

DNA tests for court: when to use the most powerful test available?

Casey Randall, Head of DNA at AlphaBiolabs, explains what family law professionals need to know about court-approved DNA testing

All relationship DNA tests work in the same way – by analysing the DNA samples of individuals and comparing them to identify matching DNA at a number of markers (loci).

Every person inherits half of their genetic material from each of their parents, meaning that individuals who are biologically related are likely to share more DNA markers than individuals who are unrelated.

Paternity testing

When we talk about relationship DNA testing for legal matters, the first thought that probably comes to mind is paternity testing - a DNA relationship test most commonly used to determine a child's biological father in child maintenance, custody disputes, immigration or inheritance matters.

The court-approved test produces 100% accurate results and is completely non-invasive, as cheek cell DNA is simply and painlessly collected from each sample donor using buccal (cheek) swabs. The samples are then analysed and compared in the laboratory to determine the likelihood of the individuals being related. A sample from the mother can also be included free of charge if required.

For legal paternity testing cases, we always test 25 DNA markers as standard, as this gives a 99.9% chance of obtaining a conclusive result. Including the mother's sample increases this to over 99.9%. This 25-marker test is therefore almost always sufficient to determine paternity. However, if required, we can extend the analysis to an industry-leading 45-marker test. This is the most powerful DNA test available and increases the chance of obtaining a conclusive result to over 99.99%. It is also advantageous when the alleged father could be related to the child in another way e.g. their uncle.

Our next-day turnaround time for the reported results applies to both the standard and advanced tests.

Complex relationship testing

Our advanced and industry-leading 45-marker test is particularly suitable for complex relationship testing, where the chance of obtaining a conclusive

result will always be lower than the more straightforward paternity or maternity tests, as they haven't directly inherited DNA from each other.

Complex relationship tests include siblings, grandparents, aunts, uncles, and cousins.

These tests are especially useful where an alleged father is unavailable or unwilling to participate in paternity testing, or where the alleged father has passed away, and are often helpful in inheritance dispute cases.

There are several options for complex relationship tests to suit a range of needs, including:

- ▶ **Grandparent testing** – enables us to verify a relationship between a grandparent and a grandchild. Every person inherits half of their DNA from each of their parents, meaning that a grandchild will also share DNA markers with their grandparents. Of all the complex relationship tests, grandparent testing offers the highest chance of a conclusive result when both grandparents are tested.
- ▶ **Sibling testing** – allows us to establish whether two or more siblings have the same father or mother (or both). Full siblings usually have more DNA in common than half siblings, while half siblings normally share more DNA than unrelated persons. The advanced 45-marker test is recommended for this test type, as it will significantly increase the chance of obtaining a conclusive result.
- ▶ **Aunt/uncle (avuncular) testing** – a useful test when the alleged parent of the child is unable to provide a sample. However, the sample donor must be a full biological sibling of the alleged mother or father, as this helps increase the likelihood of a conclusive result. Again, the advanced 45-marker test is recommended for this test type, as it will significantly increase the chance of obtaining a conclusive result.
- ▶ **Cousin testing** – at AlphaBiolabs, we also now offer cousin testing, which tests for 45 markers as standard. Parents and siblings, if available, should also

be included as sample donors to further increase the chance of achieving a conclusive result.

Prenatal paternity testing

Another court-approved paternity test that we offer is non-invasive prenatal paternity test. This DNA test is performed while the mother is still pregnant to verify paternity before the baby is born. The test can be performed from the early stages of pregnancy, right up to the point of labour and is 100% risk-free for both the mother and baby. AlphaBiolabs is the only laboratory with UKAS-accreditation for prenatal paternity testing.

Alternative samples

Whilst simple cheek swabs are the most common method of obtaining DNA samples, we can also conduct court-approved testing on other sample types such as nail clippings.

Chain of custody sample collections

Regardless of the type of legal DNA test taken, the DNA samples must be collected under strict chain of custody conditions, to ensure that the sample collection has been conducted correctly and that samples have been obtained from the right people. Our national collections team can collect samples from any UK address, including homes, your offices, workplaces, contact centres, and prisons.

Alternatively, samples can be collected FREE of charge from our unique network of UK sample collection centres.

Until 31 October 2023, we are offering 25% off all legal DNA testing. Please use the code DNA25 when requesting a quotation and the discount will be applied to the testing fee.

For expert advice on all your legal DNA, drug, and alcohol testing needs, call the AlphaBiolabs New Enquiry team on 0330 600 1300 or email testing@alphabiolabs.com and a member of the legal team will be in touch.

About AlphaBiolabs

AlphaBiolabs is a UK award-winning and UKAS-accredited provider of DNA, drug, and alcohol testing, with extensive experience working with family law professionals and social workers. Our results are court-approved and accepted by family law courts, the Ministry of Justice, and the Child Maintenance Service.

Casey Randall, Head of DNA and Covid Testing at AlphaBiolabs

Casey heads up both the DNA and Covid-19 testing teams. An expert in DNA analysis and a member of the International Society for Forensic Genetics (ISFG), Casey holds an MSc with Distinction in DNA Profiling and a First-Class BSc with Honours in Forensic Science.



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