



DNAPLANET

Your paternity test on: www.dna-planet.de

DNA Planet is one of the most experienced DNA paternity test laboratories in Germany. We offer expert advice and complete solutions for your questions on paternity and other ancestry relations. You can rely on our experts!

 **Order your free paternity test set or get free advice at 0049 (0) 641 20 99 102.**

The Genetic Fingerprint (please also see description at the end of this flyer)

Every person carries a unique genetic code. This code is encoded in Deoxyribonucleic acid (DNA). The sequence of the chemical components of the genetic code determines every aspect of our body. Parents pass on their DNA to their children. One-half comes from the father, one-half from the mother. Many sections of the DNA match many individuals exactly whereas others are different in different individuals. These sections allow for DNA-analysis.

The DNA paternity examines the exact chemical make-up of the DNA section. The result is the so-called "genetic fingerprint," that distinctly identifies each person. This genetic fingerprint can also be used to determine other lineage relationships such as siblings, grandparents, aunts and uncles.

We analyse 16 markers, which – apart from the gender – do not allow any conclusions on human characteristics as looks or genetic endowments.

The Test Samples

DNA can be extracted from a variety of human body materials. The simplest method is the saliva test, as saliva contains enough cells to isolate DNA. You will receive your test set free of charge through the post. The test set contains a swab for the saliva sample, directions for use, and a return envelope.

We also perform DNA-analyses on forensic trace-samples (e.g. hair), an area in which we have much experience. We routinely attend the ring tests of the German Society for Legal Medicine. However, not every trace-sample is suitable for such a test. For example, hair from a hairbrush, or cut hair is not suitable for a paternity test. Because of the extra work required to perform this test (it is done manually), we have to charge an additional 99 Euros or more depending on the nature of the trace sample. Please consult us before you order the test to make sure your trace sample is suitable for the test.

How are Results Communicated and How Reliable are they?

The laboratory analysis produces the genotype of the persons included in the paternity test. Subsequently we conduct a statistical calculation of the probability of the paternity. You will receive an unmistakable result with a probability statement for the paternity. This is shared with you as a percentage and as a verbal grade. Normally, we can confirm the paternity of someone with a probability higher than 99.99 percent, or, with a probability of 0% rule it out. The involvement of the mother in the test also adds another degree of confirmation (99.9999%).

We analyse 16 genetic markers. These are found on different chromosomes. Our test is standardised and validated. This guarantees maximum security. It is practically impossible that all markers of two persons are identical. This means that you will receive an unambiguous result with a probability of paternity. If you wish, we can expand the test by using additional markers. We can also subsequently include initially excluded persons into the test. In 1 of 100 analysed families, the mother should be included in order to reach an unmistakable result. The inclusion of the initially excluded mother into the test is also unproblematic.



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Who Can be Tested and Who Can Have this Test Conducted?

Immediately upon birth every human being can be tested.

Every private citizen can have a DNA test conducted and request a certificate of lineage. In most cases, it is used to determine paternity or is used in estate issues.

Every court can order the paternity of someone to be determined. It is often requested in determining the payment of alimony. Should the certificate be used in court, the identity of all persons involved in the test must be confirmed by a neutral witness and must be recorded in a transcript. The cheek cells (mucous membranes) or blood samples of the father, the mother, and the child must be included in it .

Child welfare workers and social workers often require lineage confirmation for their work with families and for guardianships. The paying customer is always the involved family.

Important : All persons involved in the DNA-testing must be willing participants.

Must the child's mother take part in the paternity test ?

In most cases, a clear, scientific result is able to be presented without the mother's involvement. We only determine those parts of the child's genetic fingerprint that have been passed on by the father. Although the probability statement for the paternity are slightly lower than with an inclusion of the mother, but 99 of 100 paternity tests can be clearly and scientifically solved without a sample from the mother. The mother can always be subsequently included into the test.

There are a few cases in which the mother should also be tested in order to present a clear result. If this should be the case, we will inform you and ask you for a sample from the mother. An example is if, in addition to the man being tested as alleged father, a close relative of him might come into question.

Based on our experience of more than 10 years, we have been able to develop a complex system of analysis which allows us to solve difficult cases with absolute security.

How Much Does the DNA-Paternity Test Cost?

The testing of two saliva samples (cheek cell swab) costs € 179.- VAT inclusive. The price of shipping and postage, as well as that of the test materials are included in the cost. Three saliva samples cost € 199.- VAT inclusive. Other forensic trace samples and additional services cause extra charges.

Please find our full price list on <http://www.dna-planet.de/en/price/>.

How Long Does it Take to Receive the Results?

Results of the test are received in approximately 8-10 days. We offer an express test at an extra charge. You receive the result for the express test in 5 working days.

How do I Receive the Test Set?

Please order your free test set via the secure form on our internet page (<https://www.dna-planet.de/en/order/testset.htm>) or simply by e-mail or phone.

You will receive your test set free of charge through the post. The test set contains a swab for the saliva sample, directions for use, and a return envelope. if you have further questions please do not hesitate to contact us.



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Is the Information Handled Confidentially?

All information is handled absolutely confidentially.

As soon as we receive your samples, they are made anonymous. Third parties have no rights to the test results. Results are strictly given only to the customer. Your samples are destroyed after examination. In everything, DNA-Planet holds strictly to the standards set up by the federal data-protection laws of Germany.

How is Quality Assurance Secured for DNA Tests?

Our certificates from national and international interlaboratory comparison tests (GEDNAP and AABB, American Association of Blood Banks) confirm the successful participation in various quality management assurance programmes (<http://www.dna-planet.de/en/certificates.htm>). Our laboratory has been awarded the following certificates through quality assurance programmes:

- GEDNAP is the German DNA profiling commission, which sends to us different kinds of samples twice per year (swabs, trace analysis of blood, sperm, stamps, etc.) to verify our results. The tests are organised by the forensic institutes of the German State Offices of Criminal Investigation as well as the Federal Bureau of Criminal Investigation. This is a very intensive programme in which we participate for quality assurance in our laboratory. Our scientific team and the most modern technical equipment guarantee reliability and secure results.
- The International Society for Forensic Genetics (ISFG) concentrates on the analysis of samples and the calculation of relatedness in complex cases, e.g. paternity testing without a sample of the father (www.isfg.org).

Proficiency testing is part of the quality assurance of our analyses procedures. These tests are performed by the independent organisations given above.

Other Lineage Cases

We can certainly perform paternity tests that include several children or several potential fathers as well as sibling and other lineage tests. Tests become more complex if persons from different genealogies are analysed and there are few standardised solutions to these cases. Please address your specific questions and cases to our experts. We will develop a customised analysis concept.

Is the Result of the Paternity Test Recognised in Court?

If the results of a paternity, maternity or sibling test are to be used as valid evidence in court, several conditions must be fulfilled. First of all, the identity of the involved people has to be ascertained without doubt by an authorised person before the taking of the test samples. For this, independent witnesses such as a lawyer or doctor are suitable. In other words, all samples (usually swab samples) received in our laboratory for DNA analysis must be accompanied by a chain of custody.

This witness completes a record of the taking of the swab sample and sends the samples back to us. Additionally, we offer our consultation by appointment at which you can get advice and afterwards have the paternity tests taken by us.



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In the following we explain how a genetic fingerprint looks like.

The genetic fingerprint is also called DNA profile or DNA pattern. We should use the latter expressions, since the term genetic fingerprint is incorrect, as the DNA profile does not contain any information about genes and consequently, no information about possible genetic defects (hereditary or genetic diseases).

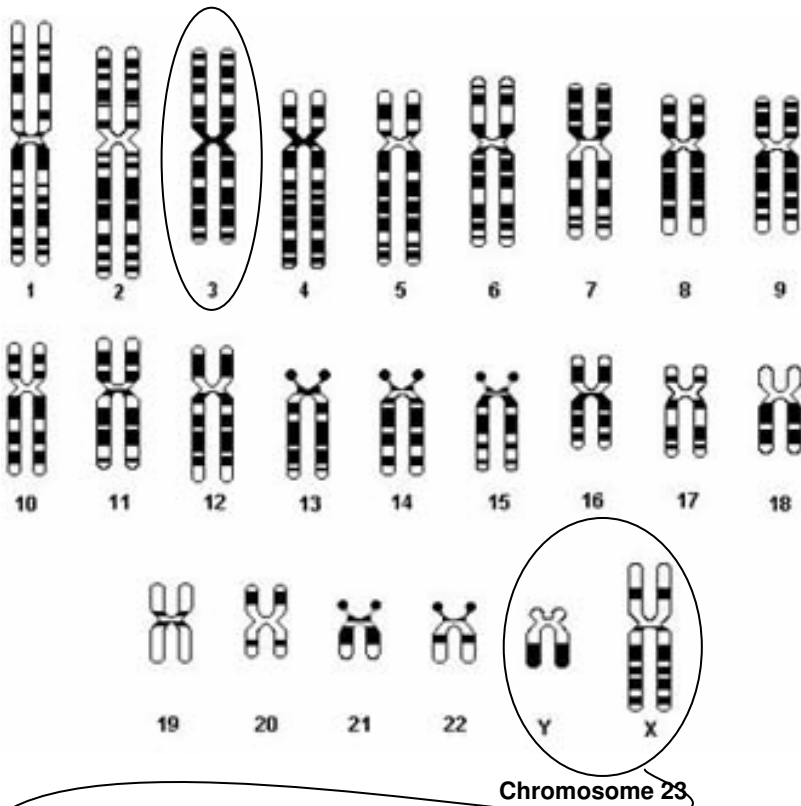
A DNA profile contains several DNA markers (i.e. locations on a chromosome). The German forensic institutes usually analyse 8 markers, the Federal Bureau of Investigation (FBI) in the USA analyses 13 markers and the British police 11. Synonymously to the term DNA profile, we also use the expressions genetic fingerprint and DNA pattern. It is important to understand that except the gender, the DNA profile does not allow any conclusions on personal characteristics and contains no information on genetic or other diseases.

Humans possess 23 pairs of chromosomes. The following graphic represents only one homologous chromosome. Somatic cells (i.e. normal body cells as opposed to germ cells) contain a double set of chromosomes, e.g. chromosome 1 once from the mother and once from the father. This is referred to as allele 1 and allele 2.

see also next page:



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The graphic schematically represents one homologous chromosome of the 23 human chromosomes. Somatic cells (body cells) contain 2 x 23 chromosomes per cell, i.e. a double set of chromosomes. Only germ cells (ovi and spermatozoons) contain a single set of chromosomes.

The DNA information at a marker (i.e. a certain location on a chromosome) of two homologous chromosomes (forming a pair of chromosomes) is either identical or different. Chromosomes are numbered as shown in the graphic on the left side.

We encounter the largest difference between two homologous chromosomes on chromosome pair 23 in male humans (XY). The Y-chromosome is relatively small and the X-chromosome considerably larger.

Marker on Chromosome	Person	Marker	Allele 1	Allele 2
3	Child	D3S1358	16	19
11	Child	TH01	8	9,3
21	Child	D21S11	30,2	32,2
18	Child	D18S51	13	18
15	Child	Penta E	11	14
5	Child	D5S818	11	12
13	Child	D13S317	9	11
7	Child	D7S820	11	12
16	Child	D16S539	12	13
5	Child	CSF1PO	10	11
21	Child	Penta D	9	11
23	Child	Amelogenin	X	Y
12	Child	vWA	16	18
8	Child	D8S1179	12	13
2	Child	TPOX	8	12
4	Child	FGA	22	26

These 16 markers give a scan of 14 chromosomes

A child receives one allele from the father and one allele from the mother (i.e. the information on a specific marker on a certain location on the chromosome). This is a symmetric system as shown on the left.

If the DNA profile of the child on at least 3 markers misses the alleged father's alleles, we can conclude that there is no biological relationship to the potential father tested and the probability of paternity is 0%.