

Test Details

Complex DNA tests are designed to establish whether a biological relationship exists between two or more individuals.

These tests are used to establish the following relationships:

Grandparent ► Grandchild

Aunt/Uncle ► Niece/Nephew

They are also used to test combinations of the above.

The Complex DNA Test Explained

A DNA profile is produced for each test participant. The test analyses different genetic locations on the DNA strand. The allele (alternating form of DNA) at each location is identified by a number. The DNA profiles of the test participants are then compared.

The test is based on the fact that biologically related individuals should have more DNA in common than unrelated individuals.

Inconclusive Results and Test Limitations

This form of analysis is not as conclusive as paternity testing because the test is not analysing a direct biological relationship, such as the one between parent and child. The results are based on statistical calculations that produce a percentage probability of whether a relationship does or does not exist.

The statistical analysis is based on factors such as:

- The number of allelic matches within the DNA profiles.
- How likely it is that the same allele would be found at that same DNA location, if testing a random, unrelated individual from the same ethnic background.

These calculations determine the most likely relationship between the individuals tested.

How the results are interpreted

The values from the calculations are used to generate a percentage probability value.

Based on the circumstances provided, a set of hypotheses will have been generated. The calculation compares each hypothesis to determine which scenario is more likely.

The percentage probability will usually fall into one of the three following categories:

0-10%

When a possible relationship/hypothesis generates a percentage probability in this range, the evidence suggests that this relationship **DOES NOT** exist or that the hypothesis suggested is incorrect.

90 - 100%

When a possible relationship/hypothesis generates a percentage probability in this range, the evidence suggests that this relationship **DOES** exist or that the hypothesis suggested is correct.

10 - 90%

Unfortunately the generation of a percentage probability within this range can yield an **INCONCLUSIVE** result. This means that the laboratory does not have enough evidence to provide a result and cannot determine which relationship/hypothesis is more likely.

An **INCONCLUSIVE** result is rare, but as an accredited laboratory, conclusive results will not be issued unless they provide very strong evidence that a relationship does or does not exist.

Causes of inconclusive results include:

- The alleles shared between potential relatives are extremely common within the relevant general population. In these circumstances there is insufficient genetic evidence unique to the individuals being tested to confirm which biological relationship exists.
- Low level of allelic (number) matches in the DNA profile due to the chance nature of inheriting alleles within families (as explained above).
- Mutation causing mismatches at further locations within the DNA profile.

If an **INCONCLUSIVE** result has been given, further analysis will be required. (This may incur an additional fee).

If you require further assistance or have any questions please call:

**UK Customer Services: 0800 988 7107
International /mobile: 0044 (0)161 359 4187**

**or email info@dnaclinics.co.uk
www.dnatestingclinics.co.uk**