A Guide to
Y Chromosome Analysis

DNAClinics
Accredited DNA Testing

Test Details

A chromosome is basically DNA that is coiled up very tightly.

The X and Y chromosomes determine the sex of an individual. Women have two X chromosomes and men have one X and one Y.

At conception, a female child randomly receives a copy of either of her mother's X chromosomes and she also receives a copy of the X chromosome belonging to her father.

A male child again randomly receives a copy of either of his mothers X chromosome but this time receives a copy of the one and only Y chromosome possessed by his biological father.

Due to this, the Y chromosome is passed on intact to any male offspring i.e. the Y chromosome passed on by a biological father to his son is exactly the same (except for random mutation) as the Y chromosome he received from his father. He in turn received it from his father and so on. In addition, the Y chromosome of biological brothers, paternal uncles and male cousins will also be identical.

The test analyses different genetic locations on the Y Chromosome. The allele (alternating form of DNA) at each location is identified by a number. Males that are linked by a paternal line should produce a DNA Profile (list of numbers) that **match at all the locations tested**.

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

Inconclusive Results

Mutations

Although mutations occur randomly along the DNA molecule, it is extremely rare to find them within the region of DNA analysed in these tests.

The types of DNA mutation referred to here are not harmful, but they will change the form of an allele in some way, therefore changing the number it is identified by. The 'number' now assigned to the related location will form part of that person's DNA profile. However, the number will no longer match the corresponding allele of the biological parent from which it was inherited.

A laboratory must determine whether the inconsistency is due to mutation or whether it is simply a mismatch between the profiles of unrelated individuals.

The laboratory will use the number of inconsistencies found between the DNA profiles analysed and the remaining DNA evidence provided by the test to reach a conclusion. If the laboratory rules that further evidence is required, then the test will be reported as 'Inconclusive'.

Because mutations are so rare, multiple inconsistencies between DNA profiles would not be reported as caused by mutation.