one of the largest suppliers of forensic analysis to the police. We now bring the same level of scientific rigour, chain of custody management and industry leading customer service to our comprehensive hair drug and alcohol testing service.

Our fully validated in-house methodology is based on state-of-the-art equipment and technology specifically selected to provide accuracy, quality and rapid turn around times.

As you would expect we offer a clear pricing structure, a network of trained sample collectors and standard analysis turnaround times within 5-10 working days including interpretative statements, all backed by advice and support on the end of the phone.

Our laboratory is accredited to ISO/IEC 17025:2005 to test for a wide and expanding range of drugs in hair. Details of Cellmark's ISO17025 schedule of accreditation can be found at www.ukas.org.

With a reputation for quality and service reliability Cellmark now provides hair drug and alcohol testing to our solicitor and local authority customers.

For more information

Go online at: www.morethandna.co.uk

or call Customer Services FREE on: 0800 043 4247

Monday 8.30am to 7.00pm,

Tuesday - Friday 8.30am to 6.00pm

What is Hair Testing?

Testing hair samples is a non-invasive method of providing evidence of an individual's history of drug or alcohol use. It can provide a record over a longer period of time (months rather than days) than all other traditional sample types such as blood, urine or oral fluid.

Hair is fed by a blood supply so substances that are circulating in the bloodstream can become incorporated into the growing hair. Hair can also incorporate drugs and other substances from sweat or sebum (an oily substance secreted by the sebaceous glands that helps to prevent hair and skin from drying out) or from environmental exposure to smoke or vapour.

Using specialist laboratory analysis we are able to identify and measure a wide range of substances present in hair samples.

HAIR DRUG TESTING

What drugs are included in a standard Common Drugs of Abuse Test?

Panel A includes the following common 'drugs of abuse':

- Amphetamine and Methamphetamines - including the 'Ecstasy' drug MDMA.
- Opiates - including markers of Heroin use.
- Cocaine – including markers to indicate the use of 'Crack' Cocaine and the concurrent use of Cocaine and alcohol.
- Methadone.
- Benzodiazepines - specifically Diazepam, Desmethyldiazepam (Nordiazepam), Temazepam, Oxazepam & Chlordiazepoxide.

What other drugs can we look for?

We are able to look for a number of other drugs in addition to Panel A. Our Supplementary Drugs of Abuse panel includes LSD, Ketamine and Phencyclidine (PCP). We will be adding more drugs to our panels in the future. If you require anything other than those listed please call for further details.

What about Cannabis?

Whilst Cannabis is the most commonly used drug of abuse it is especially difficult to detect accurately. We have developed a very specific test for Cannabis and its metabolites and this test can be selected in conjunction with either of our panels. We do not offer it as a stand alone test.

How soon after use can a drug be detected in hair?

It is estimated to take approximately 5-7 days from the time of drug use or exposure for head hair to grow above the scalp and therefore be available for cutting and subsequent analysis. It is recommended to wait at least three to four weeks following the suspected use of a drug before collection of a sample so that the period of use/exposure is included in the collected sample.

How much hair is required?

In order to detect the low concentrations of drugs that may be present in hair samples, we require a sample which is the approximate width of a pencil. This amount of hair is unlikely to give any considerable cosmetic concern to the donor.

What period of time is covered by the analysis?

Head hair grows at an average rate of approximately one centimetre (cm) per month with a range of between approximately 0.7 and 1.5 cm. For the purposes of hair testing at Cellmark the population average of 1 cm per month is assumed in the calculation of section dates. The length of sample available at

the time of collection will determine what time period can be covered by the analysis. If a hair sample received is much shorter than required for the requested analyses it may be necessary to collect a further sample at a later date, after the hair has grown sufficiently, in order to fulfill the requirements of the testing.

What is the difference between analysis of single and multiple sections of head hair for evidence of drug use?

Testing a single section of head hair provides an overview for the whole approximate time period covered by the length of that section; any drug use detected may have occurred at any point within that period and will not demonstrate an historic profile or timeline for an individual. Alternatively, head hair samples can be divided into individual 1cm lengths to provide an approximate "month by month" report. Hair samples can be divided into lengths of up to a maximum of 3 cm, each covering approximately three-month time periods. This sectional analysis can demonstrate patterns of drug use or abstinence for a particular individual which may be more useful than a single overview result.

The number of sections able to be tested for the presence of drugs is dependent upon the length of sample available.

Does body hair give the same type of results as head hair?

Body hair has a similar rate of growth as head hair, with a range of between approximately 0.9 and 1.1 cm per month, but it has a different pattern of growth and resting phases. It has been estimated that body hair has a much higher proportion, approximately 40 to 60%, in the resting phase compared to only 10 to 15% for head hair. As a consequence body hair samples are not divided into sections for analysis and it is not possible to determine the maximum period of drug use or exposure. Any use of or exposure to a drug detected may have been in the weeks prior to the sample collection or many months earlier than this.

ALCOHOL TESTING

Do you provide a hair test for alcohol consumption?

According to the World Health Organisation chronic excessive alcohol consumption is currently defined as an average consumption of 60 grams of pure ethanol (alcohol) per day over several months. In the UK, one unit of alcohol is defined as 8 grams of alcohol, so 60 grams of alcohol equates to 7.5 units. The amount of alcohol consumed depends on the strength of the drink. A single shot of spirits is 1 unit, a standard glass of wine (175ml) and a pint of lower strength lager is 2 units and a bottle of wine at 12% ABV is 9 units.

In addition to our drug panels we are also able to look for markers of "chronic excessive alcohol consumption" in hair samples,

specifically ethyl glucuronide (EtG) and four fatty acid ethyl esters (FAEEs). If drug analysis has also been requested an additional hair sample must be collected for EtG and FAEE analysis and a minimum of 3 cm of head hair is required. It is very important to note that these hair tests are not appropriate for testing for abstinence, social drinking or binge drinking.

What are EtG and FAEE's?

EtG is formed in the liver and FAEEs are formed by enzymes in blood and tissues after alcohol consumption. While FAEEs are thought to get into hair by diffusion from sebum, EtG is thought to be deposited into hair from sweat. It is understood that the more of each of these markers that are present in the hair, the more alcohol has been consumed. EtG and FAEEs can therefore both be useful indicators in the determination of alcohol consumption for an individual.

Why does Cellmark only offer EtG and FAEEs together?

EtG is a polar water-soluble substance and its incorporation into hair is not thought to be biased by natural hair color; however it is sensitive to normal hygiene practices and to cosmetic treatments causing 'wash-out' effects. FAEEs are insoluble in water and stable at neutral pH, and therefore not susceptible to the same 'wash-out' effect as EtG, but are sensitive to hair treatments at alkaline pH. We therefore do not recommend that bleached head hair is used for these types of tests.

The Society of Hair Testing (SoHT) consensus (revised in March 2011) states that the different strengths and weaknesses of each test mean that using both together will give less chance of false positive or false negative results. It is also recommended that these tests should only be used as part of the overall assessment of "chronic excessive alcohol consumption" for an individual.

Analyses should be carried out in the 0-3 cm section of hair closest to the scalp and if samples less than 3 cm are used the results should be interpreted with caution. This is in agreement with the indications of a High Court hearing before The Hon. Mr Justice Moylan (12/11/2010) where it was suggested that both EtG and FAEE results should be considered together where appropriate.

Whilst hair testing is excellent at identifying drug usage over time we do not recommend using hair testing in isolation for alcohol usage. That's why our standard service includes the analysis of a blood sample in addition to hair and we can also include the analysis of a urine sample. Looking at a range of indicators of alcohol consumption enables us to provide you with the most comprehensive picture of usage. In addition to our testing we would also always recommend that you seek a clinical assessment by a medical professional.

What is the combined CDT/LF blood test?

We offer a combined blood test for carbohydrate deficient transferrin (CDT) and liver function (LF) testing. The combination of these two tests can provide useful evidence of raised alcohol consumption, particularly in combination with hair and urine tests.

LF testing looks at a range of markers within the blood to check how the liver is performing; these are gamma-GT (GGT), alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Excessive consumption of alcohol will affect liver function and produce raised levels of these markers.

Carbohydrate deficient transferrin (CDT) levels are another indicator of recent heavy alcohol consumption. Measuring CDT levels for an individual allows the monitoring of alcohol consumption over an extended period of time.

What is the combined EtG/EtS urine test?

Ethyl Glucuronide (EtG) and Ethyl Sulfate (EtS) are both breakdown products produced by the body after the consumption of alcohol. Urine testing for EtG and EtS is a laboratory based technique that will detect the presence of breakdown products from alcohol up to approximately 80 hours after consumption.

Coupling EtG with EtS provides stronger evidence of alcohol consumption, since the EtG metabolite may be "masked" by urinary tract infections.

Our blood and urine testing services are provided in partnership with The Doctors Laboratory and Homerton University Hospital.

OTHER INFORMATION

Can Cellmark arrange sample collection?

Yes. The collection of a hair sample is best undertaken by someone who is specially trained. The sample must be taken as close to the scalp as possible and without any pain or later embarrassment for the person being sampled. The sampler also needs to ensure that the consent and identification paperwork is completed.

To ensure that the integrity of the sample collection and chain of custody is maintained, Cellmark uses a specialist team of samplers who can visit your offices to complete this task (blood and urine samples can be taken at the same time).

What is done with any excess sample that is not tested?

Any hair not used during the analysis is stored at room temperature in the sample collection envelope for a minimum of two years. Urine samples are stored for 4 weeks and blood samples for 6 months.

How long are test reports kept on file?

Hair analysis test reports are retained for a minimum period of 2 years, blood and urine test reports are retained for 13 months.

THE PROCEDURE

1. Register your case with Cellmark. You can do this online at www.morethandna.co.uk, on the phone by contacting our Customer Services team on 0800 043 4247, or by email to info@cellmark.co.uk.
2. Complete the registration form and return it to Cellmark – an online registration automatically sends the case information to Cellmark. If required you can register a DNA paternity or maternity test at the same time.
3. Cellmark will then arrange a sampling appointment for your client(s) with one of our dedicated samplers. They will normally visit your office to take the sample(s). If this is likely to cause a problem please let us know.
4. The sample donor must remember to take two passport-sized photographs to the appointment. This is for purposes of identification.
5. At the sampling appointment the donor (or parent/guardian if the donor is under 18) will be required to sign consent form(s).
6. The sampler will assist in completing the identification and consent form(s) and will take the sample(s).
7. The hair sample(s) and paperwork will be sent to the Cellmark laboratory in Oxfordshire in specially designed tamper-evident packaging.
8. Any blood and urine samples collected will be sent to our partner laboratories.
9. Within 5-10 working days the testing report(s) will be dispatched to you by first class post.



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