

## FAQ #2 - Which Test Do I Need?

This is another very frequent question for people just getting started with genetic genealogy. In the beginning (10 years ago), there were only two basic tests, and a decision as to which test to order was fairly simple. Now dozens of tests are available from a number of companies using different nomenclature to identify the tests at varied prices, so one needs a little guidance to get started.

First of all, stick with the tests from Family Tree DNA (FTDNA.com). FTDNA is the best in the business; they have conducted 90% of all genetic genealogy tests, so they have the most experience and have the largest database to compare your results against.

There are three basic genetic genealogy tests; i.e., Y-DNA, mtDNA, and atDNA (called Family Finder). There are many specific tests beyond these three, but such tests are generally only selected, if necessary, after results from one of these basic tests are available.

The Y-DNA test is only available for males (only males have a Y-chromosome), and this test is for a man's direct male line; i.e., his father, his father's father, etc. The Y-DNA test is generally concerned with a particular surname, as the surname, like the Y-chromosome, is normally passed down from generation to generation. Of course, the Y-chromosome follows the father to son, even when the surname is changed for some reason. A man's Y-chromosome is the only chromosome (humans have two sets of 23 chromosomes for a total of 46) that is not altered from generation to generation, except for very rare mutations. Therefore, a man's Y-DNA profile will be essentially the same as for all of his direct male ancestors going back 100s of generations. If a male from a particular surname line is available to be tested, the Y-DNA test is the best test to obtain. For use in genealogy research, the Y-DNA-37 test (for 37 markers) is recommended as a minimum (Y-DNA tests are available for 12, 25, 37, 67 and 111 markers). If your research requires more than 37 markers, you can upgrade later with no cost penalty, except waiting for another 5 weeks to obtain the test results. The more markers tested, the greater chance you have to identify a mutation at one of the markers, that can be used to confirm a genealogy.

The mtDNA test (for a person's mitochondria DNA, which is not a chromosome) is available for both males and females, and this test is for a person's direct female line; i.e., their mother, their mother's mother, etc. (and like the Y-DNA is for an unlimited number of generations). In this case you are dealing with the situation where the surname changes with every generation. The mtDNA is passed down from generation to generation, from a mother to her children, but only the daughters pass on the mtDNA to the next generation, with no influence from the male parent. mtDNA mutates very, very slowly, so to obtain meaningful results, you generally need to obtain the mtDNAPlus test or the mtDNA Full Sequence test. The Full Sequence test maps the entire mitochondria, so it's the only mtDNA test you will ever need. So, the best recommendation for an mtDNA test, if you are going to use the test results for genealogical research, is the Full Sequence test. Although you could start with the mtDNAPlus test and then upgrade to the Full Sequence test later on.

The Family Finder (atDNA) test is for a person's autosomal chromosomes; i.e., all the chromosomes, except for the Y. This test is also available for both males and females. The Y-DNA test and the mtDNA test provide results for only two of your sixteen second great grandparents; the two via a person's direct male and direct female lines. If your genealogy research is focused on finding descendants from and proving your genealogy for one of your other fourteen great grandparents, you need the Family Finder test. Please be aware that the Family Finder test is only valid for five to seven generations. Beyond that, the segments of your autosomal genes that are intact from your ancestor in the same sequence as another descendant of the same ancestor, who has been tested, are too short to be a meaningful match.

If this FAQ doesn't help you to select the test you need for your situation, please contact [rbnoles@bellsouth.net](mailto:rbnoles@bellsouth.net) with information concerning your genealogy (a GEDCOM file is best) and what you are trying to prove with a DNA test. Good luck with your genetic genealogy tests.