

DNA tests

There are different types of DNA tests. And some companies only do one type of test, while companies like FTDNA offer many types of tests.

Y-DNA Tests

The male Y Chromosome is passed from father to son virtually unchanged over the generations. This makes it ideal for surname testing.

When looking at a genealogical pedigree chart, the very top lineage is the paternal line and represents Y-DNA heritage. This is the father's father's line.

Many companies used to have Y-DNA tests, but now only a few provide it. See comparison chart link below. And these companies test some but not all of the same DYS markers. And a few use different values (numbers) for the same DYS marker. Knowing when the test was done and by whom will allow us to convert the values into a standard format.

Y-DNA tests come in different sizes like 12, 25, 37, 67, 111.

Generally speaking, the more DYS markers one uses, the higher the resolution or probability of relatedness to close matches. In general, one should consider 37 markers as the starting level.

See: http://isogg.org/wiki/Y-DNA_testing_comparison_chart

SNP Tests – Big Y

Single nucleotide polymorphism (SNP pronounced Snip) testing is a shotgun approach toward the Y-Chromosome. Most Y-DNA tests can estimate the basic haplogroup. SNP testing confirms the haplotyping of the Haplogroup. FTDNA calls theirs The Big Y. See the link for comparisons between the different companies who provide this type test.

http://isogg.org/wiki/Y-DNA_SNP_testing_chart

Mitochondrial DNA tests

Mitochondrial DNA (mtDNA) is passed from the mother to her children, but only her daughters can pass it down to the next

generation. Like Y-DNA this type of DNA is passed down virtually unchanged over the generations.

When looking at a genealogical pedigree chart, the very bottom lineage is the maternal line and represents mtDNA heritage. This is your mother's mother's DNA. Traditionally the female assumes a married name each generation which makes it harder to track genealogically.

MtDNA is tested in Hyper Variable Regions often called HVR1, HVR2 & HVR3. A complete mtDNA test is referred to as mtFull at FTDNA.

See comparison chart at:

http://isogg.org/wiki/MtDNA_testing_comparison_chart

Autosomal DNA Tests

Ancestry and 23andMe focus on autosomal DNA (atDNA) FTDNA has a similar test called Family Finder. Most people use these tests to see their ethnic heritages. Example: X% European, X% Middle Eastern, X% et cetera.

23andMe also uses atDNA type testing for medical genetic warning type tests as for Cystic Fibrosis, Sickle Cell Anemia, Hereditary Hearing Loss and et cetera.

Some use it to compare DNA fragments to others for cousin similarity up to about 5 generations.

On a genealogical pedigree chart atDNA represents all your ancestry. You share 50% of your DNA from each parent, 25% from each grandparent, then 12.5% by the next generation followed by 6.25%, 3.125%, 1.5625% and further divided numbers back into time.

If you are surnamed Carpenter, any cousin match most likely will not be a Carpenter, but from one of your other ancestors. For example, at 5 generations the likely cousin testing match will be a Carpenter is 1/16 (one sixteenth), and more likely not surnamed Carpenter or 15/16.

To see the differences between these atDNA testing companies, please go to the following link.

http://isogg.org/wiki/Autosomal_DNA_testing_comparison_chart

Are there other types of DNA tests? Yes. But the ones above are the most common ones used in genealogy. Others include **X-STR** and **paternity** tests, which also include **CODIS** markers. These tests are generally used in identification and familial matching.