

WHY DOES THE MOTHER'S DNA SAMPLE MATTER IN PATERNITY TESTING?

Although a sample from the mother is not required for paternity testing, it is advisable to include the mother if she is available.

A number of DNA locations are analysed to construct a DNA profile. These DNA locations are scattered over the chromosomes. Although each person possesses two numbers (markers) at each location, a marker by itself is not unique to an individual. These markers are inherited from the parents at conception and it is the pattern of these markers that is unique.

One number is inherited from the mother and one from the father. Therefore, one of the child's numbers will match up with a number from the mother's sample and the other should match up with a number from the biological father's sample. Once it is established which numbers were contributed to the child by the mother, the remaining numbers must come from the father. Therefore, complete information which includes mother and father increases the certainty of paternity testing.



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PATERNITY AND PARENTAGE TESTING



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WHAT IS PATERNITY?

Paternity means fatherhood. A paternity test establishes proof as to whether an alleged father is the biological father of a child. Paternity is excluded if it is shown that an alleged father is not the biological father.

WHAT ARE THESE TESTS?

DNA paternity tests are genetic tests. Many DNA locations are analysed and these DNA locations are used to make a unique DNA profile for each individual. DNA is found in all the cells of the body and a paternity test can therefore use a variety of specimen types, e.g. cells from the cheeks using buccal swabs, blood or any other type of specimen. It makes no difference which sample is used.



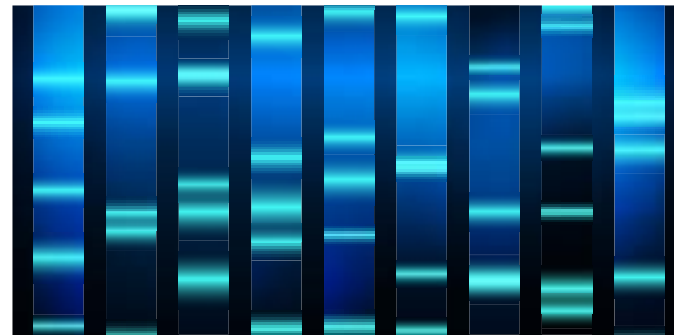
HOW DOES DNA PATERNITY TESTING WORK?

We inherit half of our genetic material (DNA) from each of our biological parents when we are conceived. In paternity testing, DNA is extracted from samples obtained from a child and the alleged father. The DNA is analysed and compared, to determine whether the DNA of the child was inherited from the alleged father. This analysis assists in determining the likelihood that a man is the biological father of a child.

During DNA paternity testing, a number of DNA locations are analysed to construct a DNA profile. A person has two (of many possible) markers at each location, which are identified by numbers. These are inherited from the parents at conception. One number comes from the mother and one from the father. The DNA profile of the child is first compared with that of the biological mother. One of the child's numbers will match up with a number from the mother's sample. The other number should match up with a number from the alleged father's sample if he is the biological father. The probability of paternity is then statistically confirmed and reported by the laboratory. If numbers of the child do not match up with the numbers of the alleged father at two or more locations, he is excluded as the biological father.

HOW ACCURATE IS DNA PATERNITY TESTING?

DNA paternity testing is currently the most accurate and widely used technology to determine parentage. If numbers between the child and the alleged father do not match at two or more DNA locations, then that alleged father is excluded as the biological father. This means that the probability of paternity is practically zero and he is not the biological father of the child. If the numbers between the mother, child and the alleged father match at every DNA location, then the probability of paternity is 99,8% or greater. This result indicates that the alleged father is the biological father of the child, because it proves he has passed these genetic markers to the child at conception.



HOW DO I GET A PATERNITY TEST PERFORMED?

The first step in a DNA paternity test is the collection of sample material from the biological mother, alleged father and the child. This can be a cheek swab, saliva, or blood. DNA paternity testing can be performed at any age. Before a child is born, DNA can be obtained from amniotic fluid collected from the mother's womb.



CAN PATERNITY TESTING BE DONE WITHOUT A BLOOD SAMPLE FROM THE MOTHER?

Yes, the DNA profiles of only the child and the alleged father can be compared when the mother is not available, but if possible the mother should be included in the testing.